PART NO. TTDDN50-EN-00

HITACHI

Reliable solutions

Technical Manual
Troubleshooting

ZX
300LC-6
300LCN-6
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODDN50-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDDN50-EN
Workshop Manual	: Vol. No.WDDN50-EN
Engine Manual	: Vol. No.ETDDN50-EN, EWDDN50-EN

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ECM Fault Code List

(Refer to the Engine Manual for ECM Fault Codes.)

Fault Code		Trouble	Cause	Symptoms in Machine Operation When Trouble Occurs	Operating Rank					
SPN-FMI	DTC				A	B	C	D	E	F
100-3	P0523	Engine Oil Pressure Sensor Circuit High Input	Voltage: more than 4.9 V.	Nothing special.	○					
100-4	P0522	Engine Oil Pressure Sensor Circuit Low Input	Voltage: less than 0.1 V.	Nothing special.	○					
102-0	P0234	Over Boost-Pressure	Boost pressure is 20 kPa higher than the max. target boost pressure.	The output power decreases.		○				
102-3	P0238	Boost Pressure Sensor Circuit High Input	Voltage: more than 4.9 V.	Engine power decreases. Engine speed decreases.					○	
102-4	P0237	Boost Pressure Sensor Circuit Low Input	Voltage: less than 0.1 V.	Engine power decreases. Engine speed decreases.					○	
105-3	P1098	Boost Temperature Sensor (Intercooler Outlet) High Input	Voltage: more than 4.9 V.	Nothing special.	○					
105-4	P1097	Boost Temperature Sensor (Intercooler Outlet) Low Input	Voltage: less than 0.1 V.	Nothing special.	○					
108-3	P2229	Abnormal Atmospheric Pressure Sensor Circuit (High Input)	Voltage: more than 4.9 V.	The output power decreases.		○				
108-4	P2228	Abnormal Atmospheric Pressure Sensor Circuit (Low Input)	Voltage: less than 0.1 V.	The output power decreases.		○				

Operating Rank

A: Digging is operable.

B: Machine can travel with the boom raised.

C: The engine only runs. (Only operation with light load is possible.)

D: The engine cannot stop/start.

E: Malfunction of urea SCR system (Engine output power and speed are restricted in a phased manner. Finally engine output power and speed are set to operating rank (C).) * Malfunction of urea SCR system (first time): Engine output power and speed are set to operating rank (C) after 3.5 hours, Malfunction of urea SCR system (second time): Engine output power and speed are set to operating rank (C) after 0.5 hours.

F: Malfunction of EGR system (Engine output power and speed are restricted in a phased manner. Finally engine output power and speed are set to operating rank (C).) * Malfunction of EGR system (first time): Engine output power and speed are set to operating rank (C) after 100 hours, Malfunction of EGR system (second time): Engine output power and speed are set to operating rank (C) after 5 hours.

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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 overheat switch.
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.
20105-2	Hydraulic Oil Filter Restriction Alarm	Clogged hydraulic oil filter. Open circuit in wire harness.	Check the wire harness. Replace the hydraulic oil filter.
20106-2	Air Cleaner Restriction Alarm	Clogged air cleaner.	Check the wire harness. Replace the air cleaner.
20107-2	Water Separator Alarm	The water separator is full.	Check the wire harness. Replace the water separator alarm switch.
20109-2	Pilot Control Shut-Off Lever Alarm	Faulty pilot shut-off switch.	Check the wire harness. Replace the pilot shut-off switch.
20110-2	Fuel Filter Restriction Alarm	Clogged fuel filter.	Check the wire harness. Replace the fuel filter.
20114-2	Overheat Alarm (Immediately after the key is turned ON)	Coolant temperature is high within ten seconds after the engine starts.	Check the wire harness. Replace the overheat switch.
20141-2	Exhaust Temperature Alarm	Exhaust temperature is high.	Check the wire harness. Replace the exhaust temperature sensor.
20142-2	Intake Air Temperature Alarm	Intake air temperature increases.	Check the wire harness. Replace the intake-air temperature sensor.
20145-2	Boost Temperature Increase Alarm	Boost temperature increases.	Check the wire harness. Replace the boost temperature sensor.
20146-2	Fuel Temperature Increase Alarm	Fuel temperature increases.	Check the wire harness. Replace the fuel temperature sensor.
20149-2	EGR Gas Temperature Alarm	EGR gas temperature increases.	Check the wire harness. Replace the intake manifold temperature sensor.

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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, Arm, Bucket	$39.2^{+1.0}_{-0}$	

Preparation

- When other actuators (travel and swing motors) are operated normally, the pilot pump (primary pilot pressure) is considered to be normal.

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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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.

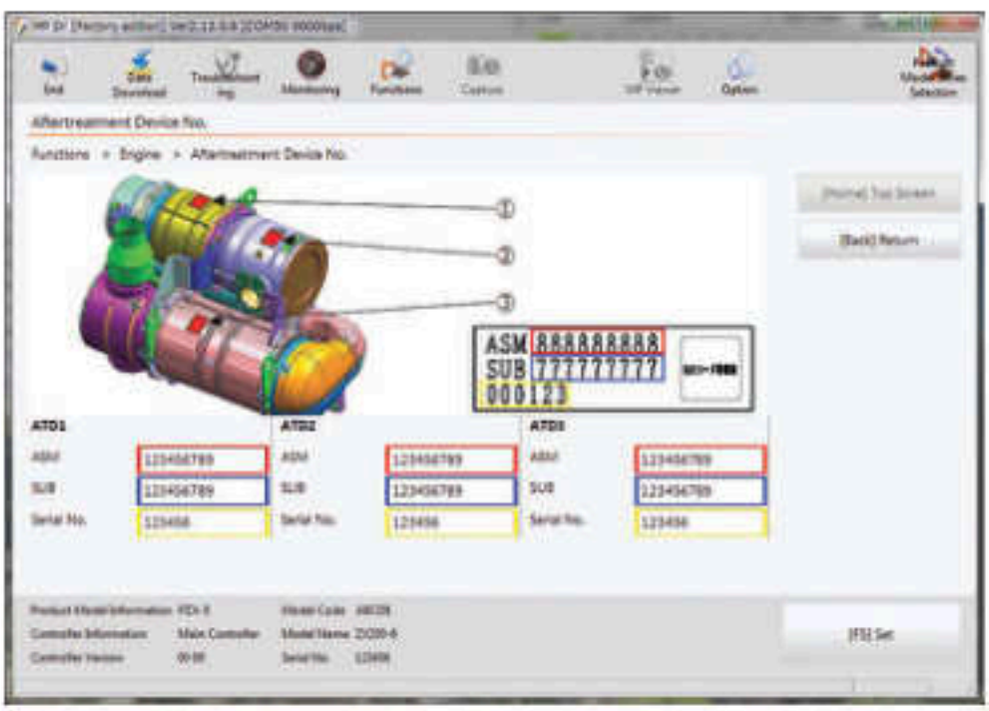
Procedure

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.



TDDQ-04-06-001EN

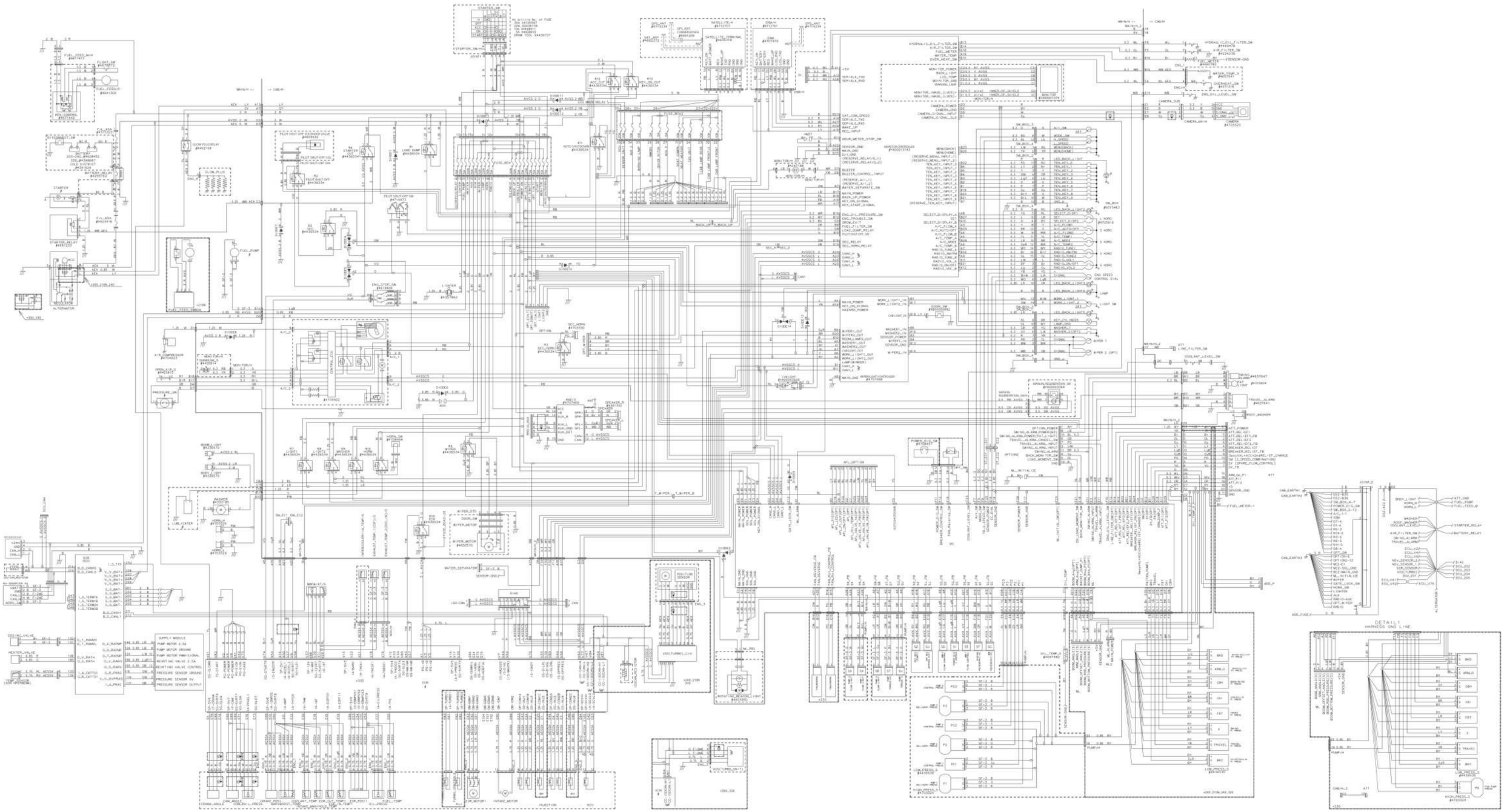
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ELECTRICAL CIRCUIT DIAGRAM

Applicable Machine

Attach to vol. No.	Model
TTDC150-EN-00	ZX250LC-6/ 250LCN-6
TTDDN50-EN-00	ZX300LC-6/ 300LCN-6
TTDDQ50-EN-00	ZX350LC-6/ 350LCN-6

CAUTION: Parts numbers on the drawing are provided only for reference purpose.
To order parts on the drawing, be sure to consult the Parts Catalog.



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