

Table of Contents

1 Fundamental safety instructions

1.1	Warnings and symbols	1	-	2
1.2	Proper use of the loader	1	-	2
1.3	Organizational measures	1	-	2
1.4	Selection of personnel and necessary qualifications; basic responsibilities	1	-	3
1.5	Safety information for certain operating phases	1	-	4
1.5.1	Normal operation	1	-	4
1.5.2	Special work regarding the use of the machine and elimination of defects during work; disposal	1	-	7
1.6	Instructions regarding special categories of danger	1	-	9
1.6.1	Electrical energy	1	-	9
1.6.2	Hydraulics	1	-	10
1.6.3	Noise	1	-	10
1.6.4	Oil, grease and other chemical substances	1	-	10
1.6.5	Gas, dust, steam, smoke	1	-	11
1.7	Transport and towing; recommissioning	1	-	11
1.8	Safety information for the contractor or the contractor's authorized personnel	1	-	12
1.8.1	Organizational measures	1	-	12
1.8.2	Selection of personnel and necessary qualifications; basic responsibilities	1	-	12

2 Signs

3 Protection against theft

3.1	Identifying features on the loader	3	-	2
3.2	Parking the loader	3	-	2
3.3	Drive-away interlocks	3	-	3
3.3.1	Electronic drive-away interlock with transponder	3	-	3
3.3.1.1	Function description/operating instructions	3	-	3
3.3.1.2	Activating the system	3	-	3
3.3.1.3	Deactivating the system	3	-	3
3.3.1.4	Programming additional transponders	3	-	4
3.3.1.5	Check list: testing for proper function	3	-	4
3.3.2	Encodable drive-away interlock	3	-	5

4 Description

4.1	Overview	4	-	2
4.2	Loader	4	-	3
4.2.1	Swivel unit and axle support	4	-	3
4.2.2	Undercarriage	4	-	3
4.2.3	Tyres	4	-	3
4.2.4	Steering system	4	-	4
4.2.5	Emergency steering	4	-	4
4.2.6	Air filter device	4	-	4
4.2.7	Battery	4	-	4
4.2.8	Fuel supply system	4	-	4
4.2.9	Lift, tip and telescoping devices	4	-	4
4.2.10	Bucket position indicator	4	-	5
4.2.11	Floating position	4	-	5
4.2.12	Lifting device suspension	4	-	5
4.2.13	Pipe break safety device	4	-	5
4.2.14	Dump interlock	4	-	5
4.2.18	Equipment	4	-	6

4.2.18.1	Operator's cabin	4 - 6
4.2.18.2	Driver's seat	4 - 6
4.3	Wheel change	4 - 6
4.4	Controls	4 - 8
4.4.1	Multifunction panel	4 - 10
4.4.2	Fuses/relays	4 - 11
4.4.3	Controls at the driver's cabin ceiling	4 - 12
4.5	Swivel restriction	4 - 12

5 Operation

5.1	Checks before start-up	5 - 2
5.2	Commissioning	5 - 2
5.2.1	Start the diesel engine	5 - 2
5.2.2	Winter operation	5 - 3
5.2.2.1	Fuel	5 - 3
5.2.2.2	Engine oil change	5 - 3
5.2.2.3	Oil change, hydraulic system	5 - 3
5.2.2.4	Anti-freeze for windshield washer system	5 - 4
5.2.3	Driving the loader on public roads	5 - 4
5.2.4	Working with the loader	5 - 5
5.2.5	Heater and ventilation system	5 - 6
5.2.5.1	Setting the air flow	5 - 6
5.2.5.2	Switch on the heater	5 - 6
5.3	Decommissioning the loader	5 - 7
5.3.1	Parking the loader	5 - 7
5.3.2	Switch off the diesel engine	5 - 7
5.3.3	Switching off the heater and ventilation system	5 - 7
5.3.4	Leaving the loader	5 - 7
5.4	Adjusting the driver's seat	5 - 8
5.4.1	Grammer seat	5 - 8
5.4.2	KAB seat	5 - 10
5.5	Switching the steering type	5 - 11
5.5.1	Overview of switching options	5 - 11

6 Attachments

6.1	Mounting and dismounting attachments without hydraulic connections	6 - 2
6.1.1	Standard/lightweight bucket	6 - 2
6.1.2	Fork-lift attachment	6 - 3
6.1.2.1	Picking up an elevated load	6 - 3
6.1.3	Lifting hook	6 - 4
6.2	Mounting and dismounting attachments with hydraulic connections	6 - 4
6.2.1	Multi-purpose bucket	6 - 4
6.3	Mounting and dismounting rear attachments	6 - 7
6.3.1	Rear mounting plate	6 - 7
6.4	Use of additional attachments	6 - 8

7 Rescue, towing, lashing, craning

7.1	Rescue, towing, lashing	7 - 2
7.1.1	Towing the telescopic loader if the engine has failed or if the propulsion drive has failed	7 - 2
7.1.1.1	Towing the telescopic loader if the engine has failed	7 - 2
7.1.1.2	Towing the telescopic loader if the traction drive has failed	7 - 5
7.2	Lifting by crane	7 - 6

8 Maintenance

8	Maintenance schedule	8 - 1
8.1	Notes regarding maintenance	8 - 2
8.2	Maintenance work	8 - 3

8.2.1	Engine inspections	8	-	3
8.2.1.1	Engine oil level check	8	-	3
8.2.1.2	Cooling water check	8	-	3
8.2.1.3	V-belt check	8	-	4
8.2.1.4	V-belt tension check	8	-	4
8.2.1.5	Other important engine checks	8	-	4
8.2.2	Oil level check for axles	8	-	4
8.2.2.1	Rear axle	8	-	4
8.2.2.2	Planetary gear	8	-	5
8.2.2.3	Front axle	8	-	5
8.2.2.4	Oil level check (ancillary/distribution gear)	8	-	5
8.2.2.4.1	Ancillary/distribution gear of slow loaders	8	-	5
8.2.2.4.2	Ancillary/distribution gear of fast loaders	8	-	6
8.2.3	Oil level check, hydraulic oil reservoir	8	-	6
8.2.4	Fuel filter	8	-	6
8.2.4.1	Draining the water trap of the fuel filter	8	-	6
8.2.4.2	Replacing the fuel filter	8	-	7
8.2.4.3	Cleaning/replacing the fuel prefilter	8	-	8
8.2.5	Oil change, engine	8	-	8
8.2.6	Changing the engine oil filter insert	8	-	9
8.2.7	Oil change, axles	8	-	10
8.2.7.1	Rear axle	8	-	10
8.2.7.2	Planetary gear	8	-	11
8.2.7.3	Front axle	8	-	11
8.2.7.4	Oil change, ancillary/distribution gear	8	-	12
8.2.7.4.1	Oil change of ancillary/distribution gear of slow loaders	8	-	12
8.2.7.4.2	Oil change of ancillary/distribution gear of slow loaders	8	-	13
8.2.8	Oil change, hydraulic system	8	-	13
8.2.9	Changing the hydraulic oil filter insert	8	-	14
8.2.10	Maintaining/replacing the air filter	8	-	15
8.2.11	Replacing the safety cartridge	8	-	16
8.2.12	Maintaining/replacing the fresh air filter	8	-	17
8.2.13	Replacing the starter battery	8	-	18
8.2.14	Checking the thickness of the disc brake pad	8	-	19
8.2.15	Checking/topping up the brake fluid level	8	-	20
8.3	Grease lubrication points	8	-	20
8.3.1	Wear liners on the telescope arm	8	-	20
8.3.2	Telescope arm	8	-	21
8.3.3	Ball bearing ring	8	-	24
8.3.4	Rear axle	8	-	24
8.3.5	Rear axle pivot bolts	8	-	25
8.3.6	Front axle	8	-	25
8.3.7	Engine hood	8	-	25
8.3.8	Multi-purpose bucket	8	-	26

10 Circuit diagrams

10.1	Electric wiring diagram	10	-	1
10.2	Hydraulic circuit diagram	10	-	7

11 Technical data (loader)

11.1	Loader	11	-	2
11.2	Engine	11	-	2
11.2.1	55 kW engine	11	-	2
11.2.2	63 kW engine	11	-	2
11.3	Starter	11	-	2
11.4	Alternator	11	-	2
11.5	Hydrostatic drive motor	11	-	2
11.6	Axle loads	11	-	3

11.7	Tyres	11	-	3
11.8	Steering system	11	-	3
11.9	Brakes	11	-	3
11.10	Electrical system	11	-	3
11.11	Hydraulic system	11	-	3
11.11.1	Swivel unit	11	-	4
11.11.2	Support system	11	-	4
11.12	Fuel supply system	11	-	4
11.13	Heater and ventilation system	11	-	4
11.14	Full flow suction filter	11	-	4
11.15	Electric contamination indicator	11	-	4
11.16	Combination cooler with temperature-controlled fan	11	-	4
11.17	Noise emission	11	-	4
11.18	Vibrations	11	-	4
12	Technical data (attachments)			
12.1	Buckets	12	-	2
12.2	Fork-lift attachment/lifting hook	12	-	4
13	Additional options, modifications			
13.1	Additional options	13	-	2
13.1.1	Hand throttle	13	-	2
13.1.2	Inching speed	13	-	2
13.2	Modifications	13	-	6