

**HT100V**

# **INDEX**

**CHAPTER 7**

**INDEX**

**NUMBER**

4 CYL..... 2-76

**A**

A/C hose (Refrigerant)..... 6-73

Acceleration system ..... 2-55

Accelerator pedal sensor..... 5-45

Air cleaner check..... 1-31

Air conditioner..... 6-11

Air conditioner &amp; Heater disassembly..... 6-62

Air conditioner controller..... 6-3

Air control valve..... 2-61

Air inlet/vent..... 6-18

Air intrusion into cycle..... 6-24

Alert symbols ..... 1-2

Alternator ..... 5-14

American standard screws, bolts and nuts  
with unc or unf threads ..... 1-40

Antenna ..... 6-6

Assembling the engine ..... 2-118

Assembly and disassembly ..... 1-35

Assignment standard for engine model code .... 2-4

Avoid fires ..... 1-4

**B**

Battery ..... 5-11

Bleeding the fuel system ..... 2-49

Body and power train system ..... 2-32

Boom disassembly ..... 3-39

Boom operation (Down)..... 4-93

Boom operation (Up) ..... 4-92

Brake (Parking brake)..... 3-11

Brake horse power (HP) ..... 2-9

Brake lamp (Rear lamp) / Turn signal lamp ..... 5-97

Bubble test for radiator ..... 2-78

Bucket operation (Dump)..... 4-97

Bucket operation (Roll back) ..... 4-96

**C**

Cabin ..... 5-113

Cabin ..... 6-2

Cabin &amp; Chassis..... 5-40

Cabin components..... 6-3

Cabin components disassembly &amp; Assembly ... 6-50

Cabin removal ..... 6-46

Cabin system inspection..... 6-27

Camshaft ..... 2-34

Cause for blown fuse..... 5-9

Cautions for high pressure hoses..... 1-5

Cautions when handling the battery ..... 1-5

CCRT (Catalyzed Continuously Regenerating  
Trap)..... 2-62

Charging pump pressure ..... 4-104

Check &amp; Adjustment ..... 3-9

Check &amp; Adjustment ..... 4-102

Circuit and component location ..... 5-3

Circuit diagram for hydraulic system ..... 4-9

Clean working area..... 1-3

Clutch fan ..... 2-44

Common rail (Fuel rail)..... 2-52

Components ..... 2-7

Components ..... 6-8

Composition..... 2-211

Compressor ..... 6-8

Compressor assembly ..... 6-72

Compressor disassembly ..... 6-70

Condenser ..... 6-10

Condenser disassembly ..... 6-68

Connecting lines by hydraulic system groups ... 4-11

Connecting lines for hydraulic valves ..... 4-26

Connecting rod ..... 2-34

Control system..... 3-20

Coolant check..... 1-25

Coolant flow route..... 2-41

Coolant temperature sensor ..... 5-16

Cooling cycle ..... 6-21

Cooling operation ..... 6-20

Cooling system ..... 2-14

Cooling system ..... 2-41

Crankshaft ..... 2-33

Crawler tension adjustment..... 3-9

CRDI (Common Rail Direct Injection) system ... 2-16

Cross sectional area of wiring ..... 5-8

Cylinder block ..... 2-33

Cylinder head ..... 2-32

Cylinder head ..... 2-146

Cylinder honing.....	2-33
<b>D</b>	
Daily check .....	1-24
Defective expansion valve.....	6-25
Description for symbols and abbreviations.....	1-15
Diagnosis.....	2-185
Diagnostic program .....	2-185
Dimensions.....	1-19
Disassembly, service and assembly.....	2-103
Disposal of environmental waste.....	1-8
Drive sprocket mounting bolt adjustment .....	1-32
Driving hydraulic system/brake.....	3-14
Driving system.....	3-2
DTC (Diagnostic Trouble Code) .....	2-211
<b>E</b>	
ECU.....	5-18
ECU(Electronic Control Unit).....	2-18
EGR cooler.....	2-59
EGR valve .....	2-59
Electric circuit diagram .....	5-3
Electric components .....	5-11
Electric device diagnosis .....	5-10
Electric fan motor.....	6-18
Engine accelerator dial.....	5-44
Engine body.....	2-11
Engine component removal.....	2-136
Engine dimension.....	2-6
Engine disassembly.....	2-142
Engine EPA decal (A) .....	2-3
Engine identification .....	2-3
Engine number .....	2-3
Engine oil check .....	1-27
Engine oil flow .....	2-37
Engine oil flow chart .....	2-38
Engine oil pressure switch.....	5-17
Engine performance curve .....	2-8
Engine performance curve analysis .....	2-9
Engine removal.....	2-103
Engine room .....	5-11
Engine serial number.....	1-16
Error code & action.....	2-213

Escort unit.....	5-41
Excessive refrigerant and insufficient condenser cooling performance .....	6-24
Exploded view .....	3-4
Exploded view .....	2-80
EH5-G111001 Cylinder block group .....	2-80
EH5-G113003 Cylinder head group .....	2-81
EH5-G114002 Gear case group.....	2-82
EH5-G121001 Crank shaft group.....	2-83
EH5-G122001 Piston connecting rod group...	2-84
EH5-G123001 Camshaft group.....	2-85
EH5-G124002 Idle gear group .....	2-86
EH5-G125001 Rocker arm valve group .....	2-87
EH5-G131001 Intake manifold group .....	2-88
EH5-G134001 Turbo group .....	2-89
EH5-G135001 Turbo pipe group .....	2-90
EH5-G141001 Oil pump group.....	2-91
EH5-G144001 Oil filter group .....	2-92
EH5-G151001 Fuel equipment group .....	2-93
EH5-G162001 Water flange group .....	2-94
EH5-G163003 Water pump group.....	2-95
EH5-G171001 EGR group .....	2-96
EH5-G172001 EGR cooler group.....	2-97
EH5-G191002 Glow plug group .....	2-98
EH5-G192001 Engine electrical group .....	2-99
EH5-G194001 ECU group.....	2-100
LF1-G012002 Cooling fan group.....	2-101
LF1-G014001 Aftertreatment group .....	2-102
Exploded view .....	3-21
LF1-G121003 Clutch housing group .....	3-21
LF1-G4D2001 Lever guide group.....	3-22
LF1-G4H1001 Undercarriage group.....	3-23
LF1-G4H2001 Track group.....	3-24
LF1-G421003 Cooling system group .....	3-25
LF1-G431003 Fuel tank group .....	3-26
LF1-G432001 Fuel cooler group .....	3-27
LF1-G461002 Main frame group .....	3-28
LF1-G462002 Boom frame group .....	3-29
LF1-G463001 Rotation frame group .....	3-30
LF1-G464001 Control frame group .....	3-31
LF1-G465002 Quick attach group .....	3-32
LF1-G472001 Rear door group .....	3-33

Exploded view .....	4-109
LF1-G211003 Oil tank sub group .....	4-109
LF1-G214003 Oil cooler group.....	4-110
LF1-G221002 Main control valve group....	4-111
LF1-G221503 Joystick group .....	4-112
LF1-G222003 Auxiliary hydraulic group ...	4-113
LF1-G223002 Lift cylinder group.....	4-114
LF1-G223504 Self leveling group.....	4-115
LF1-G224502 Tilt cylinder group .....	4-116
LF1-G225003 Quick attach cylinder group...4-	117
LF1-G226002 Drain vavle group .....	4-118
LF1-G231003 HST group .....	4-119
Exploded view .....	5-116
LF1-G311007 Engine electrical group.....	5-116
LF1-G327001 Light control group .....	5-117
LF1-G328002 Power socket group .....	5-118
LF1-G331001 Wire harness group.....	5-119
LF1-G332002 Cluster control group.....	5-120
LF1-G332501 Fuel sender group .....	5-121
LF1-G333501 Vehicle control group.....	5-122
Exploded view .....	6-36
LF1-G334001 Speaker antenna group.....	6-36
LF1-G335501 Wiper motor group .....	6-37
LF1-G4A1006 Door group.....	6-38
LF1-G4E1001 Wiper group .....	6-39
LF1-G451001 Air conditioner drive group ...	6-40
LF1-G466001 Cabin support group.....	6-41
LF1-G491001 Cabin frame group .....	6-42
LF1-G4B1001 Air conditioner group.....	6-43
LF1-G4B2001 Air conditioner duct group ...	6-44
Exterior devices.....	6-2
Exterior view .....	1-17
Exterior view & interior cabin .....	1-17
External hydraulic group.....	4-25
External implement.....	4-99

**F**

Fan belt.....	2-75
Fan belt tension adjustment .....	1-30
Fan motor disassembly .....	6-70
Fault diagnosis code description .....	2-227
Fitting fixing screw .....	1-40

Flasher.....	5-42
Fluid oil check.....	1-28
Flywheel .....	2-36
Flywheel and crankshaft.....	2-166
For safety.....	1-2
Fuel cooler disassembly .....	3-42
Fuel filter.....	2-48
Fuel filter.....	2-181
Fuel flow route .....	2-46
Fuel gauge operation.....	5-108
Fuel heater and fuel cooler.....	2-54
Fuel rail(Common rail).....	2-28
Fuel system .....	2-46
Fuel system check.....	1-24
Fuel tank disassembly .....	3-40
Function of lubricating system .....	2-39
Fuse.....	5-9
Fuse box.....	5-11
Fuse replacement.....	1-32

**G**

Gear case .....	2-151
Gear pump (Main+Charge+High flow pump)....	4-52
Gears in gear case .....	2-152
General precautions .....	1-35
General specifications .....	2-5
General use screws, bolts and nuts .....	1-39
Glow plug.....	5-16
Glow plug and injector .....	2-143
Grease lubrication (Applying port) .....	1-33

**H**

Handling of hazardous materials .....	1-6
Handling of rotating blade, shaft and driving belt ...	1-7
Handling precautions for electrical parts and wiring ...	1-36
Head cover .....	2-142
Heat hose/air conditioner hose assembly.....	6-73
Heater hose .....	6-73
Heating & Cooling system .....	6-7
High flow group.....	4-23
High flow valve .....	4-62
High flow valve detach & Disassembly .....	4-156
High pressure fuel pump .....	2-50

High pressure fuel pump .....	2-150
High pressure fuel pump (for injection).....	2-27
High pressure hose union nut.....	1-40
Horn.....	5-94
Hose connecting lines for a driving system and circulation system.....	4-34
Hour meter operation.....	5-110
HST (driving) pump flow rate.....	4-106
HST (driving) pump pressure .....	4-105
HST filter.....	4-77
HST filter replacement.....	4-166
HST group .....	4-11
HST pump (driving pump) .....	4-50
HST pump detach.....	4-121
HVAC system flow diagram .....	6-7
Hydraulic cylinder .....	4-72
Hydraulic filter.....	4-75
Hydraulic hose (LF13-0022A).....	4-34
Hydraulic hose (LF13-0158A).....	4-35
Hydraulic hose (LF13-0160A).....	4-36
Hydraulic hose (LF13-0323A).....	4-37
Hydraulic hose (LF13-0325A).....	4-38
Hydraulic hose (LF13-0340A).....	4-39
Hydraulic hose (LF13-0341A).....	4-40
Hydraulic hose (LF13-0402A).....	4-41
Hydraulic hose (LF13-0403A).....	4-42
Hydraulic hose (LF13-0404A).....	4-43
Hydraulic hose (LF13-0407A).....	4-44
Hydraulic hose (LF13-0408A).....	4-45
Hydraulic hose (LF13-0412A).....	4-46
Hydraulic hose (LF13-0414A).....	4-47
Hydraulic hose (LF13-0439A).....	4-48
Hydraulic hose (LF13-0576A).....	4-49
Hydraulic pump group .....	4-19
Hydraulic system layout.....	4-5
Hydraulic system maintenance.....	4-120
Hydraulic system overview .....	4-5

**I**

Identification number .....	1-16
Ignition switch .....	5-40
Illumination .....	1-3

Injector [C3I (Calibration Improved Individual Injector)] .....	2-53
Injector [C3I] .....	2-28
Inspection .....	5-9
Inspection and adjustment.....	6-23
Inspection with gauge.....	6-23
Instrument panel.....	5-48
Insufficient refrigerant .....	6-23
Intake & Exhaust system .....	2-57
Intake and exhaust valves .....	2-35
Intake and exhaust valves .....	2-148
Intercooler disassembly .....	3-43
Interior cabin.....	1-18
Interior devices .....	6-2

**L**

Lamps (Bulb replacement) .....	5-96
Leakage test.....	6-27
Led work lamp .....	5-96
Lift cylinder .....	4-72
Lift cylinder disassembly .....	4-169
Lift cylinder group .....	4-22
Location of decals.....	1-9
Location of electronic components .....	5-5
Lubricant.....	1-36
Lubricating system.....	2-14
Lubricating system.....	2-37
Lubrication list.....	1-23

**M**

Main.....	5-111
Main components .....	4-50
Main control valve (LF13-0028).....	4-31
Main control valve (MCV) .....	4-57
Main control valve (MCV) system pressure....	4-102
Main control valve detach & Disassembly .....	4-132
Main pump detach .....	4-120
Main pump flow rate .....	4-103
Main pump, charge pump, high flow pump disassembly.....	4-124
Maintenance .....	1-22
Maintenance .....	3-34
Maintenance .....	6-45
Maintenance schedule chart.....	1-22

Major specification	3-3
MCU (Micro Controller Unit)	5-75
MCU update	5-115
Measurement and adjustment	2-75
MLS cylinder head gasket	2-36
Moisture intrusion into cooling cycle	6-26
<b>N</b>	
Normal condition	6-23
<b>O</b>	
Oil cooler	4-83
Oil cooler group	4-20
Oil filter	2-175
Oil pressure measurement	2-78
Oil pump	2-176
Oil strainer	4-79
Oil tank group	4-18
Oil temperature sensor	5-94
Opening the cabin (Lifting up)	6-45
Operating principle	2-16
Operating principle	4-84
Operating principle	6-20
O-ring face type screw	1-40
Overview	2-57
Overview	3-2
Overview for fuel supply	2-46
<b>P</b>	
Parking valve	4-65
Parking valve (LF13-0090)	4-28
Parking valve detach & Disassembly	4-153
Part number assignment standard for Bolts	1-41
Part number assignment standard for bolts and nuts	1-41
Part number assignment standard for nuts	1-42
Pilot lock valve	4-59
Pilot lock valve (LF13-0284)	4-26
Pilot lock valve detach & Disassembly	4-147
Piston and connecting rod	2-161
Piston and piston ring	2-33
Piston compression pressure measurement	2-75
Poor compressor compression	6-25

Poor cooling performance	6-33
Poor heating	6-35
Poor recirculation of refrigerant	6-26
Power transfer system	3-5
Prevention of scald	1-7
Principle of power transfer & Specifications of components	3-5
<b>Q</b>	
Quick attachment	4-98
Quick attachment check	3-9
Quick attachment cylinder	4-74
Quick attachment cylinder disassembly	4-174
Quick attachment cylinder group	4-24
Quick attachment valve	4-67
Quick attachment valve (LF13-0307)	4-30
Quick attachment valve detach & Disassembly	4-163
Quick coupler (External hydraulic)	4-81
<b>R</b>	
Radiator	2-43
Radiator cap	2-43
RCV (R/H)	4-91
RCV assembly & Oil tank disassembly	4-175
RCV assembly (LH)	4-68
RCV assembly (LH) (LF13-0055)	4-33
RCV assembly (LH) (RH)	5-91
RCV assembly (RH)	4-70
RCV assembly (RH) (LF13-0056)	4-32
Rear door operation check	3-10
Receiver-drier	6-9
Refrigerant and refrigeration oil	6-22
Relay box	5-47
Relief pressure setting	4-107
Return filter	4-75
Return filter replacement	4-168
Ride control [Option]	4-95
Ride control valve [option]	4-66
Ride control valve detach & Disassembly [OPTION]	4-160
Rocker arm assembly	2-34
Rocker arm assembly	2-144
Room lamp	5-98

**S**

S.F.C (Specific Fuel Consumption)	2-10
(for reference only)	2-10
Safe working place	1-3
Safety decals	1-9
Safety equipment	1-3
Safety gear	1-3
Safety instructions when preparing tractor	1-4
Safety sensor (safety bar)	5-92
Safety tips	1-3
Seat switch	5-93
Self level valve	4-87
Self level valve	4-60
Self level valve (LF13-0218)	4-29
Self level valve detach & Disassembly	4-142
Self leveling	4-94
Sensor	2-68
Sensors and relays	5-19
Sensors as input/output for ECU	2-71
Servicing specifications	2-11
Shift valve	4-64
Shift valve (LF13-0286)	4-27
Shift valve detach & Disassembly	4-150
Skid loader serial number	1-16
Speaker	6-6
Specifications	1-20
Specifications	2-5
Specifications	3-7
Specifications	4-3
Specifications	5-2
Specifications	6-7
Starter motor	5-13
Stereo (Bluetooth)	6-6
Stud bolts	1-39
Suction line group	4-18
Switch panel	5-42
Symbols for electric components	5-8

**T**

Telemetrics controller	5-89
Temperature gauge operation	5-109
Thermostat	2-42

Thermostat	2-178
Tightening torque	1-39
Tightening torques for engine	2-15
Tilt cylinder	4-73
TILT cylinder disassembly	4-172
Tilt cylinder group	4-21
Timing gear	2-35
Torque	2-9
Track(HST) motor	4-55
Track(HST) motor	4-85
Track(HST) motor disassembly	4-129
Troubleshooting	2-72
Troubleshooting	3-14
Troubleshooting	4-108
Troubleshooting	5-99
Troubleshooting	6-31
Troubleshooting by symptoms	6-32
Troubleshooting poor cooling/heating performance	6-33
Tubes and rubbers	1-36
Turbo charger	2-67
Turbo charger	2-181
Turbo charger wastegate pressure check	2-79
Turn signal lamp	5-96

**U**

Undercarriage disassembly, assembly	3-34
Unit conversion table	1-43
Use of appropriate tools and equipment	1-6

**V**

Valve clearance	2-76
Valve lift (Deflection and worn condition of valve cam, tappet, push rod, rocker arm, etc.)	2-77
Ventilating system	1-3
Visual and auditory inspection	6-31

**W**

Washer tank	6-6
Water pump	2-42
Water pump	2-179
When assembling	6-27
When the engine cannot be started	5-99
When the system is not charged	5-101
When the system is not preheated automatically	5-103

When work lamp cannot be operated.....	5-106
Wiper motor .....	5-95
Wiper notor.....	6-5
Wiper/Washer fluid switch .....	6-6
Wiring color identification.....	5-7
Wiring diagram .....	5-111
Wiring identification .....	5-7
Work place .....	1-3
Working system.....	3-12
Working system holder (Quick Coupler).....	3-12