PART NO. TTPTC50-EN-01

HITACHI

Reliable solutions

Technical Manual
Troubleshooting

ZW
150-6
150PL-6
Wheel Loader

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TOPTC50-EN-01
Technical Manual (Troubleshooting)	: Vol. No.TTPTC50-EN-01
Workshop Manual	: Vol. No.WPTC50-EN-01

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SECTION 4

OPERATIONAL PERFORMANCE TEST

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Group 2 Standard

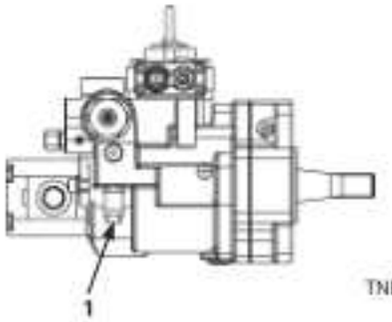
Performance Test Designation	Unit	Performance Standard	Remarks	Reference Page
PRIMARY PILOT PRESSURE	MPa	3.7±0.7		T4-5-1
SECONDARY PILOT PRESSURE	MPa	3.7±0.7		T4-5-4
COMBINED DELIVERY PRESSURE OF MAIN PUMP AND STEERING PUMP	MPa	$1.5^{+1.0}_{-0.5}$	In neutral, Value indicated on MPDr.	T4-5-5
HST PUMP DELIVERY PRESSURE	MPa	2.4±0.3		T4-5-6
HST CHARGING PUMP DELIVERY PRESSURE	MPa	3.5±0.3		T4-5-7
TRANSMISSION CHARGE PUMP DELIVERY PRESSURE	MPa	1.8 to 2.1		T4-5-8
MAIN RELIEF SET PRESSURE	MPa			T4-5-10
Relief Operation of Lift Arm		$20.6^{+1.2}_{-0.5}$	Value indicated on MPDr.	
Relief Operation of Bucket		$20.6^{+1.2}_{-0.5}$		
HST PUMP RELIEF PRESSURE	MPa	41.2±1.9		T4-5-14
STEERING RELIEF PRESSURE	MPa	$19.6^{+1.9}_{0}$		T4-5-16
OVERLOAD RELIEF PRESSURE	MPa		(Reference)	T4-5-18
Lift Arm Raise		$27.4^{+1.9}_{0}$		
Bucket Tilt		$22.6^{+1.9}_{0}$		
Bucket Dump		$22.6^{+1.9}_{0}$	ZW150-6	
		$14.9^{+1.9}_{0}$	ZW150PL-6	
Quick Coupler Rock		$14.9^{+1.9}_{0}$		
SERVICE BRAKE PRESSURE (Front/ Rear)	MPa	3.63±0.6	at brake pedal (left)	T4-5-22
PARKING BRAKE PRESSURE	MPa	3.7±0.7		T4-5-24
BRAKE ACCUMULATOR PRESSURE	MPa			T4-5-26
Service Brake		10.8 to 17.0		
Parking Brake		3.7±0.7		
BRAKE WARNING PRESSURE (Pressure-Decreasing)	MPa	8.1±0.5		T4-5-28
BRAKE WARNING PRESSURE (Pressure-Increasing)	MPa	10±0.5		T4-5-30
TRANSMISSION CLUTCH PRESSURE	MPa	1.8 to 2.1		T4-5-32
ACCUMULATOR GAS PRESSURE	MPa			T4-5-34
Service Brake		6.7 to 7.0	20 °C (68 °F)	
Steering		1.9 to 2.2	20 °C (68 °F)	

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Connecting Procedure of Test Wire Harness

NOTE: The connecting procedures of test wire harness of pump delivery pressure sensor (1) are explained.

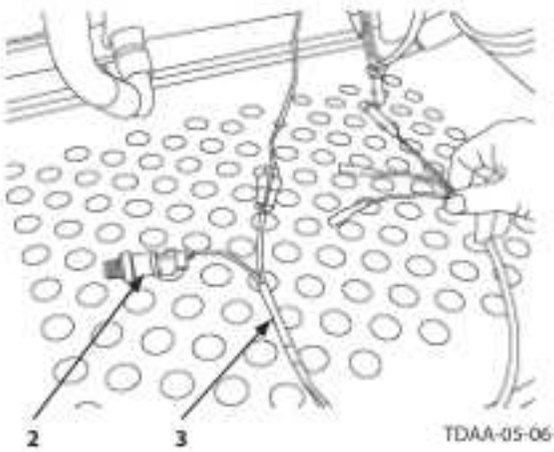
1. Disconnect the connector of pump delivery pressure sensor (1).



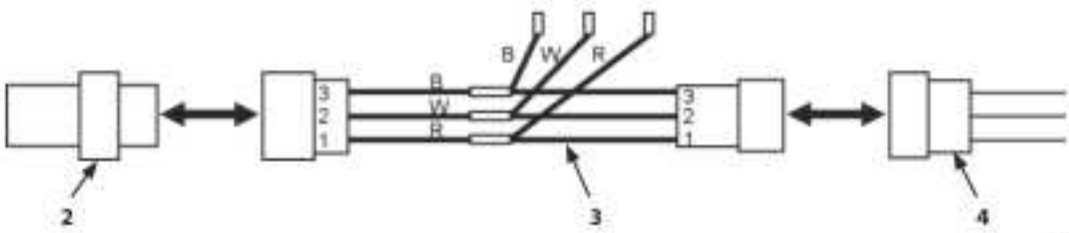
TNED-05-01-003

2. Connect the male end connector of test wire harness (3) (ST 6701) to wire harness end connector (4) of pump delivery pressure sensor (1).

3. Connect dummy sensor (2) equivalent to #4436271 to the female end connector of test wire harness (3) (ST 6701).



TDAA-05-06-002



TDAA-05-06-003

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Other Failures

Fault Code	Trouble	Cause	Symptoms in Machine Operation When Trouble Occurs.	Remedy
111205-3	Lift Arm Angle Sensor Circuit High Input	Voltage: more than 4.75 V	The lift arm auto leveler height/lower kickout control (OPT) is not activated.	Check the harness. Replace the lift arm angle sensor.
111205-4	Lift Arm Angle Sensor Circuit Low Input	Voltage: less than 0.25 V	The lift arm auto leveler height/lower kickout control (OPT) is not activated.	Check the harness. Replace the lift arm angle sensor.
111206-3	Pressure Sensor (Fan Circuit Pressure) Circuit High Input	Voltage: more than 4.74 V	The fan reverse rotation control (OPT) is not activated.	Check the harness. Replace the pressure sensor (fan circuit pressure).
111206-4	Pressure Sensor (Fan Circuit Pressure) Circuit Low Input	Voltage: less than 0.25 V	The fan reverse rotation control (OPT) is not activated.	Check the harness. Replace the pressure sensor (fan circuit pressure).
111207-3	Refrigerant Pressure Sensor Circuit High Input	Voltage: more than 4.74 V	The fan speed is always fixed to the maximum. The fan reverse rotation control (OPT) is not activated.	Check the harness. Replace the refrigerant pressure sensor.
111207-4	Refrigerant Pressure Sensor Circuit Low Input	Voltage: less than 0.25 V	The fan speed is always fixed to the maximum. The fan reverse rotation control (OPT) is not activated.	Check the harness. Replace the refrigerant pressure sensor.
111908-3	1st Speed Limit Switch Circuit High Input	Voltage: more than 4.74 V	The speed limit control is not activated. The maximum speed is fixed to the minimum value.	Check the harness.
111908-4	1st Speed Limit Switch Circuit Low Input	Voltage: less than 0.25 V	The speed limit control is not activated. The maximum speed is fixed to the minimum value.	Check the harness.
111909-3	HST Oil Temperature Sensor Circuit High Input	Voltage: more than 4.35 V	When hydraulic oil temperature is less than 0 °C, the auto-warming up control is not activated. The fan speed is always fixed to the maximum. The fan reverse rotation control (OPT) is not activated.	Check the harness.
111909-4	HST Oil Temperature Sensor Circuit Low Input	Voltage: less than 0.1 V	When hydraulic oil temperature is less than 0 °C, the auto-warming up control is not activated. The fan speed is always fixed to the maximum. The fan reverse rotation control (OPT) is not activated.	Check the harness.

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