PART NO. TTLAB50-EN-00

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Technical Manual
Troubleshooting

ZX
140W-6
Wheeled Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TOLAB50-EN
Technical Manual (Troubleshooting)	: Vol. No.TTLAB50-EN
Workshop Manual	: Vol. No.WLAB50-EN
Engine Manual	: Vol. No.ETLAB50-EN, EWLAB50-EN

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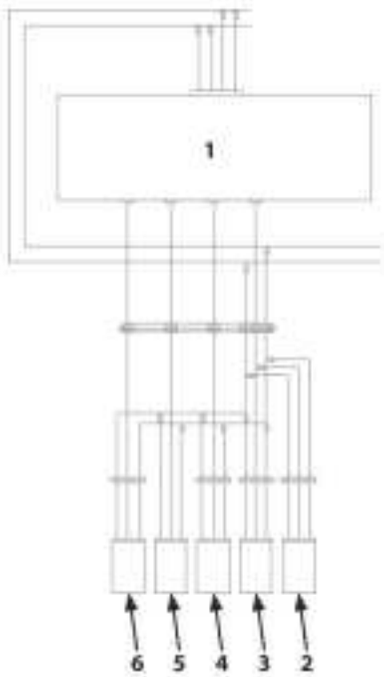
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MC2 Fault Code 15506

IMPORTANT: When fault code 15506-3 (Abnormal Sensor Voltage) is displayed with other fault code, diagnose on fault code 15506-3 first.

Fault Code	Trouble	Procedure	Inspection Method	Evaluation	Cause
15506-3	Abnormal Sensor Voltage	1	Disconnect connectors from all sensors and switch panel. Retry the troubleshooting by using MPDr.	Un-displayed fault code 15506-3	YES: Faulty sensor
					NO: Go to Procedure No. 2
		2	Check short circuit in wire harness between sensor harness end #1 and #3.	0 Ω	YES: Short circuit in wire harness #1 and #3.
					NO: Faulty MC2



TLAA-05-05-002

1- MC2
2- Pressure Sensor (Auxiliary 1)
3- Pressure Sensor (Auxiliary 2)
4- Pressure Sensor (Assist)
5- Pressure Sensor (Blade/ Outrigger)
6- Pressure Sensor (Positioning)

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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	Procedure	Inspection Method	Evaluation	Cause
11	Open circuit in re-circulated air temperature sensor	1	Measure resistance between sensor #1 and #2.	∞ Ω (Specification: 300 to 430 kΩ)	YES: Faulty sensor.
					NO: Go to Procedure No. 2
		2	Measure voltage between sensor harness end #1 and the body.	0 V	YES: Open circuit in wire harness #1.
					NO: Open circuit in wire harness #2.
12	Short circuit in re-circulated air temperature sensor	1	Measure resistance between sensor #1 and #2.	0 Ω (Specification: 300 to 430 kΩ)	YES: Faulty sensor.
					NO: Short circuit in wire harness #1 and #2.
13	Open circuit in ambient temperature sensor	1	Measure resistance between sensor #1 and #2.	∞ Ω (Specification: 100 to 210 kΩ)	YES: Faulty sensor.
					NO: Go to Procedure No. 2
		2	Measure voltage between sensor harness end #1 and the body.	0 V	YES: Open circuit in wire harness #1.
					NO: Open circuit in wire harness #2.
14	Short circuit in ambient temperature sensor	1	Measure resistance between sensor #1 and #2.	0 Ω (Specification: 100 to 210 kΩ)	YES: Faulty sensor.
					NO: Short circuit in wire harness #1 and #2.
18	Short circuit in solar radiation sensor	1	Check continuity between sensor harness end #1 and #2.	0 Ω	YES: Short circuit in wire harness #1 and #2.
					NO: Faulty sensor
21	Open circuit in frost sensor	1	Measure resistance between sensor #1 and #4.	∞ Ω (Specification: 100 to 115 kΩ)	YES: Faulty sensor.
					NO: Go to Procedure No. 2
		2	Measure voltage between sensor harness end #1 and the body.	0 V	YES: Open circuit in wire harness #1.
					NO: Open circuit in wire harness #2.
22	Short circuit in frost sensor	1	Measure resistance between sensor #1 and #4.	0 Ω (Specification: 100 to 115 kΩ)	YES: Faulty sensor.
					NO: Short circuit in wire harness #1 and #4.

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F-3 Boom, arm, or bucket single operation is not operated. Boom, arm, or bucket single operation speed is slow.

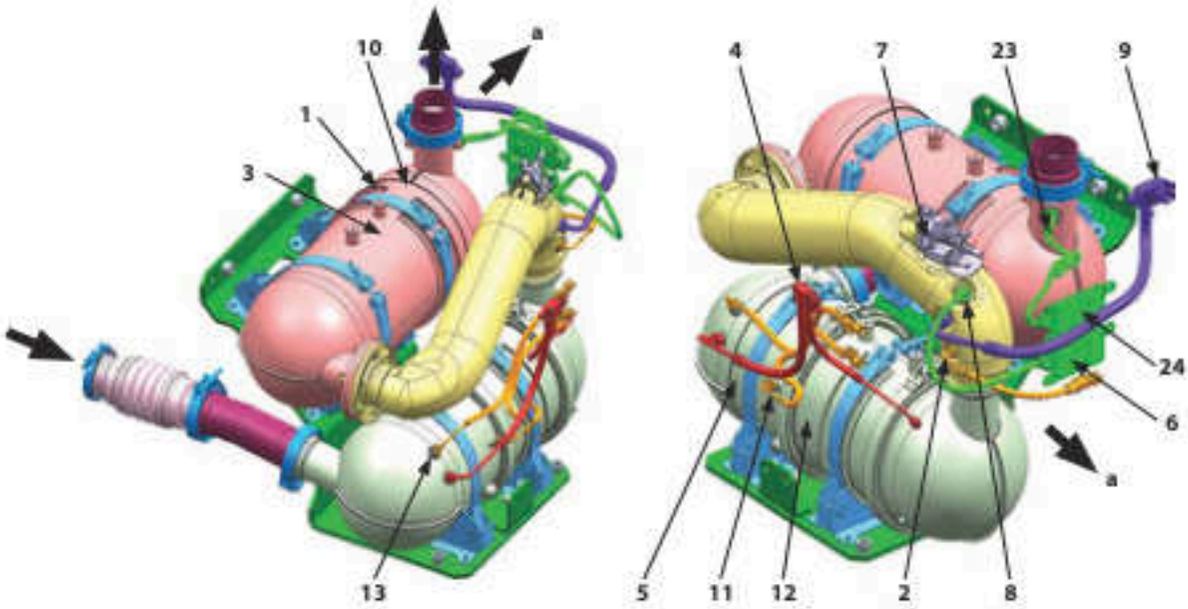
Overload Relief Valve Set Pressure	Specification (MPa)	Remark
Boom Lower, Arm Roll-In, Bucket Roll-In	$37.3^{+1.0}_{0}$	
Boom Raise, Arm Roll-Out, Bucket Roll-Out	$39.2^{+1.0}_{0}$	

Preparation

- When other actuators (travel and swing motors) are operated normally, the pilot pump (primary pilot pressure) is considered to be normal.
- If bucket single operation speed is slow, also refer to F-5.
- If arm roll-in single operation speed is slow, also refer to F-6.
- In case boom lower single operation speed is slow, also refer to F-7.

Procedure	Inspection Method	Condition	Evaluation	Cause
1	Monitor Boom Raise Pilot Pressure and Arm Roll-In Pilot Pressure.	Fully operate boom raise and arm roll-in.	The measured values are out of the specification. (Specification: 3.4-4.0 MPa)	YES: Faulty pilot valve or stuck spool of shockless valve in signal control valve (only boom raise)
				NO: Go to Procedure No. 2
2	Monitor Pump 1 Control Pressure and Pump 2 Control Pressure.	Slowly operate the control lever.	The measured values are out of the specification. (Specification: 2.9-3.9 MPa)	YES: Faulty shuttle valve in signal control valve
				NO: Go to Procedure No. 3
3	Switch overload relief valves, of which the set pressure are same.	-	Symptom is reversed.	YES: Faulty overload relief valve
				NO: Stuck control valve spool or faulty cylinder (faulty seal kit)

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TLAB-02-03-102

a- Machine Front Side

1- Aftertreatment Device
2- SCR Exhaust Temperature Sensor
3- SCR Catalyst
4- Differential Pressure Sensor
5- Diesel Oxidation Catalyst (DOC) 1
6- Upstream NOx Sensor Controller
7- Dosing Module
8- Upstream NOx Sensor
9- SCR Pressure Sensor
10- Diesel Oxidation Catalyst (DOC) 2
11- DOC Outlet Exhaust Temperature Sensor
12- Filter (CSF)
13- DOC Inlet Exhaust Temperature Sensor
23- Downstream NOx sensor
24- Downstream NOx Sensor Controller

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Rewrite of Aftertreatment Device Serial No.

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

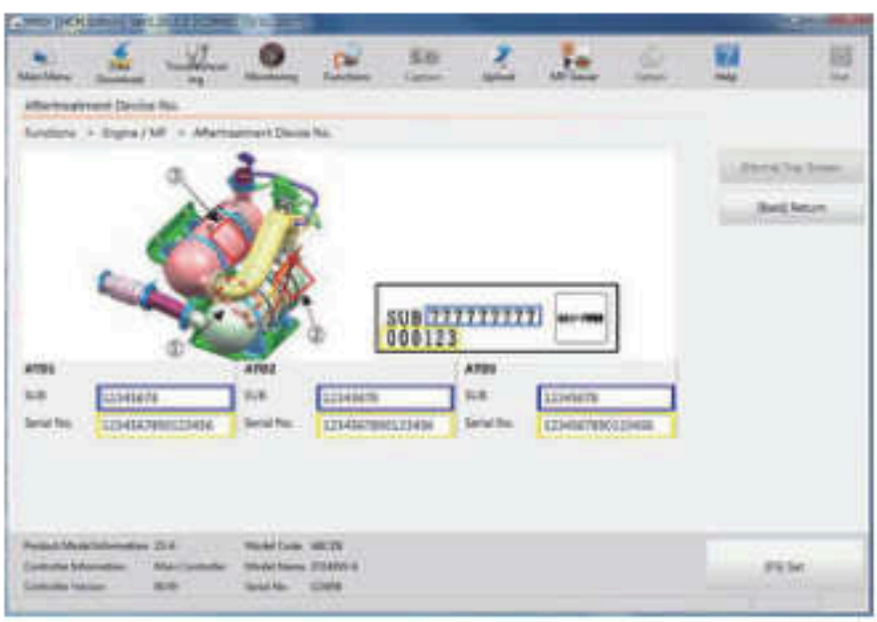
Procedure

1. Connect MPDr..
2. Set the key switch to the ON position.
3. Select Functions-Engine/MF-Aftertreatment Device No. with MPDr..
4. Input the serial No. after the replacement to the following items of Oxidation Catalyst (DOC) and SCR Catalyst.

- ASM
- SUB
- Serial No.

5. After inputting, select Set.
6. Upload the input 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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