CX250D
CX250D Long Reach
LC Version
Tier 4B (final)
Crawler Excavator

SERVICE MANUAL

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CASE CONSTRUCTION

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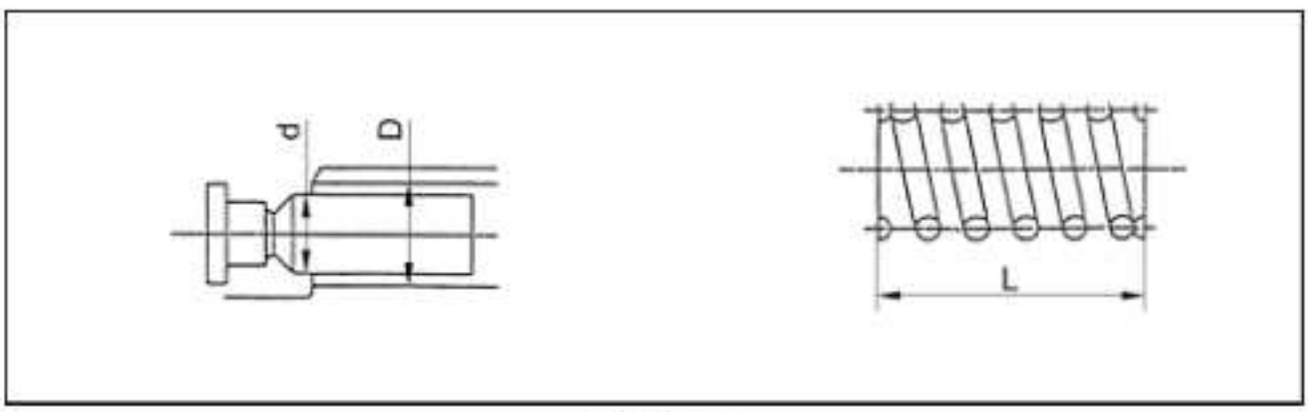
Pump - Service instruction

Replacement standard of wear component

Replace or re-adjust a component when the component is worn out to a level exceeding the following standard values.

However, always replace the component when there is a severe damage on the exterior.

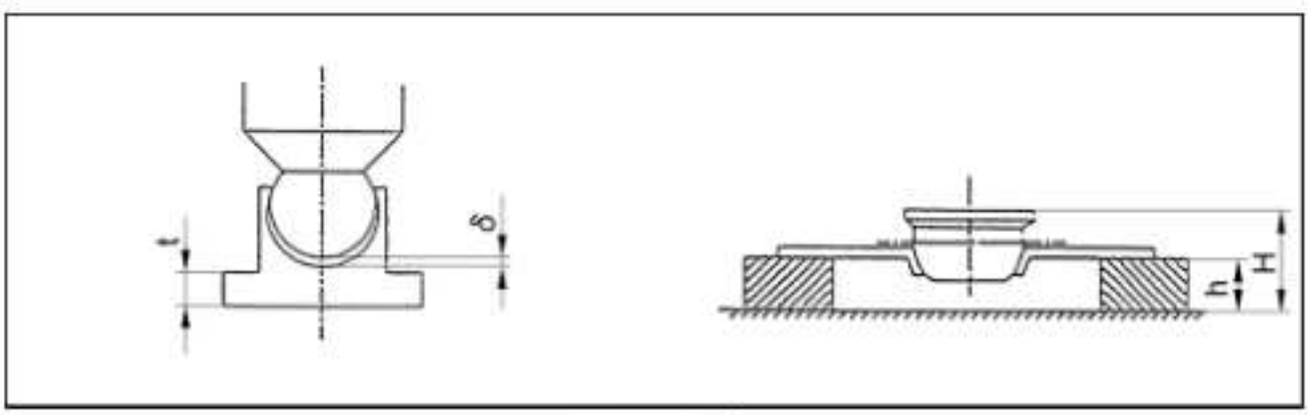
Part name and inspection item	Reference dimensions	Recommended replacement value	Solution
Piston and cylinder bore clearance (D - d)	0.029 mm (0.00114 in)	0.057 mm (0.00224 in)	Replacement of the piston or the cylinder
Backlash at the piston and the shoe swage section (δ)	0 - 0.1 mm (0 - 0.00394 in)	0.3 mm (0.01181 in)	Replacement of the piston and the shoe assembly
Shoe thickness (t)	5.0 mm (0.19685 in)	4.8 mm (0.18898 in)	Replacement of the piston and the shoe assembly
Free height (L) of the cylinder spring	41.8 mm (1.64567 in)	41.0 mm (1.61417 in)	Replacement of the cylinder spring
Height of the combination of the holder plate and the spherical bushing (H - h)	25.0 mm (0.98425 in)	22.8 mm (0.89764 in)	Replacement of the holder plate or the spherical bushing



SMIL15CE430490EA 1

Clearance between the piston and cylinder bore : D-d

Free height of cylinder spring : L



SMIL15CE430490EA 2

Backlash at the piston and the shoe swage section: δ
Shoe thickness: t

Height of the combination of the holder plate and the spherical bushing: H-h

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

Harnesses and connectors - Electrical schematic sheet 21 (55.100) Harnesses and connectors - Electrical schematic sheet 15 (55.100)

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P0203-Injector circuit - Cylinder 3

Control Module : ECM

Solution:

1. Check and diagnose the below fault codes before you proceed with the diagnostics code P0203.
2. Turn OFF the ignition switch.

   Disconnect the injector harness intermediate connector **CN.E17** from the cylinder head cover case.

   Measure the resistance between No.3 cylinder injector power supply terminal and No.3 cylinder injector drive signal terminal of the injector harness intermediate connector **CN.E17**.

   A. If the reading is less than or equal to the **2.0 Ω**, inspect the circuit between the ECM and the injector harness intermediate connector **CN.E17** for an open circuit or high resistance.

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

   C. If there are no problems, proceed to Step **3**
3. Remove the cylinder head cover. (Refer to " **Valve cover - Remove (10.101)**")

   Inspect the tightening nut of No.3 cylinder injector harness for looseness.

   A. If looseness is found in the tightening nut of No.3 cylinder injector harness, tighten the nut.

   B. If there are no problems, proceed to Step **4**
4. Inspect for foreign material coming in contact with No.3 cylinder injector terminal.

   A. If foreign material comes in contact with No.3 cylinder injector terminal, remove the foreign material.

   B. If there are no problems, proceed to Step **5**
5. Inspect for poor connections at the injector harness intermediate connector **CN.E17**.

   A. If a problem is found, repair the connector **CN.E17**.

   B. If there are no problems, proceed to Step **6**
6. Inspect the circuit between No.3 cylinder injector and the intermediate connector **CN.E17**.

   • Make sure that there is no open circuit or high resistance.

   • Make sure that there is no short together between the injector circuits.

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

   B. If the circuit is normal, replace No.3 cylinder injector. (Refer to " **Fuel injectors - Remove (10.218)** and **Fuel injectors - Install (10.218)**")
   If an injector has been replaced, set the Injector ID Code on the ECM.
7. Inspect the ECM harness connector **CN.D4** for a poor connection.

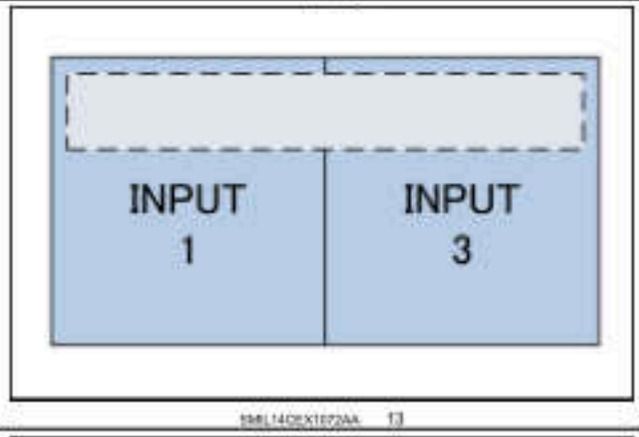
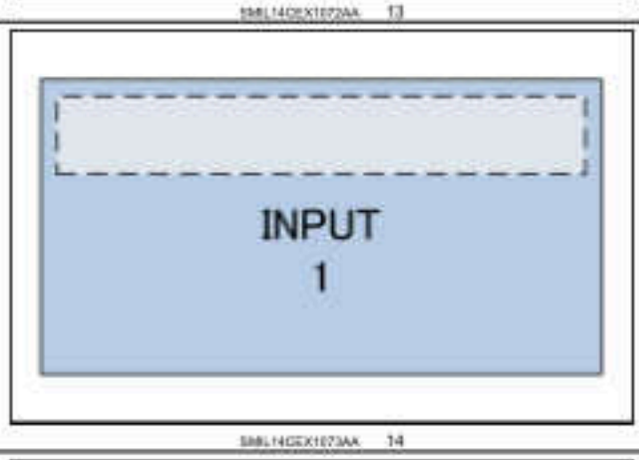
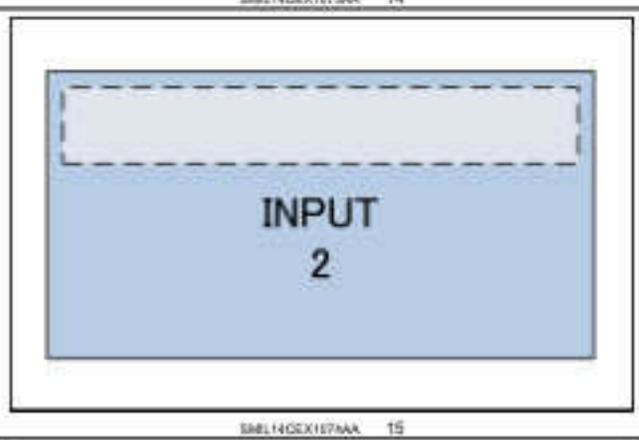
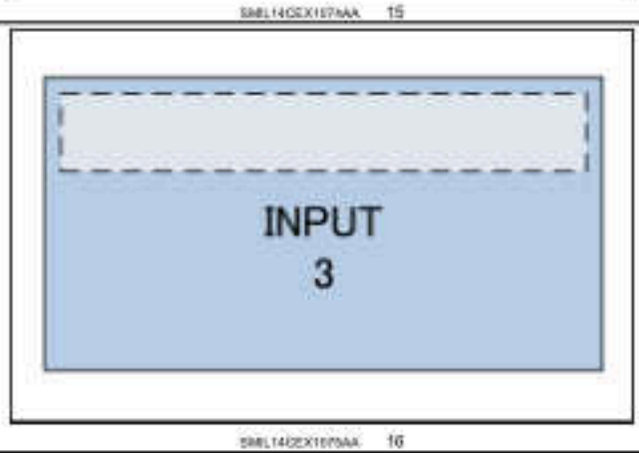
   A. If a problem is found, repair the harness connector **CN.D4**.

   B. If the harness connector **CN.D4** is normal, replace the ECM. (Refer to " **Engine Control Unit (ECU) - Remove (55.015)** and **Engine Control Unit (ECU) - Install (55.015)**")
8. Set the Injector ID Code, fuel delivery rate and engine No. for the ECM.
9. Confirm resolution:

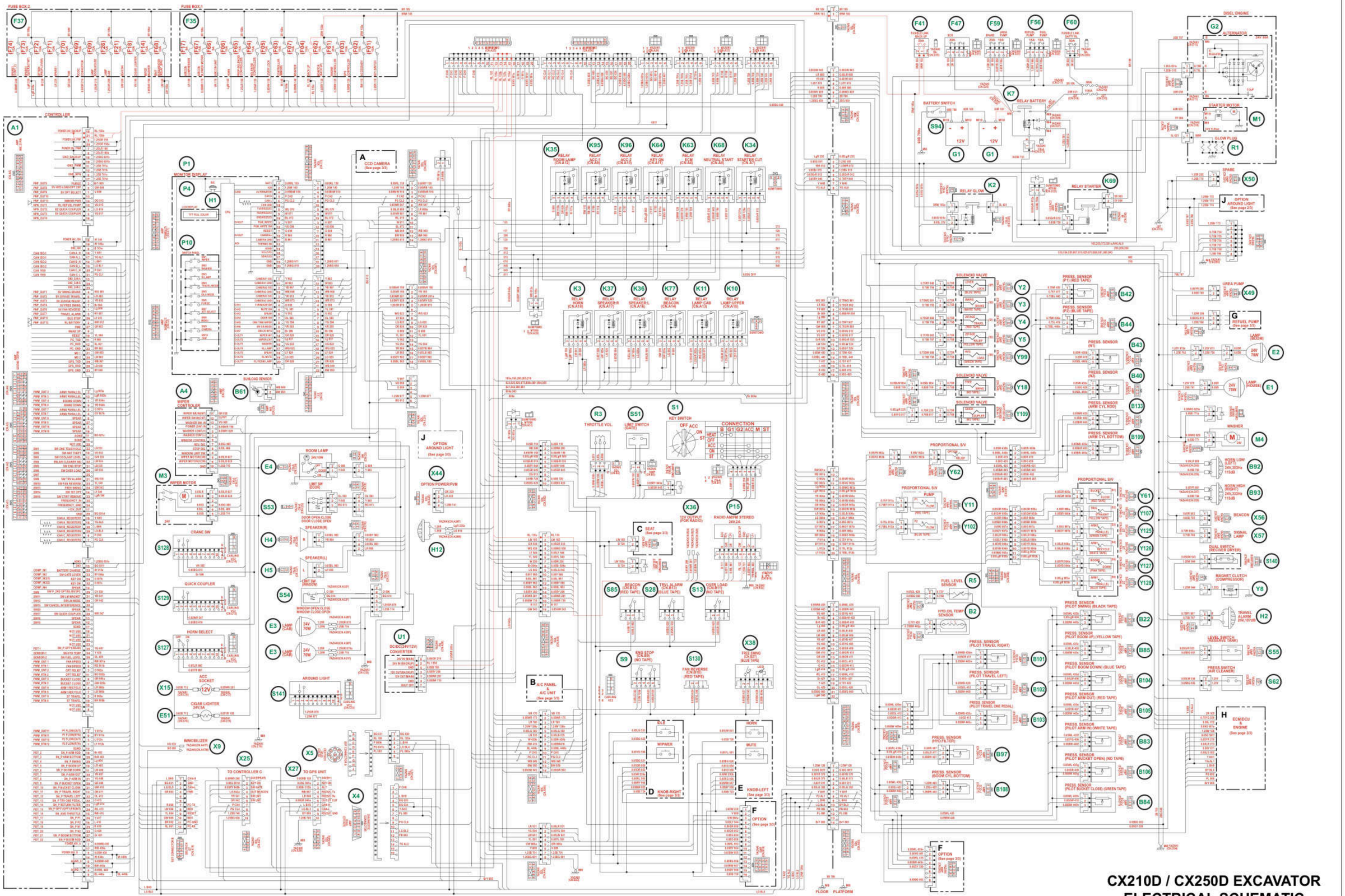
   1. Clear the diagnostic trouble code using the trouble diagnosis scan tool.

   2. Turn OFF the ignition switch for at least **30 s**.

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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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