PART NO. TTNFA-EN-00

HITACHI

Reliable solutions

Technical Manual
Troubleshooting

ZW

310-5B
330-5B
Wheel Loader

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TONFA-EN
Technical Manual (Troubleshooting)	: Vol. No.TTNFA-EN
Workshop Manual	: Vol. No.WNFA-EN
Engine Manual	: Vol. No.ENFA-EN

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SECTION 4

OPERATIONAL PERFORMANCE TEST

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Troubleshooting

1. Turn select / confirm knob (3) and select Troubleshooting (4) on Service Menu.



TNED-05-02-002

2. When pushing select / confirm knob (3), the Troubleshooting screen appears.



90TNED-05-02-10EN

3. Turn select / set switch (3) and select the controller.

NOTE: The number in parentheses to the right of menu name indicates the number of listed fault codes for the menu.



90TNED-05-02-24EN

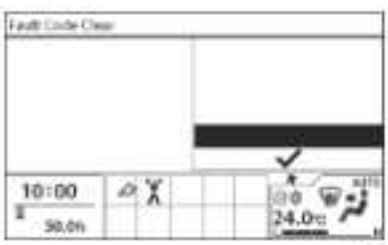
4. When pushing select / confirm knob (3), the self-diagnostic result of selected controller (fault code) is displayed.
The past fault codes as well as the current ones are displayed at this time.

NOTE: Main (T/M) (5) is selected as an example here.



90TNED-05-02-25EN

5. Turn select / confirm knob (3), select CLEAR (6), and push select / confirm knob (3).
The past fault codes are deleted and only the current fault codes can be displayed.



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6. When pushing return to previous screen switch (1), the previous screen appears.
7. When pushing return to basic screen switch (2), the basic screen appears.

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Contents of Diagnosis

Fault Code

Preparation

Tools for a diagnosis and contents needing inspection beforehand are explained.

How to Read Table

Fault Code	Trouble or MP Dr. Message	Inspection Method	Evaluation	Cause
(A)	(B)	(C)	(D)	(E)
		(F)	(G)	(H)

- A: Fault code
- B: Trouble details or message displayed on the Maintenance Pro Dr.
- C, F: Inspection method for trouble cause
- D, G: Evaluation specification of check results
- E, H: Trouble cause for the fault code

Procedure:

1. Check an applicable line depending on displayed fault cord (A).
2. After checking or measuring on Inspection Method (C), refer to Evaluation (D) and judge the results.
3. In case the results are satisfied with Evaluation (D), the trouble cause becomes Cause (E).
   In case the results are not satisfied with Evaluation (D), go to the next procedure, Inspection Method (F).

Circuit Diagram of Test Harness

A connection point of the test harness and a point to check are explained.
(Only Pressure Sensor System Troubleshooting)

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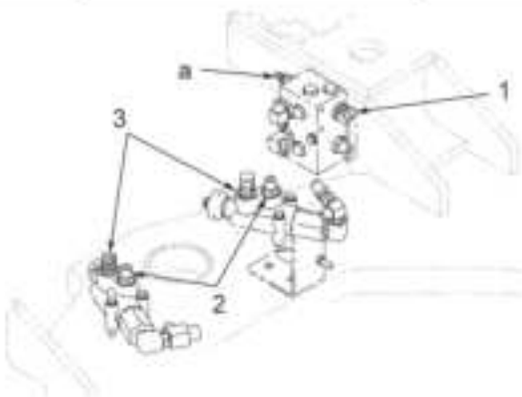
S-2 Steering operation is slow.

	Specification	Remark
Steering cylinder operation time (sec)	ZW310-5B: 2.8 ± 0.4 ZW330-5B: 2.3 ± 0.4	Accelerator pedal: Fully depressed Power mode switch: ON Bucket: Empty

Preparation

- If speed of front attachment is also slow, the pilot system or main system may be faulty (A-2).
- If the pilot system is faulty, the circuit after the steering pilot valve may be faulty.
- Check that the steering wheel is not abnormal first.
- Refer to SYSTEM / Hydraulic System.

Procedure	Inspection Method	Condition	Evaluation	Cause
1	Measure Main Pump Pressure	Engine: Running Steering relief operation	The measured values are out of normal range (Normal range: 28.0 MPa (4061 psi) or more	Stuck or clogged bleed-off compensator (in control valve)
2	Measure pressure at port B in reducing valve (for Steering pilot valve)	Engine: Running Accelerator pedal: Fully depressed	The measured values are out of normal range (Normal range: 3.5 ± 0.5 MPa (508 ± 73 psi)	Faulty reducing valve or shuttle valve Clogged filter
3	Measure pressure at port A in stop valve (left/right)	Engine: Running Steering (left or right) operation	The measured values are out of normal range (Normal range: 3.5 ± 0.5 MPa (508 ± 73 psi)	Faulty Steering pilot valve (steering pilot valve)
4	Measure pressure at port B in stop valve (left/right)	Engine: Running Steering (left or right) operation	The measured values are out of normal range (Normal range: 3.5 ± 0.5 MPa (508 ± 73 psi)	Faulty stop valve
5	-	-	The above checks resulted all normal.	Stuck steering valve spool or faulty steering cylinder (faulty seal kit)



90Z7-05-06-01

a- Reducing Valve

1- Reducing Valve Port B
2- Stop Valve Port A
3- Stop Valve Port B

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