CX160D
LC Version
Tier 4B (final)
Crawler Excavator

SERVICE MANUAL

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CASE CONSTRUCTION

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Pump - Torque

Part name	Size	Tightening torque	Tool name	
Hexagon socket head bolt	M5	6.9 N·m (5.09 lb ft)	B = 4 mm	 Hexagon wrench
	M6	12 N·m (8.85 lb ft)	5 mm	
	M8	29 N·m (21.39 lb ft)	6 mm	
	M10	57 N·m (42.04 lb ft)	8 mm	
	M12	98 N·m (72.28 lb ft)	10 mm	
	M14	160 N·m (118.01 lb ft)	12 mm	
	M16	240 N·m (177.01 lb ft)	14 mm	
	M18	330 N·m (243.40 lb ft)	14 mm	
	M20	430 N·m (317.15 lb ft)	17 mm	
PT plug Caution: wrap seal tape around the plug 1.5 - 2 times	RC 1/16	6.9 N·m (5.09 lb ft)	4 mm	
	RC 1/8	10 N·m (7.38 lb ft)	5 mm	
	RC 1/4	17 N·m (12.54 lb ft)	6 mm	
	RC 3/8	34 N·m (25.08 lb ft)	8 mm	
	RC 1/2	49 N·m (36.14 lb ft)	10 mm	
ROH plug	G1/4	29 N·m (21.39 lb ft)	6 mm	
	G3/8	74 N·m (54.58 lb ft)	8 mm	
	G1/2	98 N·m (72.28 lb ft)	10 mm	
	G3/4	150 N·m (110.63 lb ft)	14 mm	

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P0409-EGR sensor circuit

Control Module : ECM

Solution:

1. Check and diagnose the below fault codes before you proceed with the diagnostics code 0409.

   Diagnostic trouble code 06A9

2. Turn OFF the ignition switch.

   Disconnect the harness connector **CN.E12** from the EGR valve.

   Turn ON the ignition switch.

   Use the trouble diagnosis scan tool to check if any of the EGR position 1, EGR position 2, and EGR position 3 shows ON.

   If there is a data display showing ON, inspect the signal circuit between the ECM and EGR valve of the EGR showing ON.

   Make sure that there is no short to the battery or ignition power supply.

   Make sure that there is no short to the **5 V** power supply circuit.

   A. If a problem is found, repair the signal circuit.

   B. If there are no problems, proceed to Step **3**.

3. Measure the voltage between the EGR position sensor **5 V** power supply circuit and a normal GND.

   Inspect the GND circuit between the ECM and the CMP sensor for an open circuit and high resistance.

   A. If the reading is less than or equal to the **4.5 V**, inspect to see if there is an open circuit or high resistance with the **5 V** power supply circuit between the ECM and the EGR position sensor.

   B. If a problem is found, repair the **5 V** power supply circuit.

   C. If there are no problems, proceed to Step **4**.

   NOTE:
   • *The EGR position sensor shares the **5 V** power supply circuit with other sensors.*
   • *The diagnostic trouble code set on a sensor which shares this circuit may be detected.*

4. Measure the voltage between the EGR position sensor **5 V** power supply circuit and the GND circuit.

   A. If the reading is less than or equal to the **4.5 V**, inspect to see if there is an open circuit or high resistance with the GND circuit between the ECM and EGR position sensor.

   B. If a problem is found, repair the GND circuit.

   C. If there are no problems, proceed to Step **5**.

   NOTE:
   • *The EGR position sensor shares the GND circuit with other sensors.*
   • *The diagnostic trouble code set on a sensor which shares this circuit may be detected.*

5. While momentarily disconnecting the test cable with fuse from the EGR position sensor 1 signal circuit and **5 V** power supply circuit, check the EGR position 1 display with the trouble diagnosis scan tool.

   While momentarily disconnecting the test cable with fuse from the EGR position sensor 2 signal circuit and **5 V** power supply circuit, check the EGR position 2 display with the trouble diagnosis scan tool.

   While momentarily disconnecting the test cable with fuse from the EGR position sensor 3 signal circuit and **5 V** power supply circuit, check the EGR position 3 display with the trouble diagnosis scan tool.

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- *Make sure that there should be no short to the GND circuit.*
- *Make sure that there should be no short to a metal component, such as the frame.*

4. If the CAN circuit is normal, inspect the DCU harness connector **CN.D1-D2**.

NOTE:
- *Make sure that there should be no intermittent conditions, poor connections, or corrosion.*
- *Make sure that there should be no water intrusion or adhering foreign material.*

Replace the DCU. (Refer to " **Dosing control unit - Remove (55.988)** and **Dosing control unit - Install (55.988)**")

5. Confirm resolution:

1. Clear the diagnostic trouble code using the trouble diagnosis scan tool.

NOTE:
- *After clearing the DCU diagnostic trouble code, observe whether ECM diagnostic trouble code 20C9 is set.*
- *If diagnostic trouble code 20C9 is set, clear it.*

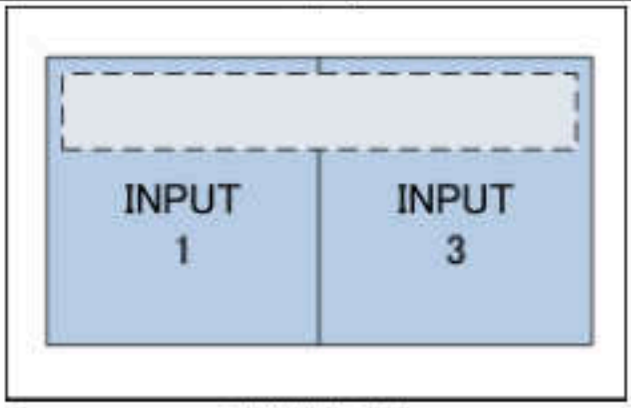
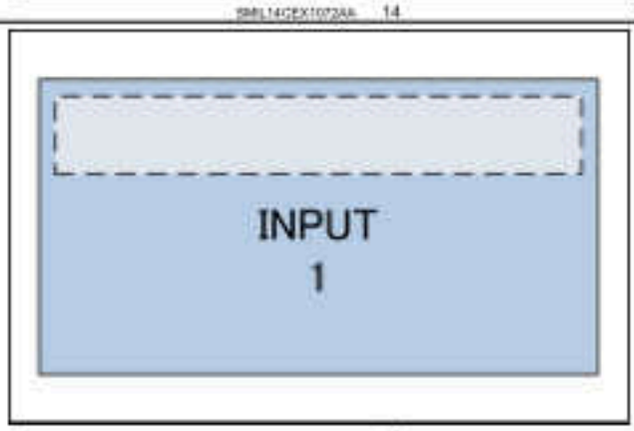
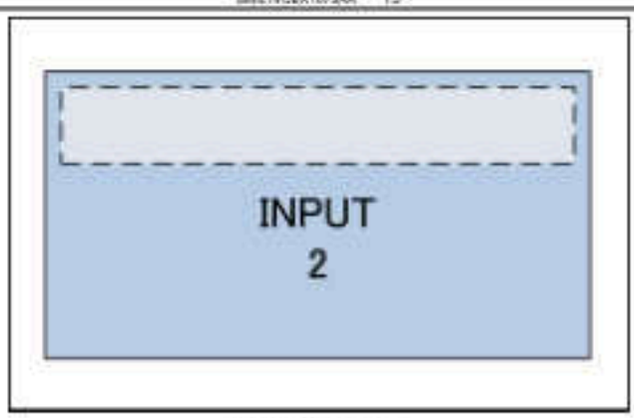
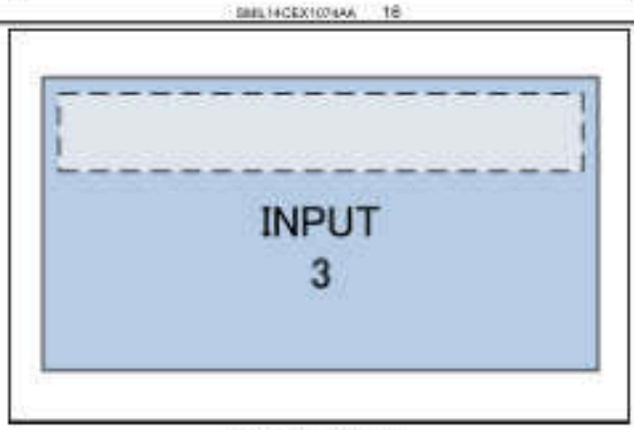
2. Turn OFF the ignition switch until communication with the trouble diagnosis scan tool is discontinued.

3. Start the engine.

4. Observe the diagnostic trouble code information with the trouble diagnosis scan tool. A diagnostic trouble code should not be set.

Wiring harnesses - Electrical schematic sheet 15 (55.100) Wiring harnesses - Electrical schematic sheet 06 (55.100) Wiring harnesses - Electrical schematic sheet 08 (55.100)

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Type	Meter position	Camera input	Display
G	TOP	INPUT 1+3	
H	TOP	INPUT 1	
I	TOP	INPUT 2	
J	TOP	INPUT 3	

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2.. Model select switch

Connect the rocker switch [Items to prepare **(3)**] to the connector CN.V2F (tape color: white) of the wire harness for setting Field View Monitor (FVM) [Items to prepare **(1)**].

3. Specification select switch

Connect the rocker switch [Items to prepare **(3)**] to the connector CN.V3F (tape color: blue) of the wire harness for setting Field View Monitor (FVM) [Items to prepare **(1)**].

3. Setting of model/specification

Selection of setting mode

1. Select input 3 for the rear view monitor to display the Field View Monitor (FVM).
2. Turn OFF the key switch to turn off the power.
3. Turn ON the setting mode switch.
4. While keeping the setting mode switch ON, turn ON the key switch.
5. In **0.5 - 1.5 s** after the key switch is ON, turn OFF the setting mode switch.

How to set model/specification

1. About displays
(1): selection of model/specification setting
(2): model name indication (the indication changes with selection of 1)



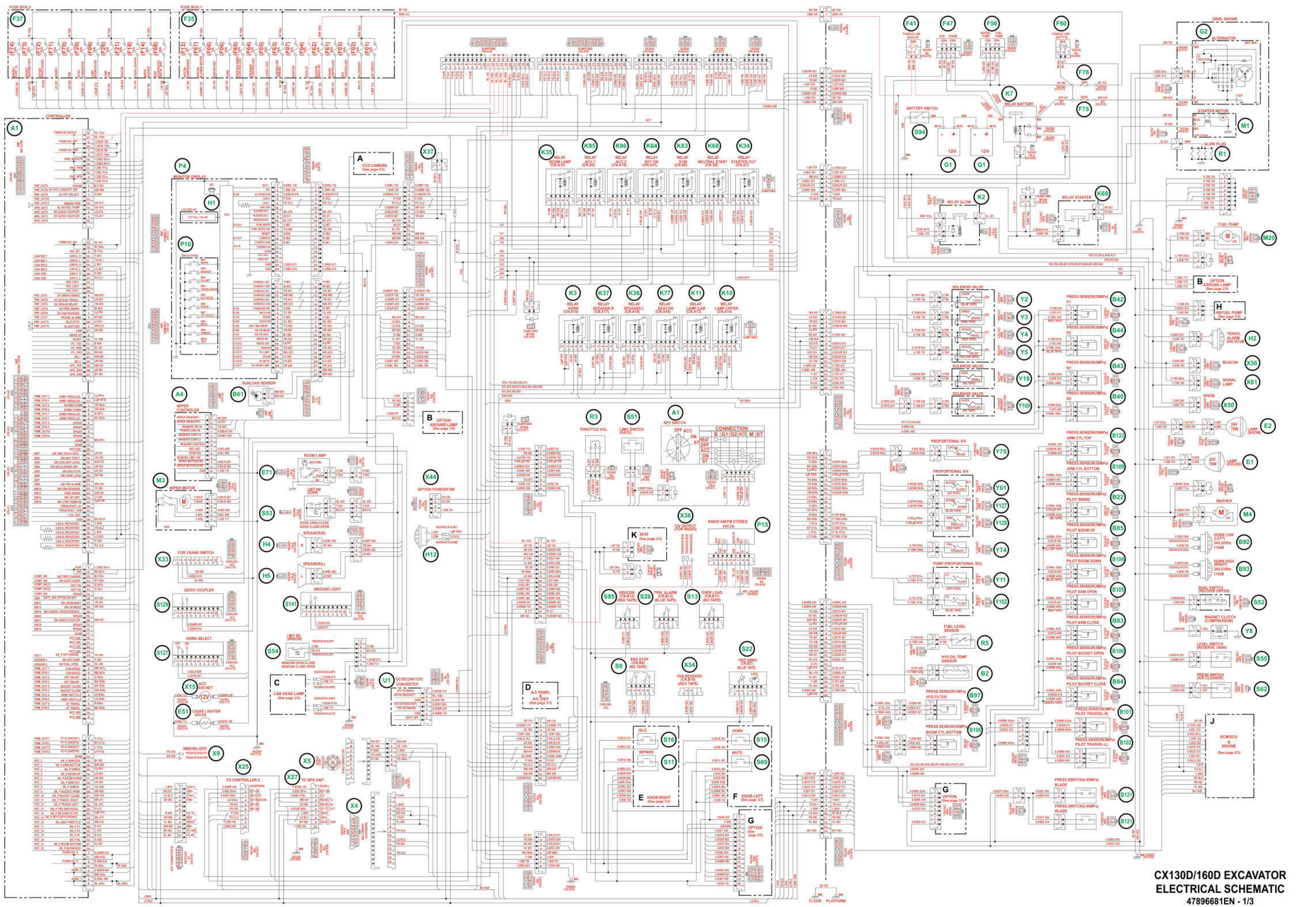
SME13CEX3804A 5

2. Operate the model select switch to set a left value of the indication **(1)** .

Model	Display **(1)**	Display **(2)**
130X4	1-1	130X4
160X4	2-1	160X4
210X4	3-1	210X4
250X4	4-1	250X4
300X4	5-1	300X4
350X4	6-1	350X4
470X4	7-1	470X4

3. Operate the specification select switch to set a right value of the indication (1).
4. The setting is saved by pressing the setting mode switch for 3 seconds.

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