PART NO. TT4FG-E-00

HITACHI

Technical Manual
Troubleshooting

ZW
80
90
Wheel Loader

Service Manual consists of the following separate Part No.
Technical Manual (Operational Principle) : Vol. No.TO4FG-E
Technical Manual (Troubleshooting) : Vol. No.TT4FG-E
Workshop Manual : Vol. No.W4FG-E

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SECTION 4
OPERATIONAL PERFORMANCE TEST

CONTENTS

Group 1 Introduction
Operational Performance Tests T4-1-1
Preparation for Performance Tests T4-1-2

Group 2 Standard
Operational Performance
Standard Table T4-2-1

Group 3 Engine Test
Engine Speed T4-3-1

Group 4 Wheel Loader Test
Travel Speed T4-4-1
Service Brake Capacity T4-4-2
Service Brake / Parking Brake Wear T4-4-4
Parking Brake Capacity T4-4-6
Bucket Stopper and Bell Crank Stopper
Clearance T4-4-8
Hydraulic Cylinder Cycle Time T4-4-10
Dig Function Drift Check T4-4-12
Control Lever Operating Force T4-4-13
Control Lever Stroke T4-4-14

Group 5 Component Test
Main Pump Delivery Pressure T4-5-1
HST Pump Delivery Pressure T4-5-2
HST Charging Pump Delivery Pressure T4-5-3
Main Relief Pressure T4-5-4
HST Pump Relief Pressure T4-5-6
Steering Relief Pressure T4-5-7
Overload Relief Pressure T4-5-8

Group 6 Adjustment
Fan Belt Tension Adjustment T4-6-1

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SECTION 5
TROUBLESHOOTING

CONTENTS

Group 1 Diagnosing Procedure

Introduction T5-1-1
Diagnosing Procedure T5-1-2
How to Operate Service Mode of Monitor T5-1-5
How to Use Error Code Readout Switch T5-1-6

Group 2 Component Layout

Main Component Layout (Overview)..... T5-2-1
Main Component Layout (Body) T5-2-2
Main Component Layout (Travel System) T5-2-3
Electrical System (Overview)..... T5-2-4
Electrical System (Inside of Cab)..... T5-2-5
Engine T5-2-10
HST Pump / Main Pump T5-2-10
Reduction Gear / HST Motor T5-2-11
Control Valve T5-2-11

Group 3 Troubleshooting A

Troubleshooting A Procedure T5-3-1
HST Control Unit Error Code List T5-3-2
HST Control Unit Error Code 1-1 ..... T5-3-3
HST Control Unit Error Codes 2-1, 2-2 ..... T5-3-4
HST Control Unit Error Code 2-3 ..... T5-3-6
HST Control Unit Error Code 2-4 ..... T5-3-8
HST Control Unit Error Code 3-1 ..... T5-3-10
HST Control Unit Error Code 3-2 ..... T5-3-12
HST Control Unit Error Codes 3-3, 3-4 ..... T5-3-14
HST Control Unit Error Code 3-5 ..... T5-3-16
HST Control Unit Error Codes 4-1, 4-2 ..... T5-3-17

Group 4 Troubleshooting B

Troubleshooting B Procedure (Machine Diagnosis by Using Trouble Symptom)..... T5-4-1
Engine System Failure List T5-4-2
Engine System Troubleshooting T5-4-3
Vehicle System Failure List..... T5-4-12
Travel System Troubleshooting..... T5-4-14
Brake System Troubleshooting T5-4-34
Steering System Troubleshooting T5-4-42
Front Attachment System Troubleshooting T5-4-47

Group 5 Troubleshooting C

Troubleshooting C Procedure (Trouble Shooting for Monitor)..... T5-5-1
Malfunction of Indicator Light Check System T5-5-2
Malfunction of Coolant Temperature Gauge..... T5-5-4
Malfunction of Fuel Gauge T5-5-6
Malfunction of Turn Signal Indicators (Left and Right)..... T5-5-8
Malfunction of Hazard Light Indicator..... T5-5-9
Malfunction of High Beam Indicator T5-5-10
Malfunction of Working Light Indicator T5-5-12
Malfunction of Preheat Indicator T5-5-14
Malfunction of HST Warning Indicator..... T5-5-15
Malfunction of Air Filter Restriction Indicator..... T5-5-16
Malfunction of Engine Oil Low Pressure Indicator..... T5-5-19
Malfunction of Overheat Indicator T5-5-20
Malfunction of Stop Indicator..... T5-5-21

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INTRODUCTION

Refer to the inspection and troubleshooting procedures after any machine trouble has occurred. The inspection and troubleshooting procedures are presented in an orderly fashion in this section to quickly find the cause of the machine trouble and solution.

The troubleshooting section in this manual consists of 5 groups; Diagnosing Procedure, Troubleshooting A (base machine diagnosis by using monitor error codes), Troubleshooting B (base machine diagnosis starting with inspection of abnormal operational status), Troubleshooting C (monitor diagnosis), and Electrical System Inspection.

- Troubleshooting A (base machine diagnosis by using monitor error codes)
  Refer to these procedures if any error codes are displayed when trouble is diagnosed by using the HST error code readout switch of the monitor.

- Troubleshooting B (base machine diagnosis starting with inspection of abnormal operational status)
  Refer to these procedures for diagnosis by using trouble symptom.

- Troubleshooting C (monitor diagnosis)
  Refer to these procedures when gauges and/or indicators are malfunctioning.

- Electrical System Inspection
  Refer to this group when required to obtain precautions and/or information for the electrical system inspection.

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Trouble symptoms	A-3. Travel speed decreases.

Confirm travel speed

Measure the travel speed according to Operational Performance Test.

- Travel speeds decrease in each mode. → Engine power is low
- Low mode: Specification
  High mode: The speed cannot reach to the maximum speed. → Dragging of brake (service, parking)
- Specification → Normal

(1) Engine power shortage (poor speed)

Measure the engine fast idle speed under no load.

Measure the engine fast idle speed under no load according to Engine Performance Test / Engine speed.

- Out of Specification

Investigate the reason why the engine speed decreases under no load.

1. The adjustment of control is faulty. Even if the accelerator pedal is fully depressed, the pedal does not get in contact with the fast idle stopper.
2. Clogged fuel filter or air filter
3. Faulty fuel pump or injection nozzle
4. Other engine trouble



→ Engine repair

- Within Specification

Measurement of shovel stroke speed

1. Place the lift arm to the highest position.
2. In addition, set the lever to the "Raise" position. Operate the main relief valve and measure the engine speed.
3. As for specification, refer to Operational Performance Standard.

- Out of Specification → Engine repair
- Within Specification → Dragging of brake (service, parking)

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PRECAUTIONS FOR INSPECTION AND MAINTENANCE

1. Disconnect the power source.
   Disconnect the harness from the negative terminal side in battery first when taking wire harnesses and connectors off for repair or replacement work.
   Failure to do so can result in damage to the wire harnesses, fuses and fusible links and, in some cases, cause fire due to short circuiting.
2. Color coding of wire harnesses.
   As for the color codes of wire harnesses in the electrical system, refer to the table below.
   In cases on the design sheet where two colors are indicated for one wire, the left initial stands for base color, while the right initial stands for marking color.

Code	Color	Code	Color
R	Red	W	White
L	Blue	G	Green
O	Orange	Lg	Light green
Y	Yellow	B	Black
Br	Brown	P	Pink
Gy	Gray	Pu	Purple
Sb	Light blue		

NOTE: Code BW indicates a black base wire with white fine-line marking.

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