PART NO. TTDAD-EN-00

HITACHI

Reliable solutions

Technical Manual
Troubleshooting

ZX
130-5B
130LCN-5B
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODAD-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDAD-EN
Workshop Manual	: Vol. No.WDAD-EN
Engine Manual	: Vol. No.EDBE-EN

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SECTION 4

OPERATIONAL PERFORMANCE TEST

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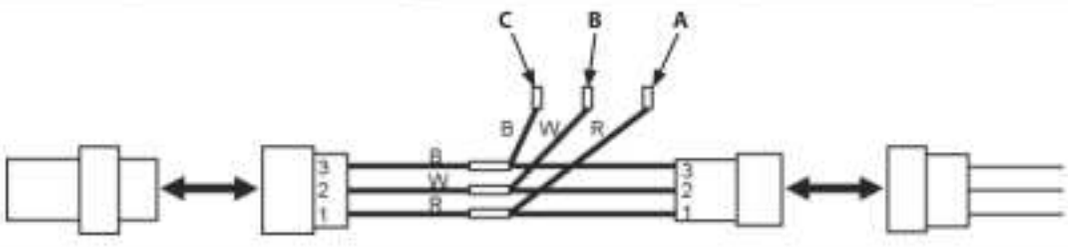
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MC Fault Codes 11301 to 11303

Preparation

- Check the wiring connections first.
- Connect the test harness (ST 6703) and dummy sensor equivalent to #4436535.
- Before inspection, set the key switch to the ON position.

Fault Code	Trouble	Inspection Method	Evaluation	Cause
11301-3	Swing Pilot Pressure Sensor Circuit High Input	Retry by using MPDr.	Un-displayed fault code	Faulty sensor.
		Measure voltage between B and body	Voltage: more than 4.5 V	Shorted circuit in harness #1 and #2.
11301-4	Swing Pilot Pressure Sensor Circuit Low Input	Retry by using MPDr.	Un-displayed fault code	Faulty sensor.
		Measure voltage between A and body	0 V	Open circuit in harness #1.
		Measure voltage between A and C (GND)	0 V	Open circuit in harness #3.
		-	Normal in above check.	Open circuit in harness #2.
11302-3	Boom Raise Pilot Pressure Sensor Circuit High Input	Retry by using MPDr.	Un-displayed fault code	Faulty sensor.
		Measure voltage between B and body	Voltage: more than 4.5 V	Shorted circuit in harness #1 and #2.
11302-4	Boom Raise Pilot Pressure Sensor Circuit Low Input	Retry by using MPDr.	Un-displayed fault code	Faulty sensor
		Measure voltage between A and body	0 V	Open circuit in harness #1.
		Measure voltage between A and C (GND)	0 V	Open circuit in harness #3.
		-	Normal in above check.	Open circuit in harness #2.
11303-3	Arm Roll-In Pilot Pressure Sensor Circuit High Input	Retry by using MPDr.	Un-displayed fault code	Faulty sensor.
		Measure voltage between B and body	Voltage: more than 4.5 V	Shorted circuit in harness #1 and #2.
11303-4	Arm Roll-In Pilot Pressure Sensor Circuit Low Input	Retry by using MPDr.	Un-displayed fault code	Faulty sensor.
		Measure voltage between A and body	0 V	Open circuit in harness #1.
		Measure voltage between A and C (GND)	0 V	Open circuit in harness #3.
		-	Normal in above check.	Open circuit in harness #2.



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Monitor Controller (Information) Fault Codes 20109 to 20149

Fault Code	Trouble	Inspection Method	Evaluation	Cause
20109-2	Pilot Control Shut-Off Lever Alarm	Check of the pilot shut-off switch	Correct	Faulty harness.
			Incorrect	Faulty pilot shut-off switch.
20110-2	Fuel Filter Restriction Alarm	Diagnose on fault codes of ECM.	-	-
20113-2	System Failure Alarm	Check of CAN Harness	-	Faulty CAN harness.
20133-2	Crane Function Alarm			
20137-2	Muffler Filter Alarm	Diagnose on fault codes of ECM.	-	-
20141-2	Exhaust Gas Temperature Alarm	Diagnose on fault codes of ECM.	-	-
20142-2	Intake Air Temperature Alarm	Diagnose on fault codes of ECM.	-	-
20145-2	Boost Temperature Alarm	Diagnose on fault codes of ECM.	-	-
20146-2	Fuel Temperature Alarm	Diagnose on fault codes of ECM.	-	-
20149-2	EGR Temperature Alarm	Diagnose on fault codes of ECM.	-	-

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• Frost Sensor

Monitors the fin temperature which is cooled by the evaporator. When the temperature is higher than 6 °C (approx. 4.8 kΩ), the controller turns the compressor relay ON. When the temperature is lower than 1.5 °C (approx. 5.8 kΩ), the controller turns the compressor relay OFF. Therefore, the evaporator in the air conditioner unit is prevented from freezing.



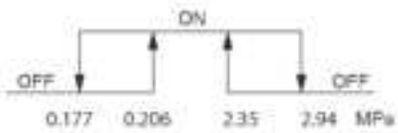
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• High/Low Pressure Switch

Controls the compressor clutch solenoid while monitoring the compressor circuit pressure. The high/low pressure switch consists of a pressure gauge and a switch. The pressure gauge detects the lower pressure range (0.177 MPa to 0.216 MPa) and the surge pressure range (2.35 MPa to 2.94 MPa). When the circuit pressure is reduced to the lower pressure range or increases to the surge pressure range, the pressure gauge turns the switch OFF so that the compressor operation stops.
If the pressure is reduced to the lower range, a lack of refrigerant is suspected. Therefore, damage to the compressor due to a lack of refrigerant is prevented. In case the pressure increases to the surge range, damage to the air conditioner circuit parts due to excessively high circuit pressure is prevented.



TDBC-05-07-010



TDBC-05-07-019

• Re-Circulated Air Sensor

Monitors the temperatures around the re-circulated air inlet as the interior air temperatures and converts them to the electrical resistance values. The temperatures 0 °C to 40 °C corresponds to a resistance of 9.7 kΩ (0 °C) to 1.6 kΩ (40 °C) respectively.



TDBC-05-07-011

• Outdoor Ambient Temperature Sensor

Monitors the temperature around the front side of the machine as the fresh air temperature, and converts the temperature to the electrical resistance value. The temperatures 0 °C to 40 °C corresponds to a resistance of 9.7 kΩ (0 °C) to 1.6 kΩ (40 °C) respectively.



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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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