PART NO. TTDCK-EN-00

HITACHI

Reliable solutions

Technical Manual
Troubleshooting

ZX
210-5B
210LC-5B
210LCN-5B
240N-5B
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODCK-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDCK-EN
Workshop Manual	: Vol. No.WDCK-EN
Engine Manual	: Vol. No.ETDCA-EN, EWDCA-EN

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SECTION 4

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Sensor Activating Range

1. Checking Method

- Hydraulic Oil Temperature: 50±5 °C (122±9 °F)
- Unless specified:

Engine Control Dial	Power Mode	Work Mode	Auto-Idle Switch
Fast Idle	PWR	Digging Mode	OFF

- Monitor each sensor by using MPDr.

2. Sensor Activating Range

Item	Operation	Specification
Engine Control Dial	Slow Idle	0.3 to 1.0 V
	Fast Idle	4.0 to 4.7 V
Pressure Sensor	Control lever: Neutral Pilot Shut-Off Lever: LOCK	0 to 0.1 MPa (0 to 1.0 kgf/cm^2, 0 to 14.5 psi)
	Control lever: Full Stroke Pilot Shut-Off Lever: UNLOCK	3.3 to 3.9 MPa (34 to 40 kgf/cm^2, 479 to 566 psi)
Pump Control Pressure Sensor	Control lever: Neutral	0 to 1 MPa (0 to 10 kgf/cm^2, 0 to 145 psi)
	Control lever: Full Stroke	2.9 to 3.9 MPa (30 to 40 kgf/cm^2, 421 to 566 psi)

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MC Fault Code List

Controller Hardware Failure

Fault Code	Trouble	Cause	Symptoms in Machine Operation When Trouble Occurs.	Remedy
11000-2	Abnormal EEPROM	Faulty MC	-	Replace MC.
11001-2	Abnormal RAM	Faulty MC	-	Replace MC.
11002-2	Abnormal A/D Converter	Faulty MC	-	Replace MC.
11003-3	Abnormal Sensor Voltage	Faulty MC Faulty sensor Faulty harness	Although the engine control dial is operated, the engine speed does not change.	Check the sensor connected to MC. Check the harness. Replace MC.

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Air Conditioner Controller Fault Codes 11 to 22

Preparation

- Check the wiring connections first.
- Before inspection, set the key switch to the ON position.

Fault Code	Trouble	Inspection Method	Evaluation	Cause
11	Open circuit in re-circulated air sensor	Measurement of resistance between sensor #1 and #2.	∞ Ω (Normal value: 300 to 430 kΩ)	Faulty sensor.
		Measurement of voltage between sensor harness end #1 and body.	0 V	Open circuit in harness #1.
		-	Normal in above check.	Open circuit in harness #2.
12	Shorted circuit in re-circulated air sensor	Measurement of resistance between sensor #1 and #2.	0 Ω (Normal value: 300 to 430 kΩ)	Faulty sensor.
		-	Normal in above check.	Shorted circuit in harness #1 and #2.
13	Open circuit in outdoor ambient temperature sensor	Measurement of resistance between sensor #1 and #2.	∞ Ω (Normal value: 100 to 210 kΩ)	Faulty sensor.
		Measurement of voltage between sensor harness end #1 and body.	0 V	Open circuit in harness #1.
		-	Normal in above check.	Open circuit in harness #2.
14	Shorted circuit in outdoor ambient temperature sensor	Measurement of resistance between sensor #1 and #2.	0 Ω (Normal value: 100 to 210 kΩ)	Faulty sensor.
		-	Normal in above check.	Shorted circuit in harness #1 and #2.
18	Shorted circuit in solar radiation sensor	Continuity check between sensor harness end #1 and #2.	0 Ω	Shorted circuit in harness #1 and #2.
		-	Normal in above check.	Faulty sensor.
21	Open circuit in frost sensor	Measurement of resistance between sensor #1 and #2.	∞ Ω (Normal value: 100 to 115 kΩ)	Faulty sensor.
		Measurement of voltage between sensor harness end #1 and body.	0 V	Open circuit in harness #1.
		-	Normal in above check.	Open circuit in harness #2.
22	Shorted circuit in frost sensor	Measurement of resistance between sensor #1 and #2.	0 Ω (Normal value: 100 to 115 kΩ)	Faulty sensor.
		-	Normal in above check.	Shorted circuit in harness #1 and #2.

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Rewrite of Muffler Filter Serial No.

When the muffler filter has been replaced, rewrite the serial No. of muffler filter and upload the data to e-Service.

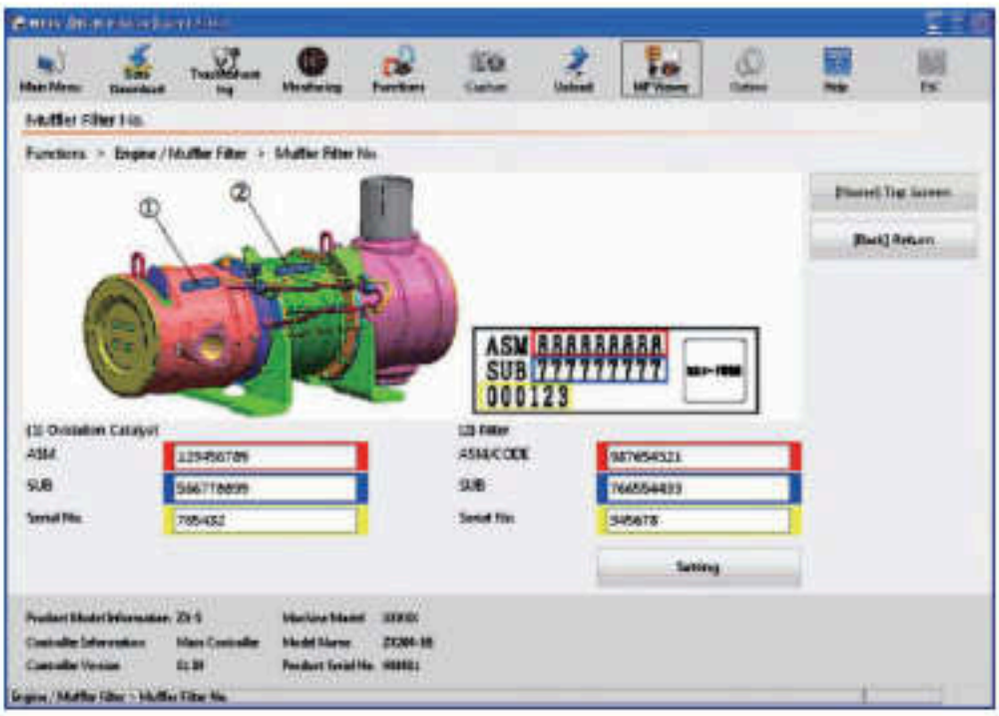
1. Connect MPDr..
2. Set the key switch to the ON position.
3. Select Functions-Engine/Muffler Filter-Muffler Filter NO. with MPDr..
4. Input the following items of Oxidation Catalyst (DOC) and Filter (CSF).

- ASM
- SUB
- Serial No.

5. After inputting, select Setting.

IMPORTANT: After inputting Muffler Filter Serial No. is completed, upload the data to e-Service.

NOTE: When the input data is uploaded to e-Service, the M-Find product specification and history will be updated.



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