Repair manual for telescopic loaders T 4512



Repair Manual

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Bolts with fine thread

Tightening torques for bolts with fine thread depending on the grade

Thread size in mm	Tightening torque [1] in Nm		
	Grade 8.8	Grade 10.9	Grade 12.9
M8x1	28	39	46
M10x1.25	53	74	89
M12x1.5	91	126	151
M14x1.5	150	210	250
M16x1.5	225	315	380
M18x1.5	325	460	550
M20x1.5	460	640	770
M22x1.5	610	860	1050
M24x2	780	1100	1300
M27x2	1160	1640	1970
M30x2	1600	2330	2730

[1] These values are applicable for bolts with untreated, not lubricated surface.

Hydraulic lines

Tightening torques for taper couplings

Tube outside diameter	Tightening torque [1] in Nm ± 5%
L 6	20
L 8	30
L 10	40
L 12	50
L 15	70
L 18	90
L 22	120
L 28	160
L 35	250
L 42	380
S 6	25
S 8	40
S 10	50
S 12	60
S 14	75
S 16	85
S 20	140
S 25	190
S 30	270
S 38	400

[1] Waxed union nut, oiled thread (source: www.voss.de, 09/07/08)

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7.2 Troubleshooting in the cab

Fault symptoms	Possible cause	Remedy
Ventilation has no function	Fuse element defective	Check fuse element on the fan motor and at the fuse box for continuity and replace if necessary
	Fan switch defective	Check switch and replace if necessary
	Fan motor defective	Replace fan motor
Heater has no function	Coolant cold	Let engine run until coolant is warm
	Switch for heater is in the "OFF" position	Put switch for the heater in the "ON" position

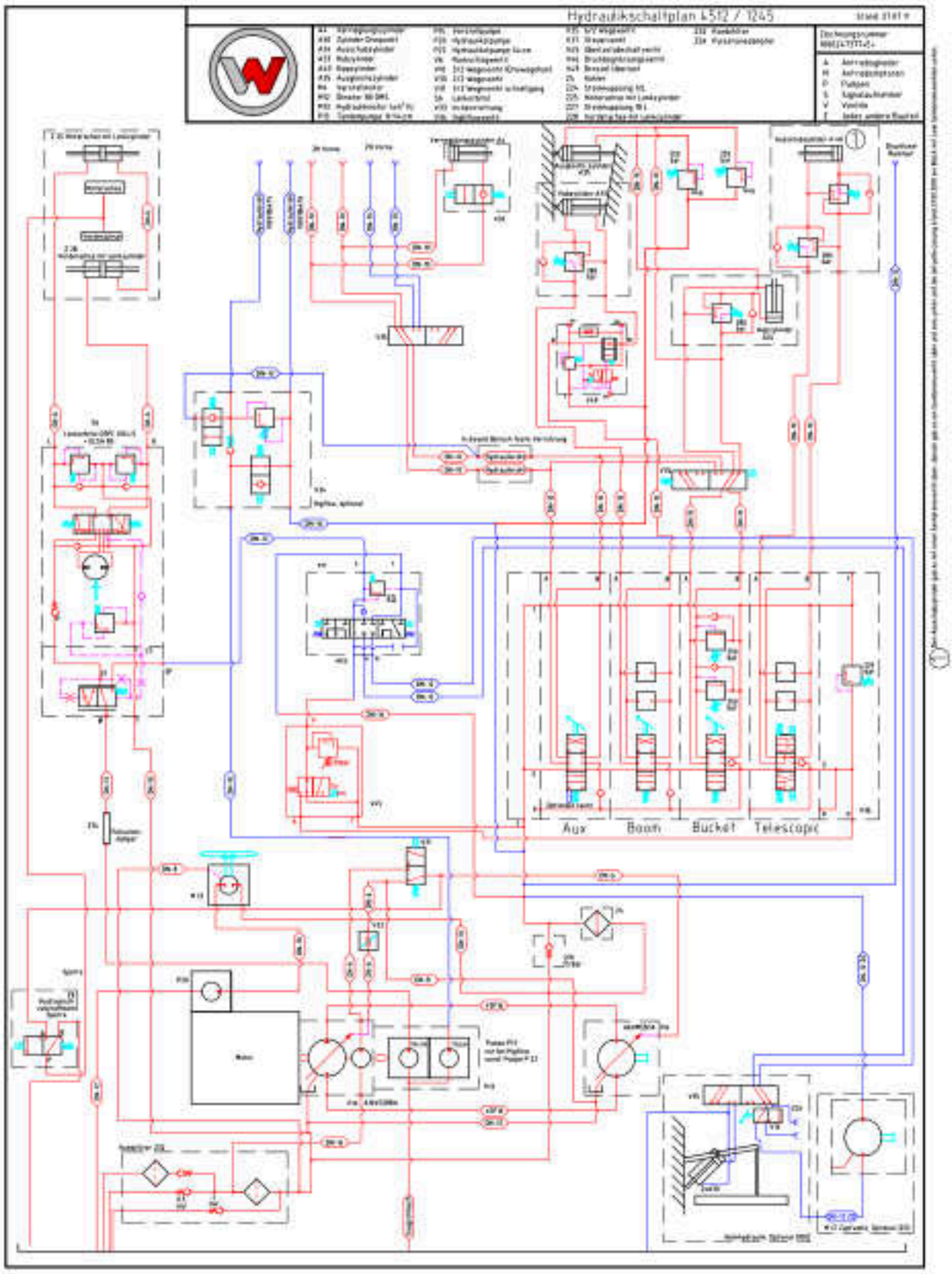
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2. Parts List

Code	Designation	FG	Mat. No.
B000	**Converters**		
B001	Fuel gauge sensor	2	
B002	Signal horn	7	
B003	Acoustic reversing warning device	3	
B008	Strain gauge, overload sensor	8	
B018	buzzer	3	
B045	Absolute position transducer, spool no. III	8	
E000	**Lights, Headlights**		
E001	Parking light, RH front	6	
E002	Tail light, RH rear	6	
E003	Parking light, LH front	6	
E004	Tail light, LH rear	6	
E005	Head light RH	6	
E006	Head light LH	6	
E007	Work lights rear	6	
E009	Work light front	6	
E010	Work light front	6	
E012	Floodlight Chassis / Telescopic arm	6	
E014	Interior lighting	6	
E016	License plate lighting	6	
F000	**Fuses**		
F001	Control unit, hydraulic	3, 4, 5, 16, 17	
F002	Instruments, pilot lights, relays, horn	1,2,3,6,7,18	
F003	work lights front	6	
F004	work lights rear, telescopic arm	6	
F005	Vertical Lift System, overload sensor	8	
F006	Motor (shut-off valve, fuel pump, alternator)	1	
F007	Option additional equipment, beacon	11, 12,14	
F008	outlet fitting terminal 30	11, 18	
F009	Windscreen wiper, heating	9, 10	
F010	Auxiliary hydraulic control circuits	13, 14, 15	
F011	parking/side light RH, terminal 58	6	

The circuit diagram has optional features in addition to its basic equipment.
*StVZO – German Road Traffic Licensing Regulations

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3.4.5 VLS electronics - plug-in connector test instruction

▷ This section describes the checking of the plug connection of the VLS electronics.

This test requires in-depth knowledge of the vehicle electrical system and should only be performed by appropriately trained persons!

Requirements

Ensure the following:

- The telescopic arm is completely raised and extended during the test.
- Ensure sufficient clearance from persons and objects.
- Ensure that the connector is in the correct position. The double bridge (arrow) of the enclosure coding must be on the left.



Bild 48 VLS electronics plug-in connector - pin numbering

Spare parts and auxiliary materials

Designation	Quantity
Calibrated, measuring instrument suitable for automotive electrical applications Measuring ranges: 1. Resistance in ohms (Ω) 2. DC voltage in volts (V)	1

Battery voltage + Ubatt

- 12.72 V > battery 100% charged > OK
- 12.54 V > battery 70% charged > still OK
- 12.36 V > battery 50% charged > recharge

Measurement procedure

- Start the engine.
- Raise the lifting arm to the limit stop, retract the telescope to the limit stop.
- Engine off.
- Pull out the F002 and F006 (7.5 A) fuses.

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