

en

Service manual

Wheel loader

Document ID

Order number: 11632026
Issued: 11-2018
Version: 07
Author: LBH / Technical Documentation Department

Product ID

Manufacturer: Liebherr-Werk Bischofshofen GmbH
Valid for: L 514-1265

Conformity:



Contact

Liebherr-Werk Bischofshofen GmbH
Dr. Hans Liebherr-Straße 4
A – 5500 Bischofshofen

Contents

010	Introduction	010-1
010.1	Safety instructions	010-4
010.1.1	General safety instructions	010-4
010.1.2	Instructions on preventing crushing injuries and burns	010-5
010.1.3	Instructions on preventing fires and explosions	010-5
010.1.4	Safety instructions for start-up	010-6
010.1.5	Safety precautions during start-up	010-6
010.1.6	Instructions for safe working	010-7
010.1.7	Safety instructions for driving on slopes	010-8
010.1.8	Parking safely	010-8
010.1.9	Transporting the machine safely	010-8
010.1.10	Towing the machine safely	010-9
010.1.11	Measures for ensuring safe maintenance	010-9
010.1.12	Safety instructions for maintenance work on machines with hydro accumulators	010-12
010.1.13	Safety instructions for welding work on the machine	010-12
010.1.14	Safety instruction for working on the working attachment	010-12
010.1.15	Safety instructions for transporting the machine by crane	010-13
010.1.16	Safe maintenance of hydraulic hoses and hose lines	010-13
010.1.17	Roll over protective structure (ROPS) and falling object protection structure (FOPS)	010-14
010.1.17.1	Preventing accidents	010-14
010.1.17.2	Preventing injuries	010-14
010.1.18	Attachments and accessories	010-14
010.1.19	Protection against vibrations	010-15
010.1.20	See and be seen	010-15
010.1.20.1	Field of view and visual aids	010-15
010.1.20.2	Measures during operation.	010-16
010.1.20.3	Modifications to the machine	010-16
010.1.21	Danger area of the machine	010-16

010.2	Special tools for maintenance and repair work	010-18
010.2.1	Special tools, general	010-18
010.2.2	Special tools for the diesel engine	010-18
010.2.3	Special tools for Z kinematics hydraulic cylinders	010-19
010.2.4	Special tools for P kinematics hydraulic cylinders	010-20
010.2.5	Special tools for steering cylinders	010-20
010.2.6	Special tools for the electrical system	010-20
010.2.7	Special tools for axles	010-21
010.2.8	Special tools for the air conditioning system	010-21
010.2.9	Special tools for cab glazing	010-22
010.2.10	Special tools for the central lubrication system	010-22
010.3	Standards and regulations	010-23
010.3.1	Prestressing forces and tightening torques for bolts with metric standard and fine threads as per DIN ISO 261	010-23
010.3.1.1	Range of application and purpose	010-23
010.3.1.2	Other applicable documents	010-23
010.3.1.3	Modifications and descriptions	010-24
010.3.1.4	Tightening torques	010-24
010.3.2	Assembly instructions for the piston and piston nut of the hydraulic cylinder (WN 4121)	010-30
010.3.2.1	Range of application and purpose	010-30
010.3.2.2	Requirements and description	010-30
010.3.2.3	Amendments	010-35
010.3.2.4	Other applicable documents	010-35
010.3.2.5	Maximum adapter operating pressure	010-40
010.4	Preservation guidelines	010-41
010.4.1	General information	010-41
010.4.2	Machine out of service for an unknown period of time	010-41
010.4.3	Putting the machine out of service	010-42
010.4.3.1	Out of service for up to 2 months	010-42
010.4.3.2	Out of service for up to 12 months	010-43
010.4.3.3	Out of service for longer than 12 months	010-44
010.4.4	Putting back into service	010-44
010.4.4.1	After being out of service for 2 months	010-44
010.4.4.2	After being out of service for 12 months	010-45
010.4.4.3	After being out of service for longer than 12 months	010-45

020	Technical data	020-1
020.1	Overall machine	020-5
020.1.1	Complete machine with loading bucket <i>L514-1265/27643-;</i>	020-5
020.1.2	Attachment: Light material bucket with undercut blade <i>L514-1265/27643-;</i>	020-6
020.1.3	Attachment: High dump bucket with undercut blade <i>L514-1265/27643-;</i>	020-8
020.1.4	Attachment: Forklift <i>L514-1265/27643-;</i>	020-9
020.2	Drive group	020-12
020.2.1	Engine <i>L514-1265/27643-;</i>	020-12
020.2.2	Fuel tank <i>L514-1265/27643-;</i>	020-13
020.2.3	Fuel pre-filter <i>L514-1265/27643-;</i>	020-13
020.2.4	Fuel fine filter <i>L514-1265/27643-;</i>	020-13
020.2.5	Air mass sensor vacuum switching point <i>L514-1265/27643-;</i>	020-14
020.2.6	Clutch <i>L514-1265/27643-;</i>	020-14
020.3	Cooling system	020-15
020.3.1	Fan gear pump <i>L514-1265/27643-;</i>	020-15
020.3.2	Fan gear motor <i>L514-1265/27643-40562;</i>	020-15
020.3.3	Fan gear motor <i>L514-1265/40563-;</i>	020-15
020.3.4	Hydraulic oil temperature sensor B8 <i>L514-1265/27643-;</i>	020-15
020.4	Working hydraulics	020-16
020.4.1	Working hydraulics pump <i>L514-1265/27643-;</i>	020-16
020.4.2	Z kinematics control valve block <i>L514-1265/27643-;</i>	020-16
020.4.3	P kinematics control valve block <i>L514-1265/27643-;</i>	020-16
020.4.4	Pilot control unit <i>L514-1265/27643-;</i>	020-16
020.4.5	Working hydraulics lockout solenoid valve Y14 <i>L514-1265/27643-;</i>	020-17

020.4.6	Pilot control hydro accumulator <i>L514-1265/27643-;</i>	020-17
020.4.7	Z kinematics lift cylinder <i>L514-1265/27643-;</i>	020-17
020.4.8	Z kinematics tilt cylinder <i>L514-1265/27643-;</i>	020-18
020.4.9	P kinematics lift cylinder <i>L514-1265/27643-;</i>	020-18
020.4.10	P kinematics tilt cylinder <i>L514-1265/27643-;</i>	020-18
020.5	Travel hydraulics	020-19
020.5.1	Travel pump <i>L514-1265/27643-;</i>	020-19
020.5.2	Travel motor 1 <i>L514-1265/27643-;</i>	020-19
020.6	Hydraulic components	020-21
020.6.1	Filter unit <i>L514-1265/27643-;</i>	020-21
020.6.2	Breather filter <i>L514-1265/27643-;</i>	020-21
020.7	Steering system	020-22
020.7.1	Servostat <i>L514-1265/27643-;</i>	020-22
020.7.2	Steering cylinder <i>L514-1265/27643-;</i>	020-22
020.7.3	Emergency steering pump <i>L514-1265/27643-;</i>	020-22
020.7.4	Emergency steering pressure switch B3 <i>L514-1265/27643-;</i>	020-23
020.8	Brake system	020-24
020.8.1	Drum brake <i>L514-1265/27643-;</i>	020-24
020.8.2	Brake light pressure switch B12 <i>L514-1265/27643-;</i>	020-24
020.8.3	Parking brake pressure switch B5 <i>L514-1265/27643-;</i>	020-24
020.8.4	Parking brake hydro accumulator <i>L514-1265/27643-;</i>	020-24
020.9	Electrical system	020-25
020.9.1	Central control unit (UEC3) <i>L514-1265/27643-;</i>	020-25
020.9.2	Battery <i>L514-1265/27643-;</i>	020-25

020.10	Gearbox	020-27
020.10.1	Transmission <i>L514-1265/27643-;</i>	020-27
020.11	Axles and drive shafts	020-28
020.11.1	Front axle <i>L514-1265/27643-;</i>	020-28
020.11.2	Rear axle <i>L514-1265/27643-;</i>	020-28
020.11.3	Cardan shaft <i>L514-1265/27643-;</i>	020-28
020.11.4	Tyres <i>L514-1265/27643-;</i>	020-29
020.11.4.2	Tyres for timber work	020-30
020.11.4.3	Special tyres	020-30
020.12	Steel parts of the basic machine	020-32
020.12.1	Ballast weight <i>L514-1265/27643-;</i>	020-32
020.13	Working attachment	020-33
020.13.1	Z kinematics lift arms <i>L514-1265/27643-;</i>	020-33
020.13.2	Quick coupler <i>L514-1265/27643-;</i>	020-33
020.14	Operator's cab, heating and air conditioning	020-34
020.14.1.1	Air conditioning compressor	020-34
020.14.2	Dryer <i>L514-1265/0-27642; L514-1265/27643-;</i>	020-34
020.14.3	Pressure switches <i>L514-1265/27643-;</i>	020-34
020.15	Lubrication system	020-35
020.15.1	Central lubrication pump EP1 <i>L514-1265/27643-;</i>	020-35
020.15.2	Progressive distributor <i>L514-1265/27643-;</i>	020-35
020.15.2.1	MX-F	020-35
020.15.2.2	MX-F 25	020-35
020.15.2.3	MX-F 45	020-36
020.15.2.4	MX-F 75	020-36
020.15.2.5	MX-F105	020-36

030	Maintenance	030-1
030.1	Maintenance and inspection schedule	030-9
030.2	Filling quantities and lubrication chart	030-14
030.2.1	Recommended lubricants <i>L514-1265/27643-;</i>	030-14
030.2.2	Recommended operating fluids <i>L514-1265/27643-40514;</i>	030-15
030.2.3	Recommended operating fluids <i>L514-1265/40515-;</i>	030-15
030.3	Lubricants and fuels	030-16
030.3.1	General information on changing lubricants and fuels	030-16
030.3.2	Converting hydraulic system from mineral oils to biodegradable hydraulic fluids	030-16
030.3.3	Diesel fuels <i>L514-1265/27643-;</i>	030-17
030.3.3.1	Specification	030-17
030.3.3.2	Sulphur content of the diesel fuel, lubricity	030-17
030.3.3.3	Diesel fuel at low temperatures (winter operation)	030-17
030.3.3.4	Flow improvers at low temperatures	030-17
030.3.4	Lubricating oils for diesel engines <i>L514-1265/27643-;</i>	030-18
030.3.4.1	Lubricating oil quality	030-18
030.3.4.2	Lubricating oil viscosity	030-18
030.3.4.3	Complicating factors affect the oil change	030-19
030.3.5	Refrigerant <i>L514-1265;</i>	030-19
030.3.6	Coolants for diesel engines <i>L514-1265/27643-;</i>	030-20
030.3.6.1	General recommendations	030-20
030.3.6.2	Water (fresh water)	030-20
030.3.6.3	Coolant mixing ratio	030-20
030.3.6.4	Permissible antifreeze and corrosion inhibitors	030-21
030.3.6.5	Corrosion inhibitors without antifreeze	030-21
030.3.7	Hydraulic oil <i>L514-1265/27643-;</i>	030-22
030.3.7.1	Liebherr hydraulic oil	030-22
030.3.7.2	Using engine oil as hydraulic oil	030-22
030.3.7.3	Warming up	030-23
030.3.7.4	Biodegradable hydraulic oils	030-23

	030.3.7.5	Changing the oil, analysing the oil, changing filters	030-24
030.3.8		Lubricating oils for axles and transmissions <i>L514-1265/27643-;</i>	030-25
030.3.9		Brake oil <i>L514-1265/27643-;</i>	030-26
	030.3.9.2	Service brake	030-26
030.3.10		Lubrication grease and other lubricants <i>L514-1265/27643-;</i>	030-26
	030.3.10.1	Minimum quality requirements	030-27
	030.3.10.2	Liebherr lubrication grease	030-27
030.4		Maintenance tasks	030-29
030.4.1		Safety precautions <i>L514-1265/27643-;</i>	030-29
030.4.2		Preparatory tasks for maintenance	030-29
	030.4.2.1	Maintenance positions <i>L514-1265/27643-;</i>	030-30
	030.4.2.2	Opening the service accesses <i>L514-1265/27643-;</i>	030-31
	030.4.2.3	Turning off the battery main switch <i>L514-1265/27643-;</i>	030-32
030.4.3		Overall machine	030-33
	030.4.3.1	Checking the machine for external damage <i>L514-1265/27643-;</i>	030-33
	030.4.3.2	Removing loose parts, dirt, ice and snow from the machine <i>L514-1265/27643-;</i>	030-33
	030.4.3.3	Cleaning the machine <i>L514-1265/27643-;</i>	030-33
	030.4.3.4	Checking the machine for leaks <i>L514-1265/27643-;</i>	030-35
	030.4.3.5	Making sure the bolted connections are tight <i>L514-1265/27643-;</i>	030-35
	030.4.3.6	Corrosion protection system for use with salt and artificial fertilisers (optional): Carrying out corrosion protection <i>L514-1265/27643-;</i>	030-35
	030.4.3.7	Oil analyses <i>L514-1265/27643-;</i>	030-36
030.4.4		Drive group	030-43
	030.4.4.1	Checking the engine oil level <i>L514-1265/27643-;</i>	030-43
	030.4.4.2	Changing the engine oil <i>L514-1265/27643-;</i>	030-43

030.4.4.3	Changing the engine oil filter <i>L514-1265/27643-;</i>	030-45
030.4.4.4	Checking the V-ribbed belt on the engine <i>L514-1265/27643-;</i>	030-46
030.4.4.5	Changing the V-ribbed belt of diesel engine <i>L514-1265/27643-;</i>	030-47
030.4.4.6	Checking the engine valve clearance <i>L514-1265/27643-;</i>	030-48
030.4.4.7	Changing the diesel engine oil separator filter cartridge <i>L514-1265/27643-;</i>	030-51
030.4.4.8	Checking the bleeder filter of the crankcase <i>L514-1265/27643-;</i>	030-51
030.4.4.9	Checking the glow plugs <i>L514-1265/27643-;</i>	030-52
030.4.4.10	Draining off condensate and sediment from the fuel tank <i>L514-1265/27643-;</i>	030-54
030.4.4.11	Draining off condensate from the fuel pre-filter <i>L514-1265/27643-;</i>	030-55
030.4.4.12	Changing the fuel pre-filter <i>L514-1265/27643-;</i>	030-56
030.4.4.13	Changing the fuel fine filter <i>L514-1265/27643-;</i>	030-57
030.4.4.14	Bleeding the fuel system <i>L514-1265/27643-;</i>	030-58
030.4.4.15	Cleaning the air filter service cover and dust discharge valve <i>L514-1265/27643-;</i>	030-59
030.4.4.16	Checking the air suction hoses for leaks and tight fitting <i>L514-1265/27643-;</i>	030-61
030.4.4.17	Cleaning or changing the main filter element <i>L514-1265/27643-;</i>	030-62
030.4.4.18	Changing the air filter safety element <i>L514-1265/27643-;</i>	030-65
030.4.4.19	Checking the exhaust system for leaks and tight fitting <i>L514-1265/27643-;</i>	030-66
030.4.4.20	Cleaning or changing the diesel particulate filter <i>L514-1265/27643-;</i>	030-67
030.4.5	Cooling system	030-71
030.4.5.1	Checking the coolant level <i>L514-1265/27643-;</i>	030-71

030.4.5.2	Checking the coolant antifreeze and corrosion inhibitor concentration <i>L514-1265/27643-;</i>	030-72
030.4.5.3	Cleaning the cooling system <i>L514-1265/27643-;</i>	030-76
030.4.5.4	Changing the coolant <i>L514-1265/27643-40514-;</i>	030-77
030.4.5.5	Changing the coolant <i>L514-1265/40515-;</i>	030-79
030.4.6	Working hydraulics	030-81
030.4.6.1	Lubricating the solenoids, universal joints and tappets on the pilot control unit <i>L514-1265/27643-;</i>	030-81
030.4.7	Hydraulic components	030-81
030.4.7.1	Checking the oil level in the hydraulic tank <i>L514-1265/27643-;</i>	030-81
030.4.7.2	Draining off condensate and sediment from the hydraulic tank <i>L514-1265/27643-;</i>	030-83
030.4.7.3	Hydraulic tank - changing the return-suction filter <i>L514-1265/27643-;</i>	030-84
030.4.7.4	Changing the hydraulic tank breather filter <i>L514-1265/27643-;</i>	030-86
030.4.7.5	Changing the oil in the hydraulic system <i>L514-1265/27643-;</i>	030-86
030.4.8	Steering system	030-88
030.4.8.1	Testing the steering <i>L514-1265/27643-;</i>	030-88
030.4.8.2	Lubricating the bearing points on the steering cylinders <i>L514-1265/27643-;</i>	030-88
030.4.9	Brake system	030-89
030.4.9.1	Testing the service brake and parking brake <i>L514-1265/27643-;</i>	030-89
030.4.9.2	Checking the oil level in the brake system equalising reservoir <i>L514-1265/27643-;</i>	030-90
030.4.9.3	Checking the gap and wear on the service brake linings <i>L514-1265/27643-;</i>	030-91
030.4.9.4	Checking the service brake discs for wear <i>L514-1265/27643-;</i>	030-91
030.4.10	Electrical system	030-93
030.4.10.1	Checking the lights <i>L514-1265/27643-;</i>	030-93

030.4.10.2	Checking the batteries, fluid level and terminals <i>L514-1265/27643-;</i>	030-93
030.4.10.3	Changing the travel direction rocker switch and cap (optional) on the control lever <i>L514-1265/27643-;</i>	030-96
030.4.11	Gearbox	030-98
030.4.11.1	Checking the transmission oil level <i>L514-1265/27643-;</i>	030-98
030.4.11.2	Changing the transmission oil <i>L514-1265/27643-;</i>	030-98
030.4.12	Axles and drive shafts	030-99
030.4.12.1	Checking the axle oil levels <i>L514-1265/27643-;</i>	030-99
030.4.12.2	Changing the axle oil <i>L514-1265/27643-;</i>	030-101
030.4.12.3	Lubricating the rear axle kingpin bearing <i>L514-1265/27643-;</i>	030-102
030.4.12.4	Checking the fitting of the rear axle kingpin bearings and steering rod taper connections <i>L514-1265/27643-;</i>	030-103
030.4.12.5	Checking the tightening torque of the front axle fastening bolts <i>L514-1265/27643-;</i>	030-104
030.4.12.6	Checking and lubricating the cardan shaft <i>L514-1265/27643-;</i>	030-104
030.4.12.7	Checking the tyre pressure <i>L514-1265/27643-;</i>	030-105
030.4.12.8	Checking the wheel tightness <i>L514-1265/27643-;</i>	030-105
030.4.13	Steel parts of the basic machine	030-106
030.4.13.1	Lubricating the articulated bearing and rear oscil- lating bearing <i>L514-1265/27643-;</i>	030-106
030.4.13.2	Lubricating the contact faces of the articulation stops <i>L514-1265/27643-;</i>	030-106
030.4.13.3	Covering - lubricating locks and hinges <i>L514-1265/27643-;</i>	030-107
030.4.14	Working attachment	030-107
030.4.14.1	Lubricating the lift arms and attachment <i>L514-1265/27643-;</i>	030-107
030.4.14.2	Checking the lift arm bearing bushings <i>L514-1265/27643-;</i>	030-109
030.4.14.3	Checking the lift arm bucket stops (Z kinematics) <i>L514-1265/27643-;</i>	030-110

030.4.14.4	Lubricating and testing the quick-change device <i>L514-1265/27643-;</i>	030-110
030.4.15	Operator's cab, heating and air conditioning	030-111
030.4.15.1	Cleaning the fresh and recirculated air filters <i>L514-1265/27643-;</i>	030-111
030.4.15.2	Changing the fresh and recirculated air filters <i>L514-1265/27643-;</i>	030-112
030.4.15.3	Checking the condition and function of the safety belt <i>L514-1265/27643-;</i>	030-113
030.4.15.4	Checking and topping up the windscreen washer reservoir <i>L514-1265/27643-;</i>	030-113
030.4.15.5	Lubricating the cab door hinges <i>L514-1265/27643-;</i>	030-114
030.4.15.6	Checking the seals on the driver's cab <i>L514-1265/27643-;</i>	030-114
030.4.15.7	Checking the indicator bead in the air conditioning dryer-collector unit <i>L514-1265/27643-;</i>	030-115
030.4.15.8	Testing the air conditioning unit <i>L514-1265/27643-;</i>	030-116
030.4.16	Lubrication system	030-117
030.4.16.1	Checking the lubrication system grease reservoir level <i>L514-1265/27643-;</i>	030-117
030.4.16.2	Checking the pipes, hoses and lubrication points of the lubrication system <i>L514-1265/27643-;</i>	030-117
030.4.16.3	Checking whether metered quantities are adequate at the bearing points (grease collars) of the lubrication system <i>L514-1265/27643-;</i>	030-118
030.5	Testing and adjustment checklist <i>L514-1265/27643-;</i>	030-119
030.5.1	Saving pages from the adjustment checklist	030-123
030.6	Testing and adjustment tasks	030-124
030.6.1	Safety precautions <i>L514-1265/27643-;</i>	030-124
030.6.2	Overall machine	030-125
030.6.2.1	Adjustment procedures: Preparatory tasks <i>L514-1265/27643-;</i>	030-125
030.6.2.2	Hydraulic system: Operating temperature <i>L514-1265/27643-;</i>	030-126
030.6.3	Drive group	030-127

030.6.3.1	Engine: Speed <i>L514-1265/27643-;</i>	030-127
030.6.3.2	Reading the diesel engine service files <i>L514-1265;</i>	030-127
030.6.4	Cooling system	030-129
030.6.4.1	Fan gear motor: Proportional pressure relief valve <i>L514-1265/27643-40562;</i>	030-129
030.6.4.2	Fan gear motor: Proportional pressure relief valve <i>L514-1265/40563-;</i>	030-131
030.6.5	Working hydraulics	030-132
030.6.5.1	Z kinematics control valve block: Secondary pressure relief valves <i>L514-1265/27643-31275;</i>	030-132
030.6.5.2	Z kinematics control valve block: Secondary pressure relief valves <i>L514-1265/31276-;</i>	030-134
030.6.5.3	P kinematics control valve block: Secondary pressure relief valves <i>L514-1265/27643-31275;</i>	030-137
030.6.5.4	P kinematics control valve block: Secondary pressure relief valves <i>L514-1265/31276-;</i>	030-140
030.6.5.5	Control valve block: LS pressure relief valve <i>L514-1265/27643-;</i>	030-142
030.6.5.6	Stabilisation module (optional): Pressure relief valve <i>L514-1265/27643-;</i>	030-143
030.6.5.7	Ride control hydro accumulator (optional): Nitrogen filling <i>L514-1265/27643-;</i>	030-144
030.6.5.8	Testing the Z kinematics control valve block for leakage <i>L514-1265/27643-;</i>	030-146
030.6.6	Hydraulic components	030-149
030.6.6.1	Checking the hydraulic lines for damage <i>L514-1265;</i>	030-149
030.6.7	Travel hydraulics	030-154
030.6.7.1	Travel pump: Replenishing pressure relief valve <i>L514-1265/27643-;</i>	030-154
030.6.7.2	Blocked condition <i>L514-1265/27643-;</i>	030-155
030.6.7.3	Travel pump: Start of regulation <i>L514-1265/27643-;</i>	030-156
030.6.7.4	Travel pump: Pump output <i>L514-1265/27643-;</i>	030-157

030.6.7.5	Travel pump: High pressure relief valve <i>L514-1265/27643-;</i>	030-159
030.6.7.6	Travel pump: Pressure cut-off <i>L514-1265/27643-;</i>	030-161
030.6.7.7	Travel motor: Regulation range <i>L514-1265/27643-;</i>	030-163
030.6.8	Steering system	030-164
030.6.8.1	Servostat: LS pressure relief valve <i>L514-1265/27643-;</i>	030-164
030.6.9	Brake system	030-165
030.6.9.1	Inch/brake pedal: Idle path <i>L514-1265/27643-;</i>	030-165
030.6.9.2	Inch/brake pedal: Inching valve leakage <i>L514-1265/27643-;</i>	030-166
030.6.10	Electrical system	030-167
030.6.10.1	Central control unit (UEC3) Creating a Servicefile <i>L514-1265/27643-;</i>	030-167
030.6.10.2	Repairing the Tuple Chain on the central control unit (UEC3) <i>L514-1265/27643-;</i>	030-168
030.6.10.3	Resetting central control unit (UEC3) <i>L514-1265/27643-;</i>	030-174
030.6.11	Operator's cab, heating and air conditioning	030-179
030.6.11.1	Adjusting the heating circuit pressure relief valve <i>L514-1265/27643-39419;</i>	030-179
040	Drive group	040-1
040.1	Engine	040-2
040.1.1	Engine: General overview <i>L514-1265/27643-;</i>	040-2
040.1.2	Engine: Electrical components <i>L514-1265/27643-;</i>	040-6
040.1.3	Fuel system	040-17
040.1.3.1	Fuel system:: General overview <i>L514-1265/27643-;</i>	040-18
040.1.3.2	Fuel level sensor <i>L514-1265/27643-;</i>	040-19
040.1.3.3	Fuel pre-filter <i>L514-1265/27643-;</i>	040-21
040.1.3.4	Fuel fine filter <i>L514-1265/27643-;</i>	040-22
040.1.4	Air filter system	040-22

040.1.4.1	Air filter <i>L514-1265/27643-;</i>	040-23
040.1.5	Exhaust system	040-23
040.1.5.1	Overview of the exhaust system <i>L514-1265/27643-;</i>	040-24
040.1.5.2	Overview of the diesel particulate filter <i>L514-1265/27643-;</i>	040-25
050	Cooling system	050-1
050.1	Overview of the cooling system <i>L514-1265/27643-;</i>	050-2
050.2	Cooling system hydraulics	050-4
050.2.1	Overview of the hydraulic control system <i>L514-1265/27643-;</i>	050-4
050.2.2	Fan gear pump <i>L514-1265/27643-;</i>	050-6
050.2.3	Fan gear motor <i>L514-1265/27643-;</i>	050-7
050.3	Cooling system electronics	050-9
050.3.1	Overview of the electronic control system <i>L514-1265/27643-;</i>	050-9
050.3.2	Coolant temperature sensor <i>L514-1265/27643-;</i>	050-11
050.3.3	Hydraulic oil temperature sensor <i>L514-1265/27643-;</i>	050-12
050.3.4	Charge air temperature sensor <i>L514-1265/27643-;</i>	050-14
060	Working hydraulics	060-1
060.1	Overview of z kinematics working hydraulics <i>L514-1265/27643-31275;</i>	060-3
060.2	Overview of z kinematics working hydraulics <i>L514-1265/27643-31275; L514-1265/31276-;</i>	060-8
060.3	Overview of working hydraulics for p kinematics <i>L514-1265/27643-31275;</i>	060-13
060.4	Overview of working hydraulics for p kinematics <i>L514-1265/27643-31275; L514-1265/31276-;</i>	060-18
060.5	Working hydraulics pump <i>L514-1265/27643-;</i>	060-23
060.6	Z kinematics control valve block <i>L514-1265/27643-31275; L514-1265/31276-;</i>	060-25
060.7	P kinematics control valve block <i>L514-1265/27643-31275; L514-1265/31276-;</i>	060-29

060.8	Pilot control	060-33
060.8.1	Overview of the pilot control unit <i>L514-1265/27643-;</i>	060-33
060.8.2	Pilot control unit <i>L514-1265/27643-;</i>	060-35
060.8.3	Working hydraulics lockout solenoid valve <i>L514-1265/27643-;</i>	060-40
060.8.4	Pilot control hydro accumulator <i>L514-1265/27643-;</i>	060-41
060.9	Ride control	060-42
060.9.1	Overview of the ride control system <i>L514-1265/27643-;</i>	060-42
060.9.2	Stabilisation module <i>L514-1265/27643-;</i>	060-43
060.9.3	Ride control hydro accumulator <i>L514-1265/27643-;</i>	060-47
060.10	Hydraulic cylinders of the working hydraulics	060-48
060.10.1	Hydraulic cylinders for Z kinematics	060-48
060.10.1.1	Z kinematics lift cylinder <i>L514-1265/27643-;</i>	060-48
060.10.1.2	Z kinematics tilt cylinder <i>L514-1265/27643-;</i>	060-50
060.10.2	Hydraulic cylinders for P kinematics	060-51
060.10.2.1	Z kinematics lift cylinder <i>L514-1265/27643-;</i>	060-51
060.10.2.2	P kinematics tilt cylinder <i>L514-1265/27643-;</i>	060-52
070	Travel hydraulics	070-1
070.1	Travel hydraulics overview <i>L514-1265/27643-;</i>	070-2
070.2	Travel pump <i>L514-1265/27643-;</i>	070-6
070.3	Travel motors	070-20
070.3.1	Travel motor <i>L514-1265/27643-;</i>	070-20
080	Hydraulic components	080-1
080.1	Hydraulic tank	080-2
080.1.1	Overview of the hydraulic tank <i>L514-1265/27643-;</i>	080-2

080.1.2	Filtration grade <i>L514-1265/27643-;</i>	080-4
080.1.3	Breather filter <i>L514-1265/27643-;</i>	080-10
090	Steering system	090-1
090.1	Steering system overview <i>L514-1265/27643-;</i>	090-2
090.2	Servostat <i>L514-1265/27643-;</i>	090-5
090.3	Steering cylinder	090-8
090.3.1	Steering cylinder overview <i>L514-1265/27643-;</i>	090-8
090.4	Emergency steering	090-10
090.4.1	Emergency steering overview <i>L514-1265/27643-;</i>	090-10
090.4.2	Emergency steering pump <i>L514-1265/27643-;</i>	090-11
090.4.3	Emergency steering electronics	090-12
090.4.3.1	Overview of the electronic control system <i>L514-1265/27643-;</i>	090-12
090.4.3.2	Emergency steering pressure switch <i>L514-1265/27643-;</i>	090-14
090.4.3.3	Emergency steering check pressure switch <i>L514-1265/27643-;</i>	090-15
090.4.4	Valve block <i>L514-1265/27643-;</i>	090-16
100	Brake system	100-1
100.1	Overview of the brake system <i>L514-1265/27643-;</i>	100-2
100.2	Service brake	100-6
100.2.1	Overview of the service brake <i>L514-1265/27643-;</i>	100-6
100.2.2	Inch/brake pedal <i>L514-1265/27643-;</i>	100-9
100.2.3	Inching valve <i>L514-1265/27643-;</i>	100-10
100.2.4	Main brake cylinder <i>L514-1265/27643-;</i>	100-12
100.2.5	Brake light pressure switch <i>L514-1265/27643-;</i>	100-17

100.2.6	Drum brake <i>L514-1265/27643-;</i>	100-18
100.2.7	Brake fluid equalising reservoir <i>L514-1265/27643-;</i>	100-21
100.3	Parking brake	100-22
100.3.1	Overview of the parking brake <i>L514-1265/27643-;</i>	100-22
100.3.2	Brake system solenoid valve block <i>L514-1265/27643-;</i>	100-24
100.3.3	Parking brake hydro accumulator <i>L514-1265/27643-;</i>	100-26
100.3.4	Parking brake pressure switch <i>L514-1265/27643-;</i>	100-27
110	Electrical system	110-1
110.1	Overview of the electrical system <i>L514-1265/27643-;</i>	110-2
110.2	Lighting <i>L514-1265/27643-;</i>	110-5
110.3	Circuit diagrams <i>L514-1265/27643-;</i>	110-7
110.4	Electronic control unit	110-9
110.4.1	Overview of the electronic control system <i>L514-1265/27643-;</i>	110-9
110.4.2	Central control unit (UEC3) <i>L514-1265/27643-;</i>	110-11
110.5	Electrical components of the driver's cab	110-16
110.5.1	Fuse and relay board <i>L514-1265/27643-;</i>	110-16
110.6	Electrical components in the rear section	110-20
110.6.1	Battery installation <i>L514-1265/27643-;</i>	110-20
120	Gearbox	120-1
120.1	Overview of the transmission <i>L514-1265/27643-;</i>	120-2
140	Steel parts of the basic machine	140-1
140.1	Vehicle frame	140-2
140.1.1	Articulation bearing <i>L514-1265/27643-;</i>	140-2
140.1.2	Articulation lock <i>L514-1265/27643-;</i>	140-3

150	Working attachment	150-1
150.1	Lift arms for Z kinematics	150-2
150.1.1	Pin bearing	150-2
150.1.1.1	Z kinematics standard pin bearing <i>L514-1265/27643-;</i>	150-2
150.2	Quick coupler	150-3
150.2.1	Z kinematics quick coupler <i>L514-1265/27643-;</i>	150-3
160	Operator's cab, heating and air conditioning	160-1
160.1	Overview of the cab, heating and air conditioning unit <i>L514-1265/27643-;</i>	160-3
160.2	Display and control elements	160-5
160.2.1	Electrical components in the control panel	160-5
160.2.1.1	Overview of electrical components in the control panel <i>L514-1265/27643-;</i>	160-5
160.2.1.2	Starter switch <i>L514-1265/27643-;</i>	160-6
160.2.2	Display <i>L514-1265/27643-;</i>	160-7
160.2.3	Control lever <i>L514-1265/27643-;</i>	160-10
160.3	Heating, ventilation, air conditioning	160-12
160.3.1	Overview of the heating, ventilation and air conditioning system <i>L514-1265/27643-;</i>	160-12
160.3.2	Heating and air conditioning unit	160-19
160.3.2.1	Blower <i>L514-1265/27643-;</i>	160-19
160.3.3	Heating circuit pressure relief valve <i>L514-1265/27643-39419;</i>	160-20
160.3.4	Heating circuit pressure relief valve <i>L514-1265/39420-;</i>	160-22
160.4	Air conditioning	160-24
160.4.1	Air conditioning (optional) <i>L514-1265/27643-;</i>	160-24
160.4.2	Condenser <i>L514-1265/27643-;</i>	160-26
160.4.3	Dryer <i>L514-1265/27643-;</i>	160-26
160.4.4	Air conditioning pressure switch <i>L514-1265/27643-;</i>	160-28

160.4.5	Evaporator <i>L514-1265/27643-;</i>	160-30
170	Lubrication system	170-1
170.1	Liebherr automatic central lubrication system	170-2
170.1.1	Automatic central lubrication system: General overview <i>L514-1265/27643-;</i>	170-2
170.1.2	Central lubrication pump EP-1 <i>L514-1265/27643-;</i>	170-6
170.1.3	Progressive distributor MX-F <i>L514-1265/27643-;</i>	170-9
190	Options	190-1
190.1	LiDAT	190-2
190.1.1	Overview of LiDAT <i>L514-1265/27643-;</i>	190-2
190.1.2	LiDAT on the machine <i>L514-1265/27643-;</i>	190-4
200	Diagnosis	200-1
200.1	Malfunctions	200-2
200.1.1	Warning symbols	200-2
200.1.2	Service code indicator in the display	200-3
200.2	Troubleshooting	200-5
200.2.1	Replacing fuses	200-5
200.2.1.1	Fuses in the battery compartment	200-5
200.2.1.2	Plug-in fuses on the relay and fuse board	200-6
200.2.1.3	Plug-in fuses for LiDAT	200-7

Thank you so much for reading.
Please click the “Buy Now!”
button below to download the
complete manual.



After you pay.
You can download the most
perfect and complete manual in
the world immediately.

Our support email:
ebooklibonline@outlook.com