PART NO. TTNHF-EN-00

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Technical Manual
Troubleshooting

ZW
550-5B
Wheel Loader

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TONHF-EN
Technical Manual (Troubleshooting)	: Vol. No.TTNHF-EN
Workshop Manual	: Vol. No.WNHF-EN
Engine Manual	: Vol. No.ENHE-EN

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SECTION 4

OPERATIONAL PERFORMANCE TEST

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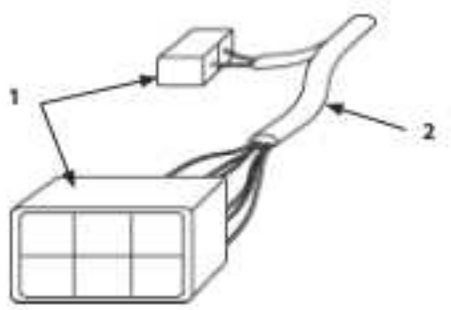
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Troubleshooting A (Base Machine Diagnosis By Using Fault Codes) Procedure

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
  - The diagnosis procedures for the displayed fault codes are explained in this group.
  - In case more than one fault code are displayed at the same time, Main Controller (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 111003-3 (Abnormal Sensor Voltage) is displayed with other fault code, diagnose for fault code 111003-3 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: Harness end connector viewed from the open end side by the all connectors image shown in this section.



T6L4-05-03-001

1- Harness End Connector 2- Harness

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.)

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Symptoms in Machine Operation When Trouble Occurs.	Assumptive Conditions at Backup
The output power decreases.	Regenerative control is impossible.
The output power decreases.	Regenerative control is impossible.
The output power decreases.	Muffler filter pressure difference is 0 kPa.
The output power decreases.	Muffler filter pressure difference is 0 kPa.
The output power decreases.	Muffler filter pressure difference is 0 kPa.
Abnormal system 1: No backup Abnormal system 2: Accelerator opening amount is limited to 0 %.	The accelerator opening amount signal cannot be used. (The limited value is changed according to the quantity of faulty systems.)
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Abnormal system 1: No backup Abnormal system 2: Accelerator opening amount is limited to 0 %.	The accelerator opening amount signal cannot be used. (The limited value is changed according to the quantity of faulty systems.)
Nothing special.	Engine oil pressure is 120 kPa.
Nothing special.	Engine oil pressure is 120 kPa.
The output power decreases.	Malfunction of VGS turbo
The output power decreases.	Boost pressure is 100 kPa.
The output power decreases.	Boost pressure is 100 kPa.
Nothing special.	Boost temperature is 50 °C.
Nothing special.	Boost temperature is 50 °C.
The output power decreases.	Atmospheric pressure is 95 kPa.
The output power decreases.	Atmospheric pressure is 95 kPa.
There is no influence when operating the machine.	Injection amount is regulated by overheat protection.

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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	Inspection Method	Evaluation	Cause
11	Open circuit in re-circulated air sensor	Measurement of resistance between sensor #1 and #2.	∞ Ω (Normal value: 300 to 430 kΩ)	Faulty sensor.
		Measurement of voltage between sensor harness end #1 and chassis.	0 V	Open circuit in harness #1.
		-	Normal in above check.	Open circuit in harness #2.
12	Shorted circuit in re-circulated air sensor	Measurement of resistance between sensor #1 and #2.	0 Ω (Normal value: 300 to 430 kΩ)	Faulty sensor.
		-	Normal in above check.	Shorted circuit in harness #1 and #2.
13	Open circuit in outdoor ambient temperature sensor	Measurement of resistance between sensor #1 and #2.	∞ Ω (Normal value: 100 to 210 kΩ)	Faulty sensor.
		Measurement of voltage between sensor harness end #1 and chassis.	0 V	Open circuit in harness #1.
		-	Normal in above check.	Open circuit in harness #2.
14	Shorted circuit in outdoor ambient temperature sensor	Measurement of resistance between sensor #1 and #2.	0 Ω (Normal value: 100 to 210 kΩ)	Faulty sensor.
		-	Normal in above check.	Shorted circuit in harness #1 and #2.
18	Shorted circuit in solar radiation sensor	Continuity check between sensor harness end #1 and #2.	0 Ω	Shorted circuit in harness #1 and #2.
		-	Normal in above check.	Faulty sensor.
21	Open circuit in frost sensor	Measurement of resistance between sensor #1 and #2.	∞ Ω (Normal value: 100 to 115 kΩ)	Faulty sensor.
		Measurement of voltage between sensor harness end #1 and chassis.	0 V	Open circuit in harness #1.
		-	Normal in above check.	Open circuit in harness #2.
22	Shorted circuit in frost sensor	Measurement of resistance between sensor #1 and #2.	0 Ω (Normal value: 100 to 115 kΩ)	Faulty sensor.
		-	Normal in above check.	Shorted circuit in harness #1 and #2.

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