PART NO. TTJBL40-EN-00

HITACHI

Reliable solutions

Technical Manual
Troubleshooting

ZX
870-6
870LC-6
890H-6
890LCH-6
890R-6
890LCR-6
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TOJBL40-EN
Technical Manual (Troubleshooting)	: Vol. No.TTJBL40-EN
Workshop Manual	: Vol. No.WJBL40-EN
Engine Manual	: Vol. No.ETJBL40-EN, EWJBL40-EN

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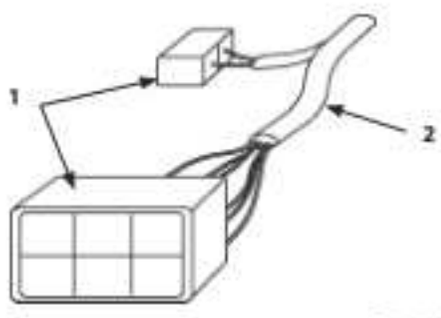
Troubleshooting A (Base Machine Diagnosis by Using Trouble Symptom) Procedure

Refer to troubleshooting A procedure in case any fault codes are displayed after diagnosing by using MPDr. or the service menu of the monitor.

- Diagnosis Procedure
  - Check the symptoms in machine operation for each fault code. When the symptoms match the machine operation when trouble occurs, perform the remedy.
  - In case more than one fault code are displayed at the same time, MC may be faulty or the power/ground of the sensor system may be faulty.
  - When the MC fault code is displayed with other fault code, replace MC.
  - When fault code 11003-3 (Abnormal Sensor Voltage) is displayed with other fault code, diagnose for fault code 11003-3 first.
  - In case more than one fault code other than those described above are displayed at the same time, diagnose for each fault code.
  - It may be required that the machine is operated or the test harness is connected at inspection. Check the items of preparation and perform inspection according to the procedures when diagnosing.

NOTE: All connector images in this section are viewed from the open end side of wire harness end.

NOTE: The engine controller (ECM) judges the engine malfunction. After the engine is repaired, select Fault Code Clear on Engine Setting. Then, delete the fault code of engine controller (ECM) on Troubleshooting. (Refer to TROUBLESHOOTING/Monitor.)



T6L4-05-03-001

1- Wire Harness End Connector 2- Wire Harness

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Fault Code	Trouble	Cause	Remedy:
20100-2	Overheat Alarm	Coolant temperature is high while the engine runs.	Check the wire harness. Replace the coolant temperature sensor.
20101-2	Engine Warning Alarm	Faulty engine system.	Refer to Engine Troubleshooting Manual.
20102-2	Engine Oil Pressure Alarm	Engine oil pressure decreases.	Check the wire harness. Replace the engine oil pressure sensor.
20103-2	Alternator Alarm	Regulator voltage is high. During engine stop state, the regulator voltage is high.	Check the wire harness. Check the battery. Check the alternator.
20104-2	Fuel Level Alarm	Fuel level is low.	Check the wire harness. Replace the fuel sensor.
20105-2	Hydraulic Oil Filter Restriction Alarm	Clogged fuel filter. Open circuit in harness.	Check the wire harness. Replace hydraulic filter restriction switch.
20106-2	Air Cleaner Restriction Alarm	Clogged air cleaner.	Check the wire harness. Replace air cleaner restriction switch.
20107-2	Water Separator Alarm	Water separator is full.	Check the wire harness. Replace water separator alarm switch.
20109-2	Pilot Control Shut-Off Lever Alarm	Faulty pilot shut-off switch.	Check the wire harness. Replace pilot shut-off switch.
20110-2	Fuel Filter Restriction Alarm	Supply pump inlet pressure is low.	Check the wire harness. Replace fuel filter.
20113-2	System Failure Alarm	Faulty CAN communication line.	Check the CAN harness.
20114-2	Overheat Alarm (Immediately after the key is turned ON)	Coolant temperature within 10 seconds after engine start is high.	Check the wire harness. Replace overheat switch
20133-2	Crane Function Alarm	Crane related failure	Check the wire harness.
20141-2	Exhaust Temperature Alarm	Exhaust temperature near muffler is high.	Check the wire harness. Replace exhaust temperature sensor.
20142-2	Inlet Air Temperature Alarm	Inlet air temperature is high.	Check the wire harness. Replace inlet air temperature sensor.
20145-2	Boost Temperature Alarm	Boost temperature is high.	Check the wire harness. Replace boost temperature sensor
20146-2	Fuel Temperature Alarm	Fuel temperature is high.	Check the wire harness. Replace fuel temperature sensor.
20149-2	EGR Gas Temperature Alarm	EGR gas temperature is high.	Check the wire harness. Replace intake manifold temperature sensor.

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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 #25$_H$ and #6$_B$	∞ Ω (Specification: 300 to 430 kΩ)	YES: Faulty sensor NO: Go to Procedure No. 2
		2	Measure voltage between sensor harness end #25$_H$ and the body.	0 V	YES: Open circuit in wire harness #25$_H$ NO: Open circuit in wire harness #6$_B$
12	Short circuit in re-circulated air temperature sensor	1	Measure resistance between sensor #25$_H$ and #6$_B$	0 Ω (Specification: 300 to 430 kΩ)	YES: Faulty sensor NO: Short circuit in wire harness between #25$_H$ and #6$_B$
13	Open circuit in ambient temperature sensor	1	Measure resistance between sensor #A25$_I$ and #A4$_I$	∞ Ω (Specification: 100 to 210 kΩ)	YES: Faulty sensor NO: Go to Procedure No. 2
		2	Measure voltage between sensor harness end #A25$_I$ and the body.	0 V	YES: Open circuit in wire harness #A25$_I$ NO: Open circuit in wire harness #A4$_I$
14	Short circuit in ambient temperature sensor	1	Measure resistance between sensor #A25$_I$ and #4$_I$	0 Ω (Specification: 100 to 210 kΩ)	YES: Faulty sensor NO: Short circuit in wire harness between #A25$_I$ and #A4$_I$
18	Short circuit in solar radiation sensor	1	Check continuity between sensor harness end #A7$_I$ and #A3$_I$.	0 Ω	YES: Short circuit in wire harness between #A7$_I$ and #3$_I$ NO: Faulty sensor
21	Open circuit in frost sensor	1	Measure resistance between sensor #25$_C$ and #5$_B$	∞ Ω (Specification: 100 to 115 kΩ)	YES: Faulty sensor NO: Go to Procedure No. 2
		2	Measure voltage between sensor harness end #25$_C$ and the body.	0 V	YES: Open circuit in wire harness #25$_C$ NO: Open circuit in wire harness #5$_B$
22	Short circuit in frost sensor	1	Measure resistance between sensor #25$_C$ and #5$_B$	0 Ω (Specification: 100 to 115 kΩ)	YES: Faulty sensor NO: Short circuit in wire harness between #25$_C$ and #5$_B$

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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.

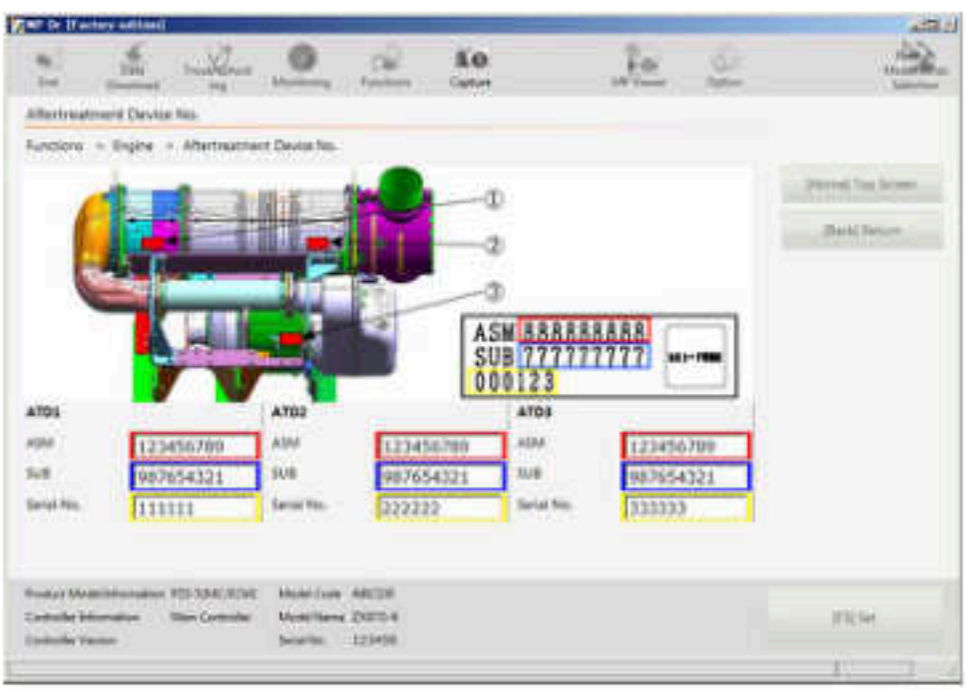
Procedure

1. Connect MPDr..
2. Set the key switch to the ON position.
3. Select Functions-Engine-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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