PART NO. WJAG50-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZX
470-6
470LC-6
490H-6
490LCH-6
490R-6
490LCR-6
530LCH-6
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TOJAG50-EN
Technical Manual (Troubleshooting)	: Vol. No.TTJAG50-EN
Workshop Manual	: Vol. No.WJAG50-EN

MidWestTech | Hitachi ZX470-6, ZX470LC-6, ZX490H-6, ZX490LCH-6, ZX490R-6, ZX490LCR-6, ZX530LCH-6 Excavator Workshop Service Manual | Publication WJAG50-EN-00

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

SECTION 1

GENERAL

CONTENTS

Group 1 Precautions for Disassembling and Assembling

Precautions for Disassembling and Assembling W1-1-1-1

Group 2 Tightening

Tightening Bolts and Nuts W1-2-1-1
Piping Joint W1-2-1-4

Group 3 Painting

Painting W1-3-1-1

Group 4 Bleeding Air

Bleeding Air from Hydraulic System W1-4-1-1
Bleeding Air from Fuel System W1-4-1-2
Air Bleeding from the Diesel Exhaust Fluid Defrosting Piping W1-4-1-4

Group 5 Preparation

Preparation before Inspection and Maintenance W1-5-1-1
Hydraulic Circuit Pressure Release Procedure W1-5-1-3
Pressure Release from Hydraulic Oil Tank W1-5-1-4
Pressure Release from Expansion Tank W1-5-1-5

MidWestTech | Hitachi ZX470-6, ZX470LC-6, ZX490H-6, ZX490LCH-6, ZX490R-6, ZX4... Order the manual at mid-west-tech.com >

SECTION 2

MAINTENANCE STANDARD

CONTENTS

Group 1 Upperstructure

Pump Device W2-1-1-1
Swing Motor W2-1-2-1

Group 2 Undercarriage

Travel Motor W2-2-1-1
Sprocket W2-2-1-3
Center Joint W2-2-2-1
Front Idler W2-2-3-1
Upper Roller W2-2-4-1
Lower Roller W2-2-4-2
Track W2-2-5-1

Group 3 Front Attachment

Pin and Bushing W2-3-1-1
Side Cutter W2-3-1-3
Point (4512365) W2-3-1-4
Standard Dimensions for Arm and Bucket Connection W2-3-1-5
Standard Dimensions for Arm and Boom Connection W2-3-1-6
Cylinder W2-3-2-1

MidWestTech | Hitachi ZX470-6, ZX470LC-6, ZX490H-6, ZX490LCH-6, ZX490R-6, ZX4... Order the manual at mid-west-tech.com >

SECTION 3

UPPERSTRUCTURE

CONTENTS

Group 1 Cab
Removal and Installation of Cab W3-1-1-1
Dimensions of Cab Glass (Standard Cab) W3-1-2-1
Dimensions of Cab Glass (H Cab) W3-1-2-20

Group 2 Counterweight
Removal and Installation of Counterweight W3-2-1-1

Group 3 Main Frame
Removal and Installation of Main Frame W3-3-1-1

Group 4 Engine
Removal and Installation of Engine W3-4-1-1

Group 8 Pump Device
Removal and Installation of Pump Device W3-8-1-1
Disassembly of Main Pump W3-8-2-1
Assembly of Main Pump W3-8-2-6
Disassembly of Regulator for Main Pump W3-8-3-1
Assembly of Regulator for Main Pump W3-8-3-3
Disassembly of Fan Pump W3-8-4-1
Assembly of Fan Pump W3-8-4-5
Structure of Pilot Pump W3-8-5-1

Group 9 Control Valve
Removal and Installation of Control Valve W3-9-1-1
Disassembly and Assembly of Housing W3-9-2-1
Disassembly of Control Valve 4-Spool Side W3-9-3-1
Assembly of Control Valve 4-Spool Side W3-9-3-9
Disassembly of Control Valve 5-Spool Side W3-9-4-1
Assembly of Control Valve 5-Spool Side W3-9-4-8

Group 10 Swing Device
Removal and Installation of Swing Device W3-10-1-1
Disassembly of Swing Device W3-10-2-1
Assembly of Swing Device W3-10-2-7
Disassembly of Swing Motor W3-10-3-1
Assembly of Swing Motor W3-10-3-4

Group 11 Pilot Valve
Removal and Installation of Pilot Valve (Left) W3-11-1-1
Removal and Installation of Pilot Valve (Right) W3-11-2-1
Removal and Installation of Travel Pilot Valve W3-11-3-1
Disassembly of Pilot Valves (Right and Left) W3-11-4-1
Assembly of Pilot Valves (Right and Left) W3-11-4-4
Disassembly of Travel Pilot Valve W3-11-5-1
Assembly of Travel Pilot Valve W3-11-5-5

Group 12 Solenoid Valve
Removal and Installation of Pilot Shut-Off Solenoid Valve W3-12-1-1
Removal and Installation of 4-Spool Solenoid Valve Unit W3-12-2-1
Removal and Installation of 2-Spool Solenoid Valve Unit W3-12-3-1
Removal and Installation of Fan Pump Control Solenoid Valve W3-12-4-1
Disassembly of Pilot Shut-Off Solenoid Valve W3-12-5-1
Assembly of Pilot Shut-Off Solenoid Valve W3-12-5-3
Structure of 4-Spool Solenoid Valve Unit W3-12-6-1
Structure of 2-Spool Solenoid Valve Unit W3-12-7-1
Structure of Fan Pump Control Solenoid Valve W3-12-8-1

Group 13 Signal Control Valve
Removal and Installation of Signal Control Valve W3-13-1-1
Structure of Signal Control Valve W3-13-2-1

Group 14 Aftertreatment Device
Removal and Installation of Aftertreatment Device W3-14-1-1

Group 15 DEF Tank
Removal and Installation of DEF Tank W3-15-1-1

Group 16 Coolant Control Valve
Removal and Installation of Coolant Control Valve W3-16-1-1

Group 17 DEF Supply Module
Removal and Installation of DEF Supply Module W3-17-1-1

Group 19 Fan Valve
Removal and Installation of Fan Valve W3-19-1-1
Structure of Fan Valve W3-19-2-1

Group 20 Fan Motor
Removal and Installation of Fan Motor W3-20-1-1
Structure of Fan Motor W3-20-2-1

Group 21 Shockless Valve
Removal and Installation of Shockless Valve W3-21-1-1

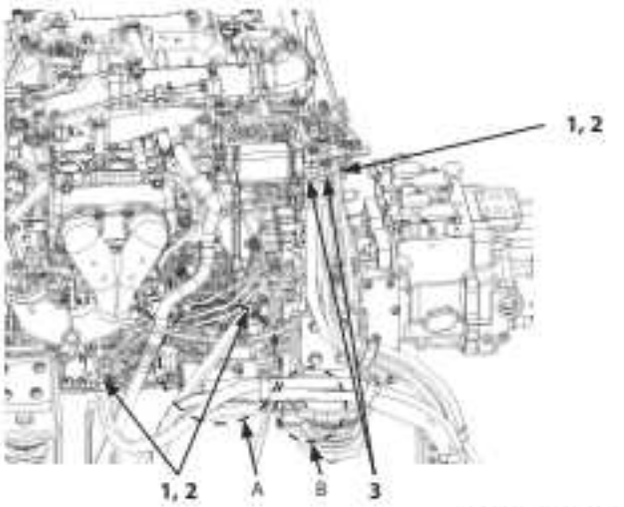
MidWestTech | Hitachi ZX470-6, ZX470LC-6, ZX490H-6, ZX490LCH-6, ZX490R-6, ZX4... Order the manual at mid-west-tech.com >

Unit: mm

	Part Name	Standard	Allowable Limit	Remedy
G	Pin	100	99	Replace
	Boss (Arm)	100	101.5	
	Bushing (Bucket Cylinder)	100	101.5	
H	Pin	110	109	
	Boss (Link B)	110	111.5	
	Bushing (Link A)	110	111.5	
	Bushing (Bucket Cylinder)	110	111.5	
I	Pin	100	99	
	Boss (Link B)	100	101.5	
	Bushing (Arm)	100	101.5	
J	Pin	110	109	
	Bushing (Bucket)	110	111.5	
	Bushing (Link A)	110	111.5	
K	Pin	110	109	
	Bushing (Bucket)	110	111.5	
	Bushing (Arm)	110	111.5	

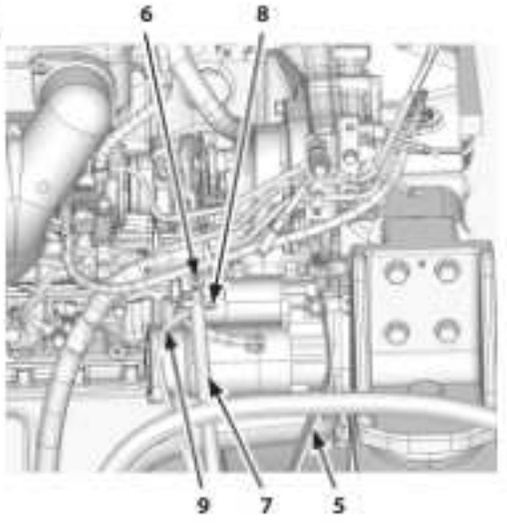
IMPORTANT: When replacing HN bushing for the front attachment, install it by using a press.

MidWestTech | Hitachi ZX470-6, ZX470LC-6, ZX490H-6, ZX490LCH-6, ZX490R-6, ZX4... Order the manual at mid-west-tech.com >



WJAG-03-04-016

Detail A



WJAA-03-04-029

61. Remove clamps (1) (3 used). Disconnect hoses (2) (3 used).
62. Disconnect hoses (3) (2 used).

    : 36 mm
63. Remove nut (6). Disconnect harness (7).

    : 17 mm
64. Remove bolt (8). Disconnect harness (9).

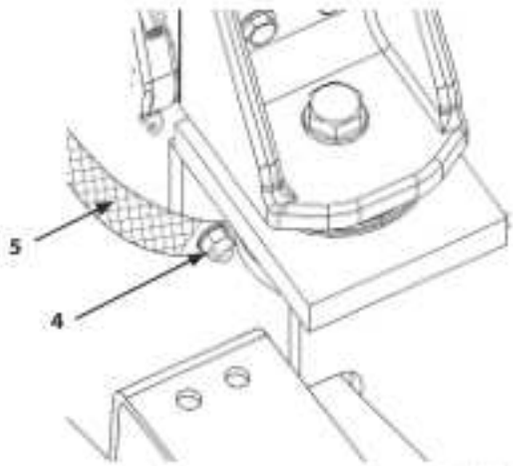
    : 8 mm

IMPORTANT: The circuit may be shorted when doing the work with connecting the battery ground.

65. Remove nut (4). Disconnect ground (5).

    : 22 mm

Detail B



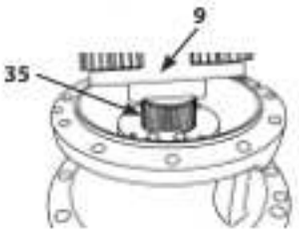
WJAG-03-04-103

MidWestTech | Hitachi ZX470-6, ZX470LC-6, ZX490H-6, ZX490LCH-6, ZX490R-6, ZX4... Order the manual at mid-west-tech.com >

CAUTION: The second stage carrier (9) assembly weight: 23 kg

IMPORTANT: Check the direction to install second stage carrier (9).

34. Fit the spline parts and install the second stage carrier (9) assembly to shaft (35).



W1V7-02-06-005

35. Install second stage sun gear (7) to the second stage carrier (9) assembly.
36. Apply THREEBOND #1215 to the ring gear (3) mounting surface of housing (27). At this time, clean off old adhesive in advance.

CAUTION: Ring gear (3) weight: 23 kg

37. Install eyebolts (M12, Pitch 1.75 mm) (2 used) to the motor mounting thread part of ring gear (3). Hoist ring gear (3). Fit the matching marks made when disassembling and install ring gear (3) to housing (27). Tighten socket bolts (24) (12 used).

: 14 mm

: 210 N·m

38. Fit the spline and install the first stage carrier (6) assembly to second stage sun gear (7).

IMPORTANT: Check the direction to install first stage sun gear (4).

39. Install first stage sun gear (4) to the first stage carrier (6) assembly with the step part down.
40. Install cock (26) to housing (27). Install a seal tape onto drain plug (25). Install drain plug (25) to cock (26).

: 26 mm

: 50 N·m

NOTE: Drain Plug: R1/2

41. Add gear oil (6.7 L (1.77 US gal)) to housing (27).
42. Apply THREEBOND #1215 to the motor (1) mounting surface of ring gear (3).

CAUTION: Motor (1) weight: 50 kg

43. Hoist motor (1). Fit the matching marks made when diassembling. Install motor (1) to ring gear (3) with socket bolts (2) (8 used).

: 10 mm

: 90 N·m

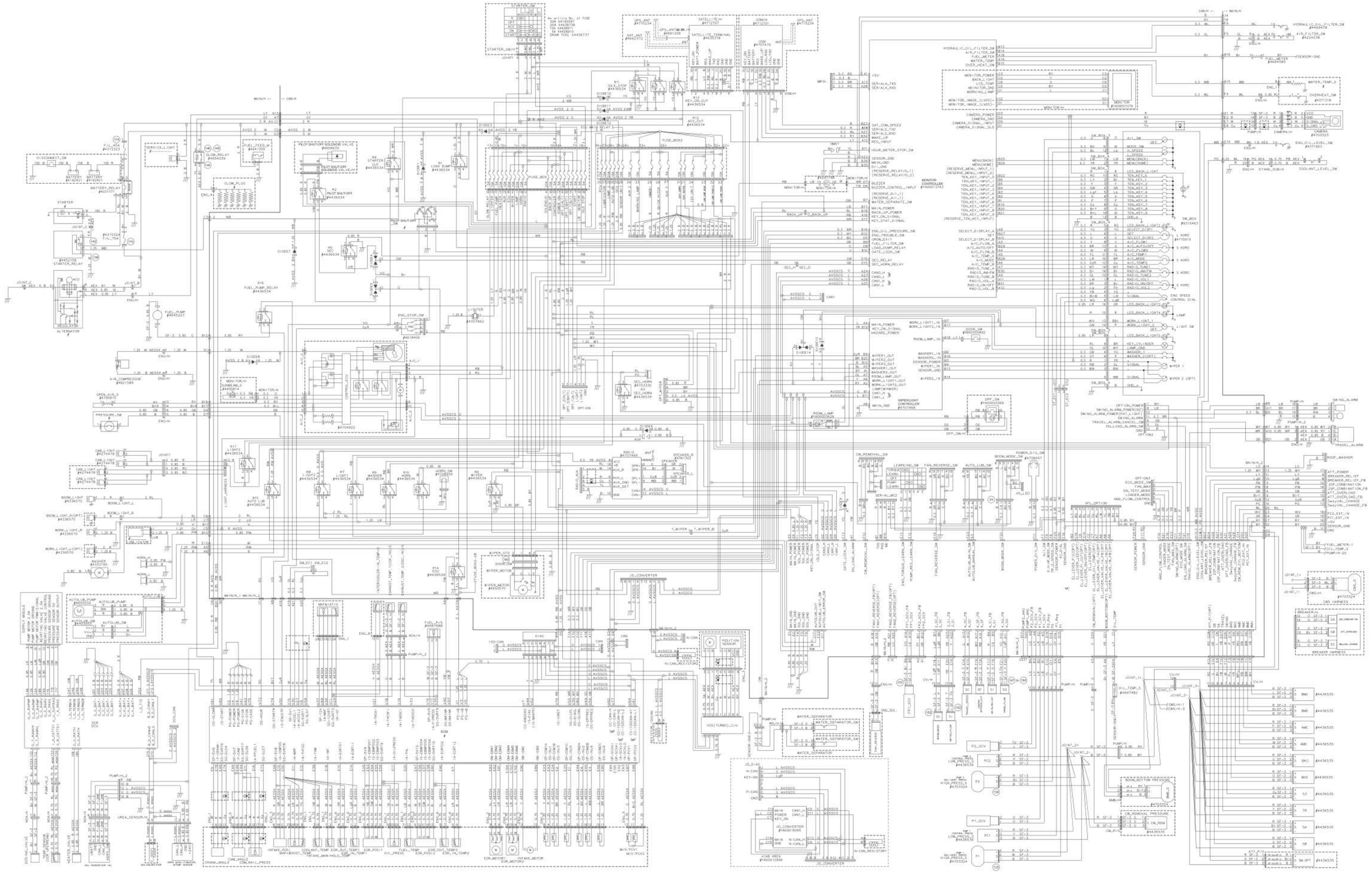
MidWestTech | Hitachi ZX470-6, ZX470LC-6, ZX490H-6, ZX490LCH-6, ZX490R-6, ZX4... Order the manual at mid-west-tech.com >

ELECTRICAL CIRCUIT DIAGRAM

⚠ CAUTION: Parts numbers on the drawing are provided only for reference purpose.
To order parts on the drawing, be sure to consult the Parts Catalog.

Applicable Machine

Attach to Vol. No.	Model
TTJAG50-EN-00	ZX470-6/470LC-6/490H-6/490LCH-6/490R-6/490LCR-6/530LCH-6



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