PART NO. TTJBF-EN-00

HITACHI

Reliable solutions

Technical Manual
Troubleshooting

ZX
670LC-5G
670LCH-5G
670LCR-5G
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TOJBF-EN
Technical Manual (Troubleshooting)	: Vol. No.TTJBF-EN
Workshop Manual	: Vol. No.WJBF-EN

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Safety Alert Symbol and Headline Notations

In this manual, the following safety alert symbol and signal words are used to alert the reader to the potential for personal injury of machine damage.

⚠ This is the safety alert symbol. When you see this symbol, be alert to the potential for personal injury.
Never fail to follow the safety instructions prescribed along with the safety alert symbol.
The safety alert symbol is also used to draw attention to component/part weights.
To avoid injury and damage, be sure to use appropriate lifting techniques and equipment when lifting heavy parts.

⚠ **CAUTION:**
Indicated potentially hazardous situation which could, if not avoided, result in personal injury or death.

IMPORTANT:
Indicates a situation which, if not conformed to the instructions, could result in damage to the machine.

NOTE:
Indicates supplementary technical information or know-how.

Units Used

SI Units (International System of Units) are used in this manual. MKSA system units and English units are also indicated in parentheses just behind SI units.

Example: 24.5 MPa (250 kgf/cm², 3560 psi)

A table for conversion from SI units to other system units is shown below for reference purposes.

Quantity	To Convert From	Into	Multiply By
Length	mm	in	0.03937
	mm	ft	0.003281
Volume	L	US gal	0.2642
	L	US qt	1.057
	m^3	yd^3	1.308
Weight	kg	lb	2.205
Force	N	kgf	0.10197
	N	lbf	0.2248
Torque	N·m	kgf·m	0.10197
Pressure	MPa	kgf/cm^2	10.197
	MPa	psi	145.0
Power	kW	PS	1.360
	kW	HP	1.341
Temperature	°C	°F	°C×1.8+32
Velocity	km/h	mph	0.6214
	min^{-1}	rpm	1.0
Flow rate	L/min	US gpm	0.2642
	mL/rev	cc/rev	1.0

NOTE: The numerical value in this manual might be different from the above-mentioned table.

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TECHNICAL MANUAL (Operational Principle)	WORKSHOP MANUAL
SECTION 1 GENERAL Group 1 Specification Group 2 Component Layout Group 3 Component Specifications SECTION 2 SYSTEM Group 1 Controller Group 2 Control System Group 3 Hydraulic System Group 4 Electrical System SECTION 3 COMPONENT OPERATION Group 1 Pump Device Group 2 Swing Device Group 3 Control Valve Group 4 Pilot Valve Group 5 Travel Device Group 6 Signal Control Valve Group 7 Others (Upperstructure) Group 8 Others (Undercarriage)	SECTION 1 GENERAL INFORMATION Group 1 Precautions for Disassembling and Assembling Group 2 Tightening Torque Group 3 Painting Group 4 Bleeding Air from Hydraulic Oil Tank Group 5 Hydraulic Circuit Pressure Release Procedure Group 6 Preparation SECTION 2 MAINTENANCE STANDARD Group 1 Upperstructure Group 2 Undercarriage Group 3 Attachment SECTION 3 UPPERSTRUCTURE Group 1 Cab Group 2 Counterweight Group 3 Main Frame Group 4 Engine Group 5 Radiator Group 6 Hydraulic Oil Tank Group 7 Fuel Tank Group 8 Pump Device Group 9 Control Valve Group 10 Swing Device Group 11 Pilot Valve Group 12 Solenoid Valve Group 13 Signal Control Valve Group 14 Shockless Valve SECTION 4 UNDERCARRIAGE Group 1 Swing Bearing Group 2 Travel Device Group 3 Center Joint Group 4 Track Adjuster Group 5 Front Idler Group 6 Upper and Lower Roller Group 7 Track SECTION 5 ATTACHMENT Group 1 Front Attachment Group 2 Cylinder

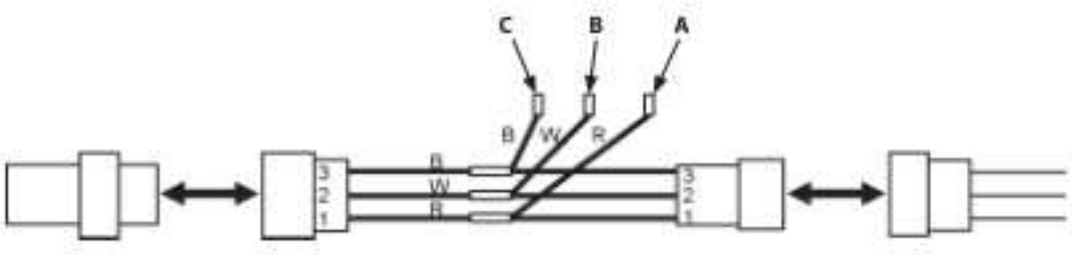
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MC Fault Codes 11942, 11944

Preparation

- Check the wiring connections first.
- Connect the test harness (ST 6703) and dummy sensor equivalent to #4436535.
- Before inspection, set the key switch to the ON position.

Fault Code	Trouble	Inspection Method	Evaluation	Cause
11942-3	Attachment Pilot Pressure Sensor Circuit High Input (Option)	Retry by using MPDr.	Un-displayed fault code	Faulty sensor
		Measurement of voltage between B and body	Voltage: more than 4.5 V	Shorted circuit in harness #1 and #2
11942-4	Attachment Pilot Pressure Sensor Circuit Low Input (Option)	Retry by using MPDr.	Un-displayed fault code	Faulty sensor
		Measurement of voltage between A and body	0 V	Open circuit in harness #1
		Measurement of voltage between A and C (GND)	0 V	Open circuit in harness #3
		-	Normal in above check	Open circuit in harness #2
11944-3	5-Spool Side Pilot Pressure Sensor Circuit High Input	Retry by using MPDr.	Un-displayed fault code	Faulty sensor
		Measurement of voltage between B and body	Voltage: more than 4.5 V	Shorted circuit in harness #1 and #2
11944-4	5-Spool Side Pilot Pressure Sensor Circuit Low Input	Retry by using MPDr.	Un-displayed fault code	Faulty sensor
		Measurement of voltage between A and body	0 V	Open circuit in harness #1
		Measurement of voltage between A and C (GND)	0 V	Open circuit in harness #3
		-	Normal in above check	Open circuit in harness #2



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Monitor Controller (Information) Fault Codes 20100 to 20114

Fault Code	Trouble	Inspection Method	Evaluation	Cause
20100-2 20114-2	Overheat Alarm	Disconnect a connector from the overheat switch Retry by using MPDr.	Displayed fault code	Faulty monitor controller or shorted circuit in harness
			Un-displayed fault code	Faulty overheat switch
20101-2	Engine Trouble Alarm	Diagnose on fault codes of ECF	-	-
20102-2	Engine Oil Pressure Alarm	Disconnect a connector from the engine oil pressure switch. Retry by using MPDr.	Displayed fault code	Faulty monitor controller or shorted circuit in harness
			Un-displayed fault code	Faulty engine oil pressure switch
20105-2	Hydraulic Oil Filter Restriction Alarm	Disconnect a connector from hydraulic oil filter restriction switch. Retry by using MPDr.	Displayed fault code	Faulty monitor controller or shorted circuit in harness
			Un-displayed fault code	Faulty hydraulic oil filter restriction switch
20106-2	Air Cleaner Restriction Alarm	Disconnect a connector from air cleaner restriction switch. Retry by using MPDr.	Displayed fault code	Faulty monitor controller or shorted circuit in harness
			Un-displayed fault code	Faulty air cleaner restriction switch
20109-2	Pilot Control Shut-Off Lever Alarm	Check of the pilot shut-off switch	Normal	Faulty harness
			Abnormal	Faulty pilot shut-off switch

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