Manual No. : TT16J-E-02

Technical Manual

(Troubleshooting)

ZAXIS

450
450H
450LC
450LCH
460LCH

HITACHI

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SECTION 4
OPERATIONAL PERFORMANCE TEST



—CONTENTS—

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

Group 2 Standard
Operational Performance Standard Table T4-2-1
Main Pump P-Q Diagram T4-2-6
Injection Pump T4-2-7
Dr.ZX Monitor Indicating Values T4-2-8
Sensor Activating Range T4-2-12

Group 3 Engine Test
Engine Speed T4-3-1
Engine Compression Pressure T4-3-3
Valve Clearance Adjustment T4-3-4
Nozzle Check T4-3-6
Injection Timing T4-3-8

Group 4 Excavator Test
Travel Speed T4-4-1
Track Revolution Speed T4-4-2
Mistrack Check T4-4-4
Travel Motor Leakage T4-4-6
Swing Speed T4-4-7
Swing Function Drift Check T4-4-8
Swing Motor Leakage T4-4-10
Maximum Swingable Slant Angle T4-4-12
Swing Bearing Play T4-4-14
Hydraulic Cylinder Cycle Time T4-4-16
Dig Function Drift Check T4-4-18
Control Lever Operating Force T4-4-19
Control Lever Stroke T4-4-20
Boom Raise/Swing Combined Operation Check T4-4-21

Group 5 Component Test
Primary Pilot Pressure T4-5-1
Secondary Pilot Pressure T4-5-4
Main Relief Pressure Shift Control Pressure(SA Pressure) T4-5-6
Travel Mode Shift Control Pressure(SB Pressure) T4-5-8
Boom Mode Selector Control Pressure(SC Pressure) T4-5-10
Main Pump Delivery Pressure T4-5-12
Main Relief Pressure T4-5-14
Overload Relief Valve Set Pressure T4-5-18
Main Pump Flow Rate Measurement T4-5-22
Swing Motor Drainage T4-5-26
Travel Motor Drainage T4-5-28

Group 6 Adjustment
Installation and Adjustment of Pump Displacement Angle Sensor ... T4-6-1
Engine Speed Adjustment and Engine Learning T4-6-2
Check of Governor Lever and Fuel Cut Lever Position T4-6-4

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INJECTION PUMP

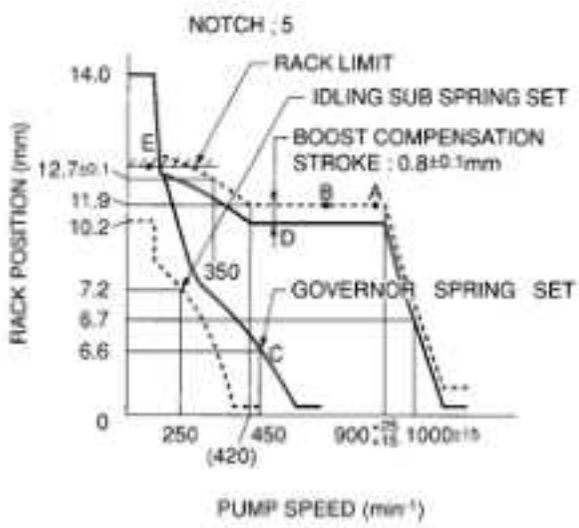
Test Conditions:

1. Nozzle assembly: 105780-8140
2. Nozzle: 105780-0000
3. Nozzle holder: 105780-2080
4. Nozzle opening pressure:
   17.2 MPa (175 kgf/cm^2, 2500 psi)
5. Test fuel: ISO 4113 or SAE J967d
6. Transfer pump pressure:
   225 kPa (2.3 kgf/cm^2, 33 psi)
7. Injection pipe:
   Inner Dia. 3×Outer Dia. 8-Length 600 mm
   (0.118×0.315×23.6 in)
8. Fuel temperature: 40±1 °C (104±2 °F)

NOTE: The nozzle test injection pressure is 17.2 MPa (175 kgf/cm^2, 2500 psi). However, actual machine injection pressure is 20.1 MPa (205 kgf/cm^2, 2922 psi).

Pump Speed (min^{-1})	Rack Position (mm)	Strokes	Average Injection Rate (cm^3)	Maximum Variance Between Cylinders (%)	Fixed	Remarks
900	11.9		221 ± 2	± 3		Basic
450	6.6		9 ± 3.2	± 13		

Governor adjustment



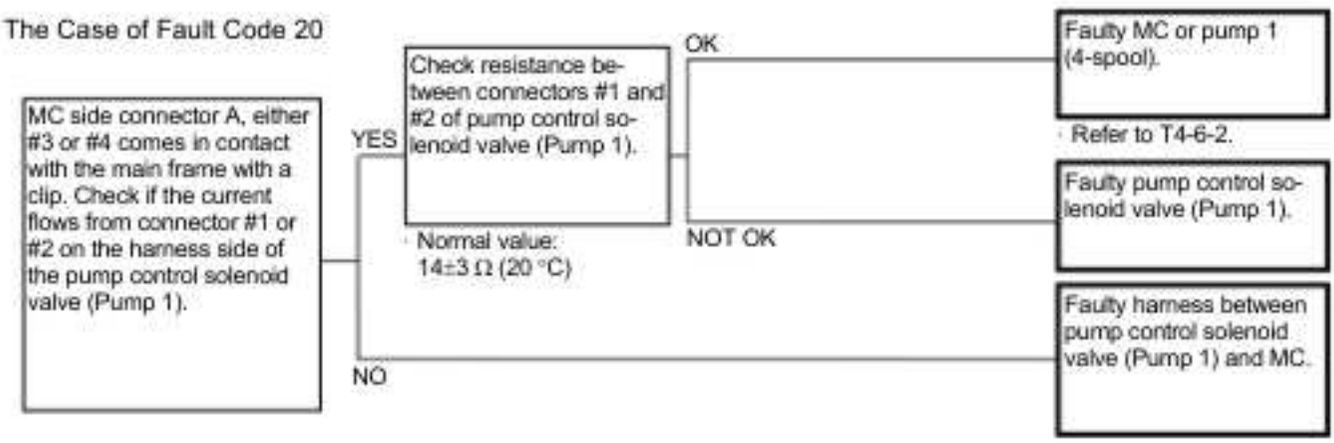
T16J-04-08-009

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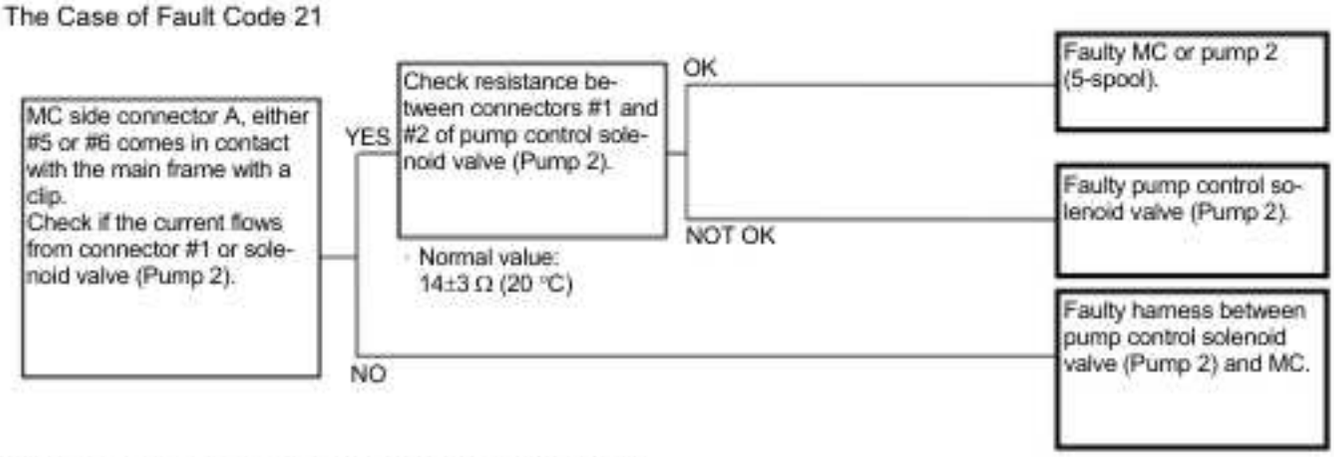
FAULT CODE 20 (ABNORMAL PUMP 1 SWASH ANGLE CONTROL)
FAULT CODE 21 (ABNORMAL PUMP 2 SWASH ANGLE CONTROL)

- Check for loose harness connections beforehand.
- Fault codes 20 and 21 indicate the target swash angle disagrees with the real one when MC orders the target swash angle is set.

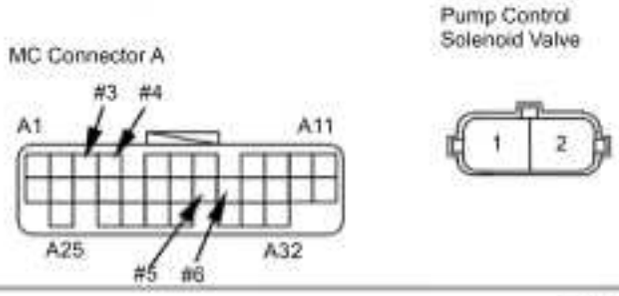
The Case of Fault Code 20



The Case of Fault Code 21



Connector (Harness End Connector Viewed from the Open End Side)

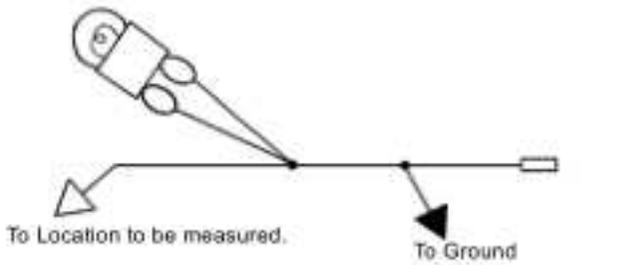


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TEST HARNESS

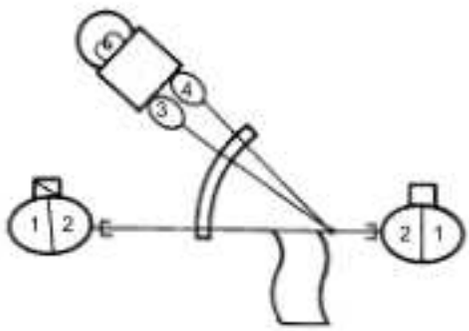
With a test harness installed between connectors, the circuit condition is checked depending on whether the test harness lamp lights or extinguishes during operation.

Parts Number 4283594 (ST 7126)
Use to check a single-line (discontinuity and/or voltage).
During Operation: Lamp is ON.



Parts Number 4283594 (ST 7126)

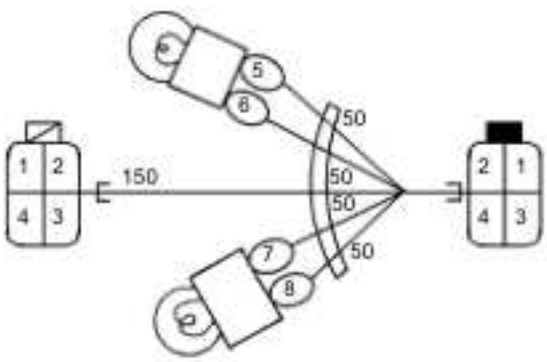
Parts Number (ST 7130)
Use to check the solenoid valve unit circuits.
When the corresponding control lever or switch is operated: Lamp is ON.



Parts Number (ST 7130)

Parts Number 4274589 (ST 7125)
Use to check the EC motor circuit.

- EC Motor Circuit
  When the engine control dial is rotated:
  Both lamps ON: Normal
  Only one lamp ON: Check for continuity of the circuit connected to the lamp OFF.
  Both lamps OFF: Check the harness together with the relay.



Parts Number 4274589 (ST 7125)

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