CX800
CRAWLER EXCAVATOR

Service Manual

9-40621

CASE

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CX800 Crawler Excavators
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Not possible to select 2nd travel speed

No.	Tests	Results	Repairs
1	Press the travel speed control and check that the speed changes from I to II on the monitor display	Speed II not displayed	Refer to troubleshooting electrical failures
2	Check on the monitor display "CHK2" if the information changes to "ON" when the machine is travelling	Information stays on "OFF"	Check pressures P1 and P2 on the monitor display "CHK1" when the machine is travelling 1) Both pressures are less than 40 bar: refer to troubleshooting electrical failures 2) Both pressures are higher than 40 bar, refer to point No. 3
3	Check the negative pressure (N) of the pump	Too high	Adjust the pressure
4	Check the pilot pressure at the output from the solenoid valve (Y4)	Pressure too low	Check electrical supply and the solenoid valve coil (No. 5 and 6)
		Pressure correct (44 bar - 4.4 MPa)	Check the pilot pressure at the travel motor displacement change spool (No. 7)
5	Check the voltage at the electrical plug on the displacement change solenoid valve	Voltage < 24 V	Check the electrical harness
6	Check the displacement change solenoid valve coil	Infinite or 0 Ohm	Change the solenoid valve
		About 40 Ohm	Replace the solenoid valve coil
7	Check the pilot pressure at the travel motor displacement change spool	Pressure too low	Internal leak at hydraulic swivel, repair or replace the hydraulic swivel
		Pressure correct (44 bar - 4.4 MPa)	Check the travel motor displacement change spool. Repair or replace the travel motor

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Boom lowering, load holding circuit

Only one flow P2 supplies boom lowering.

When boom lowering is operated, the boom spools 1 and 2 are piloted at 4Pb3 and 5Pa4.

At the same time, the pilot pressure arrives at 4pc1 and 5pc2, which pilots the selectors which unlock the load holding valves. As a result, the oil which is expelled by the boom cylinder large chambers can go into the return circuit via the two boom spools. The LH boom cylinder empties into boom spool 2. The RH boom cylinder empties into boom spool 1. At the outlet from the two load holding valves the two flows are connected.

Boom lowering speed and vibration are limited by the two spools which act as restrictors.

Boom lowering additional flow circuit

When the boom lowers, the boom spools are piloted. Part of the oil which is expelled by the cylinder large chambers can, by passing via non-return check valve in boom spool 1, form an additional supply to the cylinder small chambers. The lower the supply pressure in the cylinder small chambers, the higher the amount of recycled flow.

4pa3/4A3. Boom raising (1)
4pb3/4B3. Boom lowering (1)
5pb4/5B4. Boom raising (2)
5pa4/4A3. Boom lowering (2)
4pc1. Boom load holding (1)
5pc2. Boom load holding (2)

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Installation

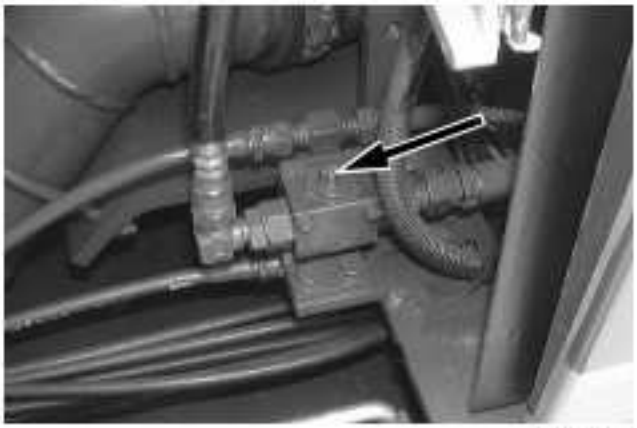
STEP 1

Park the machine and the counterweight on hard flat ground.

STEP 2

Bring the machine to 0.67 m of the counterweight and lower the attachment to the ground.

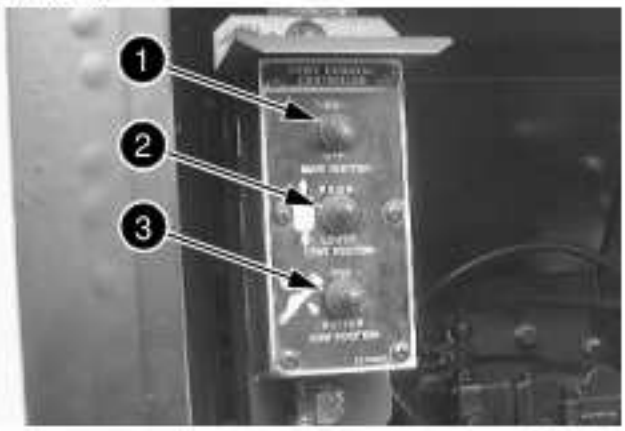
STEP 3



CD01D006

Open the supply valve.

STEP 4



CD01D005

Put the control box switch (1) "ON".

STEP 5

Operate the switches (2) and (3) to lower the system.

STEP 6

Fix the hanging system to the counterweight.

STEP 7

Operate the switch (3) to the "TOP" position, bring the handling arm against the stops on the rear plate of the upperstructure.

STEP 8

Operate the switch (2) to the "LOWER" position to hook on the assembly.

STEP 9

Open the engine hood then install the two upper retainers of the counterweight. Close the hood again.

STEP 10

Remove the lower cover plate (under the engine). Then install the two lower retainers of the counterweight.

NOTE: *The retaining hardware must be tightened to a torque of 2256 Nm.*

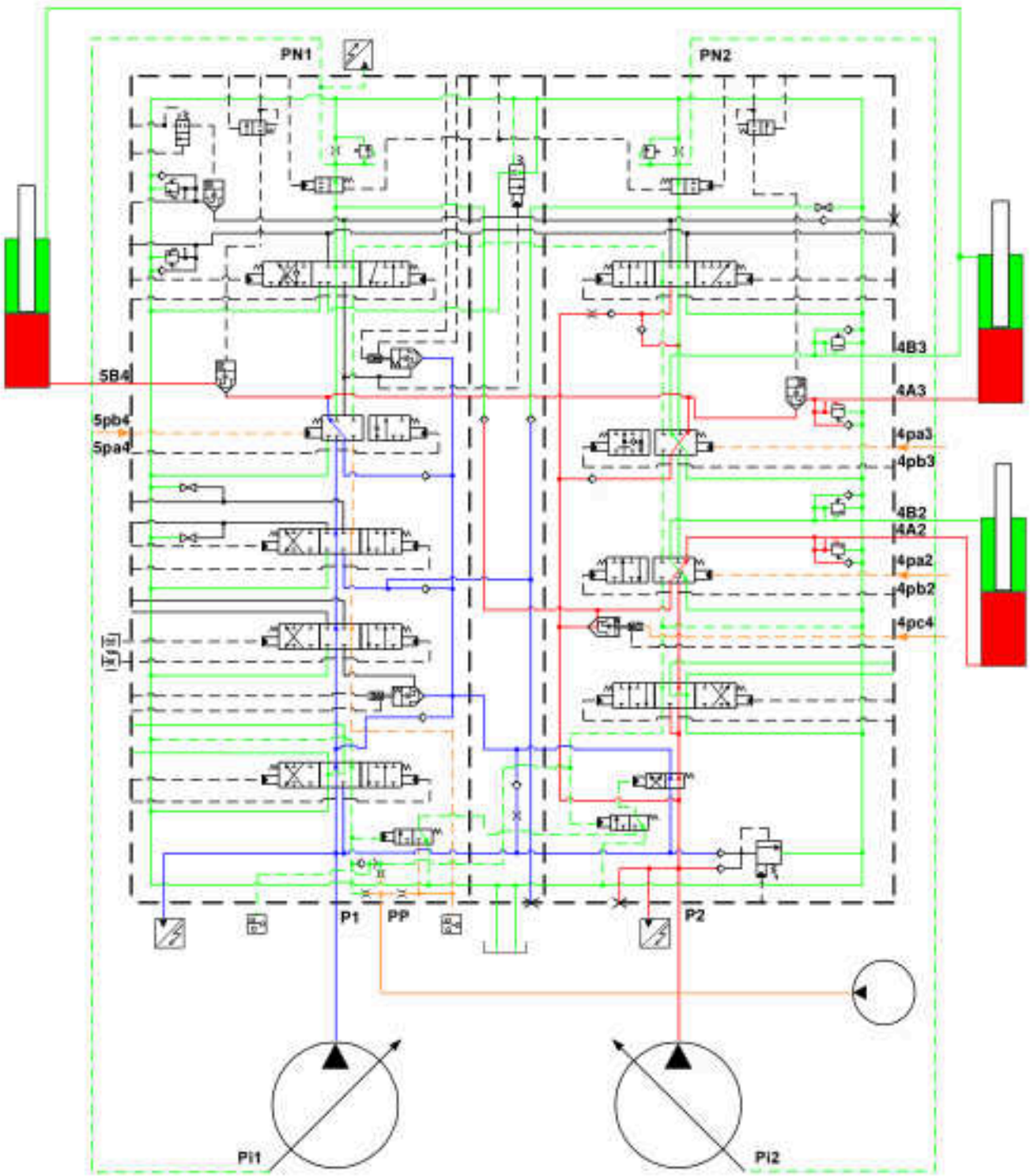
STEP 11

Put the switch (1) "OFF". Close the supply valve.

STEP 12

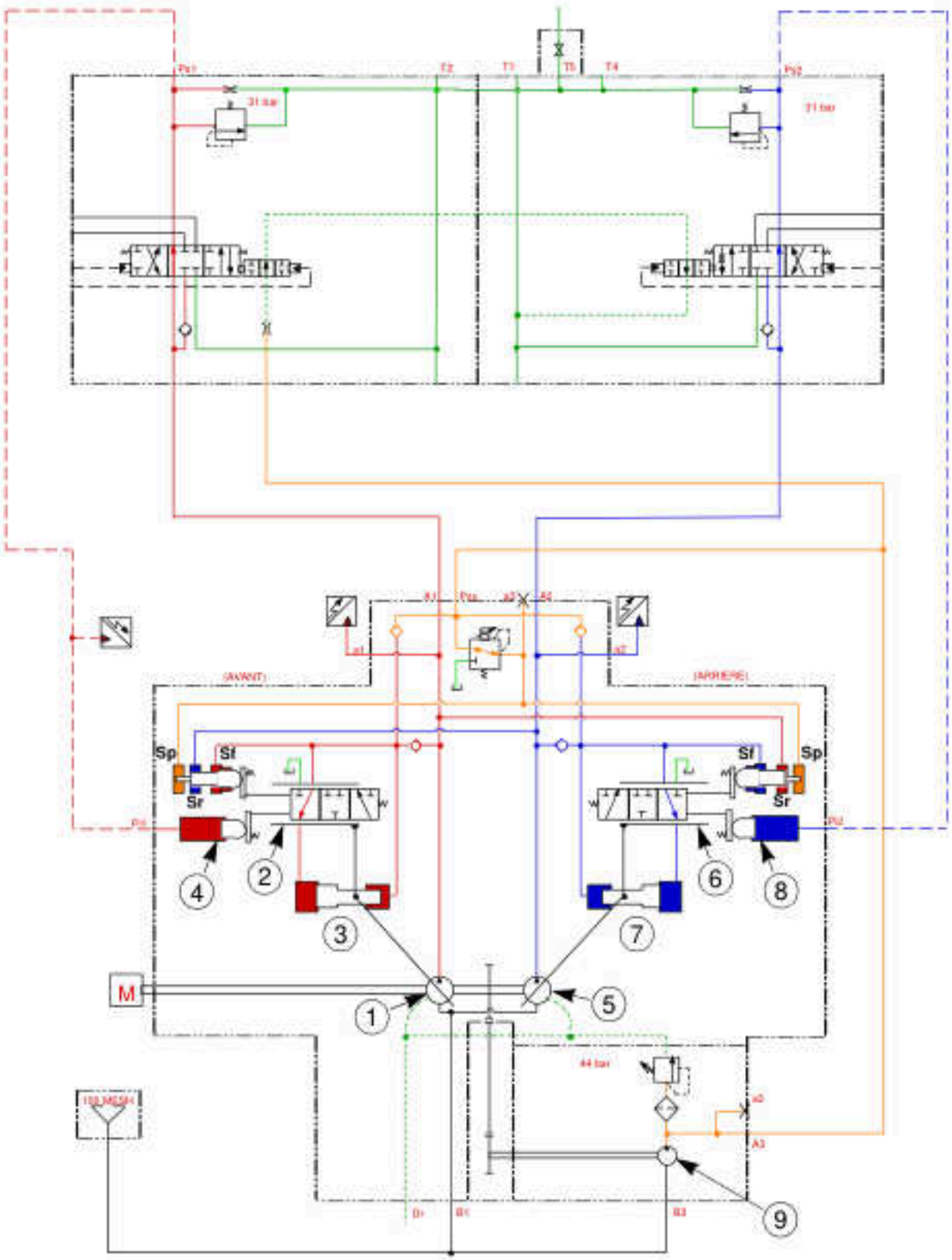
Install the lower cover plate.

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CM02A010

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CM02A023

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ITEM	DESCRIPTION
A1.	COMPUTER
A2.	ENGINE CONTROLLER
A3.	ELECTRONIC ACCELERATION
A4.	WIPER CONTROLLER
B1.	COOLANT TEMPERATURE SENSOR
B2.	HYDRAULIC OIL TEMPERATURE SENSOR
B21.	ENGINE OIL PRESSURE SWITCH
B22.	SWING PILOT PRESSURE SWITCH
B23.	BREAKER / CRUSHER PILOT PRESSURE SWITCH
B25.	BREAKER PILOT PRESSURE SWITCH
B26.	UPPER PILOT PRESSURE SWITCH (YELLOW BAND)
B27.	TRAVEL PILOT PRESSURE SWITCH
B29.	BOOM RAISING PILOT PRESSURE SWITCH
B41.	ENGINE RPM SENSOR
B42.	PUMP PRESSURE SENSOR (P1)
B43.	PRESSURE SENSOR (NEGA-CON*)
B44.	PUMP PRESSURE SENSOR (P2) (BLUE BAND)
B45.	OVERLOAD INDICATOR PRESSURE SWITCH
B61.	SUNLOAD SENSOR
B81.	HORN
E1.	WORKING LIGHT (UPPERSTRUCTURE)
E2.	WORKING LIGHT (ATTACHMENT)
E3.	WORKING LIGHT (CAB)
E4	CAB LIGHT
ES1.	CIGARETTE LIGHTER
ES2.	AIR CONDITIONER
F1.	FUSE 25A, ENGINE CONTROLLER
F10.	FUSE 20A, LUBRICATOR (OPTION) CONNECTOR
F11.	FUSE 10A, BACK-UP
F12.	FUSE 15A, KEY SWITCH
F13.	FUSE 20A, HEATER / AIR CONDITIONER
F14.	FUSE 5A, AIR CONDITIONER COMPRESSOR
F15.	FUSE 15A, WORKING LIGHT (UPPERSTRUCTURE/ATTACHMENT)
F16.	FUSE 15A, WORKING LIGHT (CAB) AND OPTION CONNECTOR
F17.	FUSE 10A, DC-DC (24V-12V) CONVERTER
F18.	FUSE 15A, WIPER AND WASHER
F19.	FUSE 10A, HORN
F2.	FUSE 20A, COMPUTER CONTROL INSTRUMENT PANEL AND DIAGNOSTIC TEST SOCKET
F20.	FUSE 15A, CIGARETTE LIGHTER AND CAB SEAT COMPRESSOR ADJUSTMENT
F21.	FUSE BOX
F22.	FUSE 25A, MAIN FUSE FOR F11 AND F12 CIRCUITS
F23.	FUSE 65A, MAIN FUSE FOR F3 TO F10 AND F13 TO F20 CIRCUITS
F24.	FUSE 25A, MAIN FUSE FOR F2 CIRCUIT
F25.	FUSE 25A, MAIN FUSE FOR F1CIRCUITS
F28.	FUSE 125A, B+ ALTERNATOR
F3.	FUSE 20A, COMPUTER POWER
F4.	FUSE 15A, HYDRAULIC FUNCTION CANCELLATION LEVER SWITCH
F5.	FUSE 15A, COUNTERWEIGHT REMOVAL
F6.	FUSE 15A, ROTARY LIGHT
F7.	FUSE 10A, FUEL FILLER PUMP
F8.	FUSE 15A, ENGINE STOP MOTOR
F9.	FUSE 30A, GLOW PLUG
G1.	BATTERY
G2.	ALTERNATOR
H1.	AUDIBLE WARNING DEVICE
K1.	RELAY-ENGINE EMERGENCY STOP
K10.	RELAY-WORKING LIGHT (UPPERSTRUCTURE/ATTACHMENT)
K11.	RELAY-WORKING LIGHT (CAB)
K2.	RELAY-GLOW PLUG
K3.	RELAY-HORN
K5.	RELAY-ROTARY LIGHT
K7.	RELAY BATTERY
K8.	RELAY SAFETY
K9.	RELAY-COUNTERWEIGHT REMOVAL
M1.	STARTER MOTOR
M2.	ENGINE EMERGENCY STOP MOTOR
M3.	WIPER MOTOR
M4.	WASHER MOTOR
M5.	MOTOR (AIR CHANGING)
M6.	AIR VENT DIRECTION CONTROL MOTOR
M7.	MOTOR ACT (AIR MIX)
M8.	BLOWER MOTOR
P1.	INSTRUMENT PANEL
P2.	SWITCH PANEL (LEFT-HAND)
P3.	SWITCH PANEL (RIGHT-HAND)
P4.	MONITOR DISPLAY
P5.	HOURMETER
P6.	AIR CONDITIONER CONTROL PANEL
P7.	COUNTERWEIGHT REMOVAL CONTROL PANEL
R1.	GLOW PLUG
R2.	FUEL FLOW ADJUSTMENT RESISTOR
R3.	THROTTLE VOLUME
R4.	THERMISTOR
R5.	FUEL SENSOR
S1.	KEY SWITCH
S10.	WORKING LIGHT SWITCH
S11.	WIPER SWITCH
S12.	WASHER SWITCH
S13.	OVERLOAD SWITCH
S14.	BREAKER / CRUSHER SWITCH
S15.	HORN SWITCH
S16.	ONE TOUCH IDLE
S17.	BOOM RAISING PRIORITY SWITCH
S18.	COUNTERWEIGHT REMOVAL MAIN SWITCH
S19.	COUNTERWEIGHT RAISING / LOWERING SWITCH
S2.	TRAVEL MODE SWITCH
S20.	COUNTERWEIGHT ARM RAISING/LOWERING SWITCH
S3.	WORK MODE SWITCH
S4.	AUTO MODE SWITCH
S5.	CUSHION CONTROL SWITCH
S51.	HYDRAULIC FUNCTION CANCELLATION LEVER SWITCH
S52.	AIR CONDITIONING COMPRESSOR CLUTCH SWITCH
S53.	DOOR LIMIT SWITCH
S54.	FRONT WINDOW LIMIT SWITCH
S55.	RESERVE TANK LSW
S6.	ROTARY LIGHT SWITCH
S7.	AUDIBLE ALARM CUT OUT SWITCH
S8.	SWING BRAKE SWITCH
S9.	ENGINE EMERGENCY STOP SWITCH
U1.	DC-DC (24V-12V) CONVERTER
W1.	ANTENNA
X1.	FUEL FILLER PUMP CONNECTOR
X2.	ROTARY LIGHT CONNECTOR
X3.	OPTIONAL POWER CONNECTOR
X4.	ENGINE TEST POINT CONNECTOR
X5.	CONTROLLER TEST POINT CONNECTOR
X6.	CAB SEATCOMPRESSOR MOTOR CONNECTOR
X7.	LUBRICATOR CONNECTOR
X8.	RADIO CONNETOR
X9.	ANTI-THEFT SYSTEM CONNETOR
Y1.	SWING PILOT SHUT-OFF SOLENOID VALVE (GREEN BAND)
Y10.	BOOM RAISING PRIORITY SOLENOID (BLACK BAND)
Y11.	NEGATIVE FLOW CONTROL (WHITE BAND)
Y12.	COUNTERWEIGHT RAISING SOLENOID VALVE
Y13.	COUNTERWEIGHT LOWERING SOLENOID VALVE
Y14.	COUNTERWEIGHT ARM RAISING SOLENOID VALVE
Y15.	COUNTERWEIGHT ARM LOWERING SOLENOID VALVE
Y2.	PILOT PRESSURE SOLENOID VALVE (BLUE BAND)
Y3.	SWING BRAKE SOLENOID VALVE (PINK BAND)
Y4.	2 STAGE TRAVEL SOLENOID VALVE (RED BAND)
Y5.	POWER-UP SOLENOID VALVE (YELLOW BAND)
Y6.	CUSHION CONTROL SOLENOID VALVE (LIGHT GREEN BAND)
Y7.	MAIN PUMP PROPORTIONAL SOLENOID
Y8.	AIR CONDITIONER MAGNET CLUTCH
Y9.	CRUSHER/BREAKER OPTION T&O FLOW SOLENOID VALVE

LEGEND

- CONNECTED
- NOT CONNECTED
- BOOT GROUND
- CABLE GROUND
- SINGLE WIRE CONNECTOR
- HARNESS
- CONNECTOR (MALE)
- CONNECTOR (FEMALE)
- INSULATION AGAINST MAGNETISM
- INDICATES CONSTANT POWER
- INDICATES POWER WHEN KEY SWITCH IS ON

CN10 (R)

CONNECTOR NUMBER (IN CAB)

COLOR OF CONNECTOR (IF NOT INDICATED COLOR IS WHITE)

CONNECTOR LETTER LOCATED (OUTSIDE CAB)

60 B 001

AREA / COLOR — CIRCUIT NUMBER

TABLE OF COLOR SYMBOLS

SYMBOL	COLOR
B	BLACK
W	WHITE
Br	BROWN
P	PINK
V	VIOLET
G	GREEN
O	ORANGE
R	RED
Y	YELLOW
Lg	LIGHT GREEN
Sb	SKY BLUE
L	BLUE
Gr	GRAY

NOTE :
1. "BR" INDICATES BLACK CABLE WITH RED STRIPE.
2. WATERPROOF CONNECTORS USED OUTSIDE OF CAB.

CX 800 EXCAVATOR ELECTRICAL SCHEMATIC

Part Number 7-29440

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