PART NO. TT4GC-E-00

HITACHI

Technical Manual

Troubleshooting

ZW 220 250

Wheel Loader

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TO4GC-E
Technical Manual (Troubleshooting)	: Vol. No.TT4GC-E
Workshop Manual	: Vol. No.W4GC-E

MidWestTech | Hitachi ZW220, ZW250 Wheel Loader Troubleshooting Technical Service Manual | Publication TT4GC-E-00

Order the manual at mid-west-tech.com >

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
Main Pump P-Q Curve T4-2-11
Sensor Activating Range T4-2-13

Group 3 Engine Test

Engine Speed T4-3-1
Engine Compression Pressure T4-3-3
Valve Clearance Adjustment T4-3-4
Lubricant Consumption T4-3-7

Group 4 Wheel Loader Test

Travel Speed T4-4-1
Service Brake Function Check T4-4-2
Service Brake Wear Amount T4-4-3
Parking Brake Function Check T4-4-4
Bucket and Bell Crank Stopper
Clearances T4-4-6
Hydraulic Cylinder Cycle Time T4-4-8
Cylinder Drift Check T4-4-10
Bucket Levelness T4-4-11
Control Lever Operating Force T4-4-12
Control Lever Stroke T4-4-13

MidWestTech | Hitachi ZW220, ZW250 Wheel Loader Troubleshooting Technical Servic... Order the manual at mid-west-tech.com >

Group 5 Component Test

Primary Pilot Pressure T4-5-1
Secondary Pilot Pressure T4-5-3
Solenoid Valve Set Pressure T4-5-4
Main Pump Delivery Pressure T4-5-6
Main Relief Valve Set Pressure T4-5-8
Steering Relief Pressure T4-5-12
Overload Relief Valve Set Pressure T4-5-14
Main Pump Flow Rate..... T4-5-16
Regulator Adjustment..... T4-5-20
Service Brake Pressure (Front and Rear) . T4-5-22
Parking Brake Pressure T4-5-24
Brake Accumulated Pressure T4-5-26
Brake Warning Set Pressure (Decrease) .. T4-5-28
Brake Warning Set Pressure (Increase) T4-5-30
Transmission Clutch Pressure..... T4-5-32
Torque Converter Pressure
(Inlet and Outlet)..... T4-5-33

Group 6 Adjustment

Transmission Learning..... T4-6-1
Lift Arm Angle Sensor
Learning (Optional)..... T4-6-6
Drive Belt Tension Adjustment T4-6-8

MidWestTech | Hitachi ZW220, ZW250 Wheel Loader Troubleshooting Technical Servic... Order the manual at mid-west-tech.com >

Between CAN Circuit (Low Side) and Power Circuit

Check for continuity between terminal #C15 of harness end of connector MC-C and terminal #A2 of harness end connector MC-A.

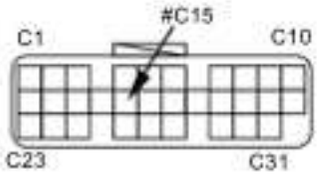
Check for continuity between terminal #C15 of harness end of connector MC-C and terminal #A12 of harness end connector MC-A.

Check for continuity between terminal #C15 of harness end of connector MC-C and terminal #B7 of harness end connector MC-B.

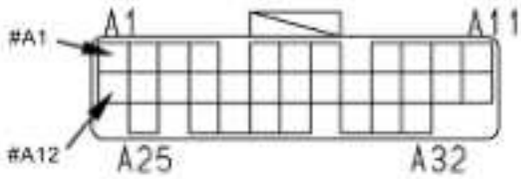
Check for continuity between terminal #C15 of harness end of connector MC-C and terminal #B17 of harness end connector MC-B.

Connector

Connector MC-C
(Harness end)

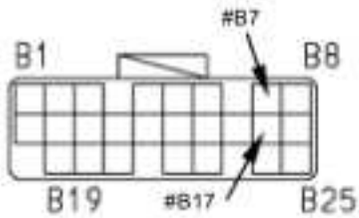


Connector MC-A
(Harness end)



T1S3-05-04-038

Connector MC-B
(Harness end)



T1S3-05-04-021

MidWestTech | Hitachi ZW220, ZW250 Wheel Loader Troubleshooting Technical Servic... Order the manual at mid-west-tech.com >

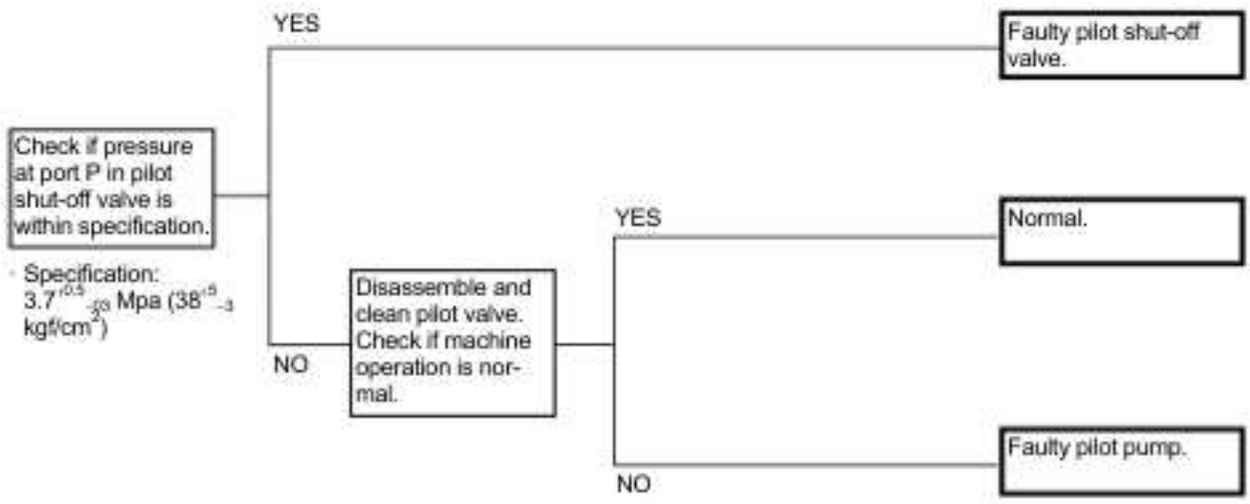
ECM, ENGINE PROTECTION
ECM FAULT CODES 110, 190

Fault Code	Trouble	Fault Code (Tech 2)	Reference Page on 4HK1/6HK1 Engine Manual Troubleshooting
110-0	Overheating	P1173	1E-466
190-0	Overrunning	P0219	1E-339

MidWestTech | Hitachi ZW220, ZW250 Wheel Loader Troubleshooting Technical Servic... Order the manual at mid-west-tech.com >

FRONT ATTACHMENT SYSTEM TROUBLESHOOTING

F-1 All front attachments do not move.



MidWestTech | Hitachi ZW220, ZW250 Wheel Loader Troubleshooting Technical Servic... Order the manual at mid-west-tech.com >