PART No. EM18B-1-1

Operator's Manual

EX5500-5

Hydraulic Excavator

Serial 000501and up

HITACHI

MidWestTech | Hitachi EX5500-5 Excavator Operator's Manual | Publication EM18B-1-1 Order the manual at mid-west-tech.com >

CONTENTS

MACHINE NUMBERS

SAFETY

Recognize Safety Information S-1
Understand Signal Words S-1
Follow Safety Instructions S-2
Prepare for Emergencies S-2
Wear Protective Clothing S-3
Protect Against Noise S-3
Inspect Machine S-3
Use Handholds and Steps S-4
Adjust the Operator's Seat S-4
Fasten Your Seat Belt S-5
Move and Operate Machine Safely S-5
Handle Starting Aide Safety S-5
Operate only from Operator' s Seat S-6
Jump Starting S-6
Keep Riders Off Machine S-6
Investigate Job Site Beforehand S-7
Protect Against Falling Stones and Debris S-7
Provide Signals for Jobs Involving Multiple Numbers of Machines S-8
Confirm Direction of Machine to be Driven S-8
Drive Machine Safely S-9
Avoid Injury from Rollaway Accidents S-10
Avoid Injury from Back-Over and Swing Accidents S-11
Keep Person Clear from Working Area S-12
Never Position Bucket Over Anyone S-12
Avoid Undercutting S-12
Avoid Tipping S-13
Never Undercut a High Bank S-13
Dig with Caution S-14
Operate with Caution S-14
Avoid Power Lines S-14
Object Handling S-15
Protect Against Flying Debris S-15
Park Machine Safely S-16
Handle Fluids Safely-Avoid Fires S-16
Practice Safe Maintenance S-17
Warn Others of Service Work S-18
Support Machine Properly S-18
Stay Clear of Moving Parts S-18
Prevent Parts from Flying S-19
Store Attachments Safely S-19
Prevent Burns S-20
Replace Rubber Hoses Periodically S-20
Avoid High-Pressure Fluids S-21
Prevent Fires S-22
Evacuating in Case of Fire S-23
Beware of Exhaust Fumes S-23
Avoid Heating Near Pressurized Fluid Lines S-24

Avoid Applying Heat to Lines Containing Flammable Fluids S-24
Remove Paint before Welding or Heating S-24
Prevent Battery Explosions S-25
Service Air Conditioning System Safely S-25
Handle Chemical Products Safely S-26
Dispose of Waste Properly S-26

SAFETY SIGNS S-27

COMPONENTS NAME 1-1

HANDLING LADDER/EMERGENCY ROPE 1-2

Using Ladder 1-2
Operating Ladder on the Ground 1-3
Operating Ladder on the Upperstructure 1-3
Emergency Escape 1-4
Emergency Exit 1-5
Evacuating in Case of Fire 1-6

OPERATOR'S STATION

Cab Features 1-8
Monitor Panel and Switch Panels (Left) 1-9
Monitor Panel 1-10
Coolant Temperature Gauge 1-11
Hydraulic Oil Temperature Gauge 1-11
Tachometer 1-11
Fuel Gauge 1-11
Alternator Indicator 1-12
Pump Transmission Oil Pressure Indicator 1-12
Hydraulic Oil Level Indicator (Warning) 1-12
Fuel Level Indicator 1-12
Auto-Lubrication Indicator 1-13
Engine Stop Indicator 1-13
Engine Warning Indicator 1-13
Engine Oil Level Indicator 1-14
Coolant Level Indicator 1-14
Download Indicator 1-14
Hydraulic Oil Level Indicator 1-15
Travel Mode Indicator (Slow Speed) 1-15
Travel Mode Indicator (Fast Speed) 1-15
Auto-Idle Indicator 1-16
Prelub Indicator 1-16
Engine Oil Pressure Indicator (Warning) 1-16
Overheat Indicator (Warning) 1-16
Coolant Level Indicator (Warning) 1-17
Fast Filling System Indicator 1-17
Pump Contamination Indicator 1-17
Air Cleaner Restriction Indicator 1-17
Stop Valve Indicator (Warning) 1-18
Emergency Engine Stop Indicator 1-18
Ladder Position Indicator 1-18
Switch Panel 1-19
Wiper Switch 1-20

MidWestTech | Hitachi EX5500-5 Excavator Operator's Manual | Publication EM18B-1-1 Order the manual at mid-west-tech.com >

CONTENTS

Wiper Delay Selector Switch 1-20
Washer Switch 1-20
Air Conditioners 1-21
Cooling 1-23
Heating 1-23
Dehumidifying and Heating 1-23
Defrosting 1-24
Blower Operation without Cooling or Heating 1-24
Ventilating the Cab 1-24
Indicator Light Check Switch 1-25
Level Check Switch 1-25
Buzzer Stop Switch 1-26
Download 1-27
Dimmer Switch 1-28
Engine Speed Control Lever 1-28
Work Light Switch 1-29
Dome Light Switch 1-30
Engine Room Light Switch 1-31
Entrance Light Switch 1-32
Travel Speed Switch 1-33
Auto-Idle Switch 1-33
Fast-Filling System 1-34
Switch Panel (Right) 1-35
Emergency Engine Stop Switch 1-35
Key Switch 1-35
Hour Meter 1-36
Horn Switch 1-37
Engine troubleshooting Switch 1-38
FM/AM Radio Operation 1-39
Digital Clock Setting Procedure 1-40
Operator' s Seat Adjustment 1-41
Seat Belt 1-43
Cab Door Release Button 1-44
Opening Cab Left Window 1-44

BREAK-IN

Observe Machine Closely 2-1
Every 10 Hours or Each Shift 2-1
After the First 50 Hours 2-2

OPERATING THE ENGINE

Inspect Machine Daily Before Starting 3-1
Before Starting Engine 3-2
Level Check 3-3
Starting the Engine 3-4
Starting in Cold Weather 3-5
Check Instruments after Starting 3-6
Using Booster Batteries 3-7
Stopping the Engine 3-9
Emergency Engine Stop Switch 3-10
Engine Stop Switch 3-11

DRIVING THE MACHINE

Drive the Machine Carefully 4-1
Steering the Machine Using Pedals 4-2
Steering the Machine Using Levers 4-3
Travel Speed Switch 4-4
Travel Alarm 4-5
Traveling 4-6
Operating on Soft Ground 4-7
Raise One Track Using Boom and Arm 4-7
Towing Machine a Short Distance 4-8
Operating in Water or Mud 4-9
Precautions For Traveling on Slopes 4-10
Parking the Machine on Slopes 4-11
Parking the Machine 4-11

OPERATING THE MACHINE

Control Lever (HITACHI Pattern Backhoe) 5-1
Control Lever (ISO Pattern Backhoe) 5-2
Control Lever (HITACHI Pattern Loading Shovel) 5-3
Control Lever (ISO Pattern Loading Shovel) 5-4
Bucket Open-Close Pedals (Loading Shovel) 5-5
Pilot Control Shut-Off Lever 5-6
Auto-Idle 5-9
Warming-up Operation 5-9
Engine Speed Control 5-10
Precautions for Operations 5-11
Operate the Machine Safely 5-12
Operating Backhoe 5-13
Grading Operation 5-13
Avoid Abusive Operation 5-14
Operating Tips 5-15
Avoid Swinging Bucket To Move Objects 5-15
Loading Shovel Operation 5-16
Prohibited Operation 5-16
Object Handling 5-19
Overnight Storage Instructions 5-20

MAINTENANCE

Correct Maintenance and Inspection Procedures 7-1
Check the Hour Meter Regularly 7-2
Use Correct Fuels and Lubricants 7-2
Prepare Machine for Maintenance 7-3
Access Covers 7-4
Inspection/Maintenance Lights 7-5
Use a Chain to Prevent Falling Accidents 7-7
Electric Pump 7-8
Construction Outline 7-10
Hydraulic System 7-11
Loading Shovel 7-12
Backhoe 7-14
Periodic Replacement of Parts 7-16
Maintenance Interval Guide 7-24
A. Greasing 7-28
Loading Shovel Front Joint Pins 7-29
Backhoe Front Joint Pins 7-32

MidWestTech | Hitachi EX5500-5 Excavator Operator's Manual | Publication EM18B-1-1 Order the manual at mid-west-tech.com >

CONTENTS

Swing Bearing 7-35
Swing Internal Gear 7-36
Center Joint 7-37
Operating the Lubricator 7-38
B. Engine 7-40
Engine Oil Level 7-41
Change Engine Oil 7-41
Replace Engine Oil Filters 7-41
C. Transmission 7-43
Pump Transmission 7-44
Swing Reduction Gear 7-47
Travel Reduction Gear 7-49
D. Hydraulic System 7-51
Inspection and Maintenance of Hydraulic Equipment 7-52
Check Hydraulic Oil Level 7-54
Drain Hydraulic Tank Sump 7-56
Replace Full-Flow Filter and Drain Filter 7-57
Replace Bypass Filter Element 7-59
Replace Pilot Oil Filter 7-61
Change Hydraulic Oil 7-63
Clean Suction Filter 7-66
Replace Suction Filter 7-67
Replace High-Pressure Filter 7-68
Clean Oil Cooler Core 7-70
Check Hoses and Lines 7-71
Service Recommendations for hydraulic Fittings 7-74
E. Fuel System 7-76
Drain Fuel Tank Sump 7-78
Drain Fuel Filter Sediment 7-78
Replace Fuel Filter 7-79
Check Fuel Hoses 7-80
Cleane Fuel Cooler Core 7-82
F. Air Cleaner 7-83
Clean the Air Cleaner Outer Element 7-83
Replace the Air Cleaner Outer and Inner Elements 7-83
G. Cooling System 7-85
Check Coolant Level 7-87
Check DCA4 Concentration in Coolant .. 7-88
Replace the Coolant Filter 7-96
Change Coolant 7-97
Clean Radiator Interior 7-97
Clean Radiator Core 7-99
Check Fan Belt for Wear 7-99
H. Air Conditioner 7-100
Recirculation Air Filter 7-100
Ventilation Air Filter 7-101
Check Refrigerant Quantity 7-102
Check Compressor Belt Tension 7-103
Clean Condenser Core 7-104
Check Tightening Torque 7-105
Seasonal Maintenance 7-106
I. Electrical System 7-107
Batteries 7-107
Replace Batteries 7-111
Replacing Fuses 7-112
Power Source Terminal 7-114
Slow Blow Fuse 7-115
Check Electrical Cables and Wire Harnesses for Short Circuits 7-116
Check Emergency Engine Stop Switch. 7-118
J. Miscellaneous 7-119
Check Bucket Teeth 7-120
Inspect Emergency Evacuation Equipment and Hanger 7-123
Auto-Lubrication System 7-124
Check Grease Level 7-125
Check and Replace Seat Belt 7-128
Check Windshield Washer Fluid Lever. 7-129
Check Track Sag 7-130
Check Accumulator 7-132
Check Side Frame Area 7-132
Check Tightening Torque of Bolts and Nuts 7-133

MAINTENANCE UNDER SPECIAL ENVIRONMENTAL CONDITIONS

Maintenance Under Special Environmental Conditions 9-1

STORAGE

Storing the Machine 10-1
Removing the Machine from Storage 10-2

TROUBLESHOOTING

Engine 11-1
Electrical System 11-5
Mode Selection 11-8
Control Levers 11-9
Hydraulic System 11-9
Auto-Idle 11-12

SPECIFICATIONS

Specifications 12-1
Working Range (Loading Shovel) 12-2
Working Range (Backhoe) 12-3

INDEX 14-1

MidWestTech | Hitachi EX5500-5 Excavator Operator's Manual | Publication EM18B-1-1 Order the manual at mid-west-tech.com >