PART NO. TTDFM90-EN-00

HITACHI

Reliable solutions

Technical Manual
Troubleshooting

ZH
200-5A
200LC-5A

Hybrid Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODFM90-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDFM90-EN
Workshop Manual	: Vol. No.WDFM90-EN
Engine Manual	: Vol. No.ETDCY-EN, EWDCY-EN

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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.

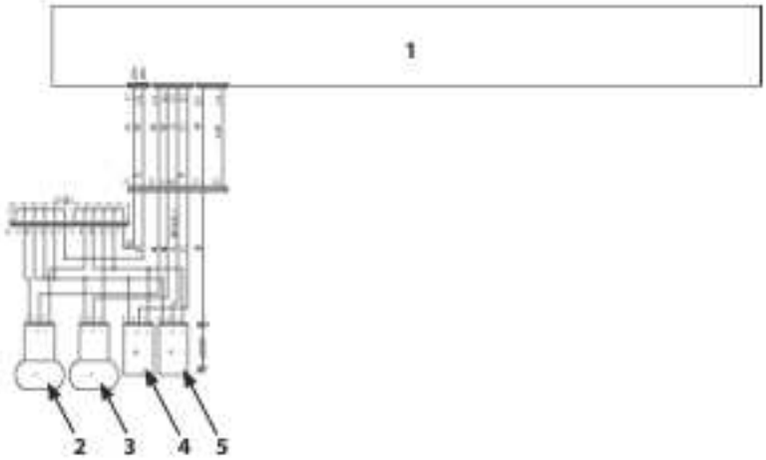
Fault Code	Trouble	Procedure	Inspection Method	Evaluation	Cause
11	Open circuit in re-circulated air temperature sensor	1	Measure resistance between sensor #25$_H$ and #6$_E$.	∞ Ω (Specification: 300 to 430 kΩ)	YES: Faulty sensor.
					NO: Go to Procedure No. 2.
		2	Measure voltage between sensor harness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

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HCU Fault Code 19503-3

IMPORTANT: When fault code 19503-3 (Abnormal Sensor Voltage) is displayed with other fault code, diagnose on fault code 19503-3 first.

Fault Code	Trouble	Procedure	Inspection Method	Evaluation	Cause
19503-3	Abnormal Sensor Power	1	Disconnect connectors from all sensors and switch panel. Retry the troubleshooting by using MPDr.	Fault code 19503-3 is not displayed.	YES: Faulty sensor
					NO: Go to Procedure No. 2
		2	Measure voltage between sensor harness end #1 and body.	0 V	YES: Open circuit in harness #1
					NO: Go to Procedure No. 3
		3	Check shorted circuit in harness between sensor harness end #1 and #3.	0 Ω	YES: Shorted circuit in harness between #1 and #3
					NO: Faulty HCU



TDCF-07-05-001

1- HCU
2- Swing Main Pressure Sensor (Left)
3- Swing Main Pressure Sensor (Right)
4- Swing Pilot Pressure Sensor (Right)
5- Swing Pilot Pressure Sensor (Left)

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Fault Code	Trouble	Cause	Symptoms in Machine Operation When Trouble Occurs	Remedy
19612-0	Capacitor Module Overheat	Capacitor module temperature becomes abnormal. (It is detected by the capacitor unit.)	Hydraulic independent swing control is selected.	Retry. Check the harness. Replace the capacitor.
19612-16	Capacitor Module Overheat Alarm	Capacitor module temperature increases up to the alarm displayed value. (It is detected by the capacitor unit.)	Hydraulic independent swing control is selected. (Hybrid system is protected.)	The remedy is not required.
19613-2	Capacitor Communication Error	Communication to the capacitor unit is abnormal.	Hydraulic independent swing control is selected.	Retry. Check the harness. Replace the capacitor.
19615-2	CAN Communication Error (INV-CAN)	Communication error of INV-CAN	Hydraulic independent swing control is selected.	Retry. Check the harness.
19616-2	CAN Communication Error (CAN1)	Communication error of CAN1	Hydraulic independent swing control is selected.	Retry. Check the harness.
19617-0	Swing INV AC Side Overcurrent	The absolute value of three-phase current becomes abnormal.	Hydraulic independent swing control is selected.	Retry. Check PCU. Check the electric component.
19617-16	Swing INV AC Side Overcurrent Alarm	The absolute value of three-phase current increases up to the alarm display value.	Hydraulic independent swing control is selected. (Hybrid system is protected.)	The remedy is not required.
19618-0	Swing INV High Voltage	Bus line voltage becomes abnormal.	Hydraulic independent swing control is selected.	Retry. Check PCU. Check the electric component.
19618-16	Swing INV High Voltage Alarm	Bus line voltage increases up to the alarm display value.	Hydraulic independent swing control is selected. (Hybrid system is protected.)	The remedy is not required.
19618-18	Swing INV Low Voltage Alarm	Bus line voltage decreases to the alarm display value.	Hydraulic independent swing control is selected. (Hybrid system is protected.)	The remedy is not required.
19619-4	Swing INV IGBT Protection	The driving circuit of swing inverter is abnormal.	Hydraulic independent swing control is selected.	Retry. Replace PCU.

NOTE: The check is not required even if fault codes 19612-16, 19617-16, 19618-16, and 19618-18 are displayed. When the measurement value reaches abnormal values, the corresponding fault code is displayed.

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