



Service Manual

Chassis & Mast

EP40

EP45

EP50

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99579-66120

	171 ... 180		3	Error on analog input. Affected input = error type - 170 - Measure voltage - Check input signal for high frequency proportion - Replace controller
	181 ... 196		3	Output monitoring: Difference in result for sub-computer for output no. error type - 180 - Replace controller
	201 ... 216		3	Output monitoring: Read back output no. error type - 200 - Check output for short circuit or external voltage - Replace controller
	221 ... 228		3	PWM output monitoring: Difference in result for sub-computer for output no. error type - 220 - Replace controller
	231 ... 238		3	PWM output monitoring: Read back output no. error type - 230 - Check output for short circuit or external voltage - Replace controller

Steering Setpoint Display

Displays the current steering setpoint in degrees with a prefix. It displays the steering setpoint produced from the evaluation of the programmed steering setpoint device. With a steering wheel, the steering setpoint in the steering computer is generated from the impulses read.

The second line shows the internal steering setpoint cushioned with a ramp. This value serves as the basis for the steering calculation.

glob.setup:	3.71
glob.ramp:	3.08

ESC — + ↵

Nominal and Actual Position of the Axles

The nominal and actual angle of the various axles are shown next to each other. The unit for nominal and actual values is degrees.

setp 1:	12.00
act 1:	11.96

ESC — + ↵

Proportional Valve Modulation

Modulation of the proportional valves for valve coils A and B in percentage. It shows the setpoint for the motor driver ranging from 0 to 100%. 100% corresponds to an output voltage of +24 V.

PWM1A:	0%
PWM1B:	0%

ESC — + ↵

Maximum Steering Deviation

This shows the maximum deviation in degrees together with the axle and the displayed deviation. The maximum steering deviation determines the error control of the steering computer.

The steering deviation reading can be deleted by pressing **ENTER**.

max. deviation:
0.36° axle: 1

ESC — + ↵

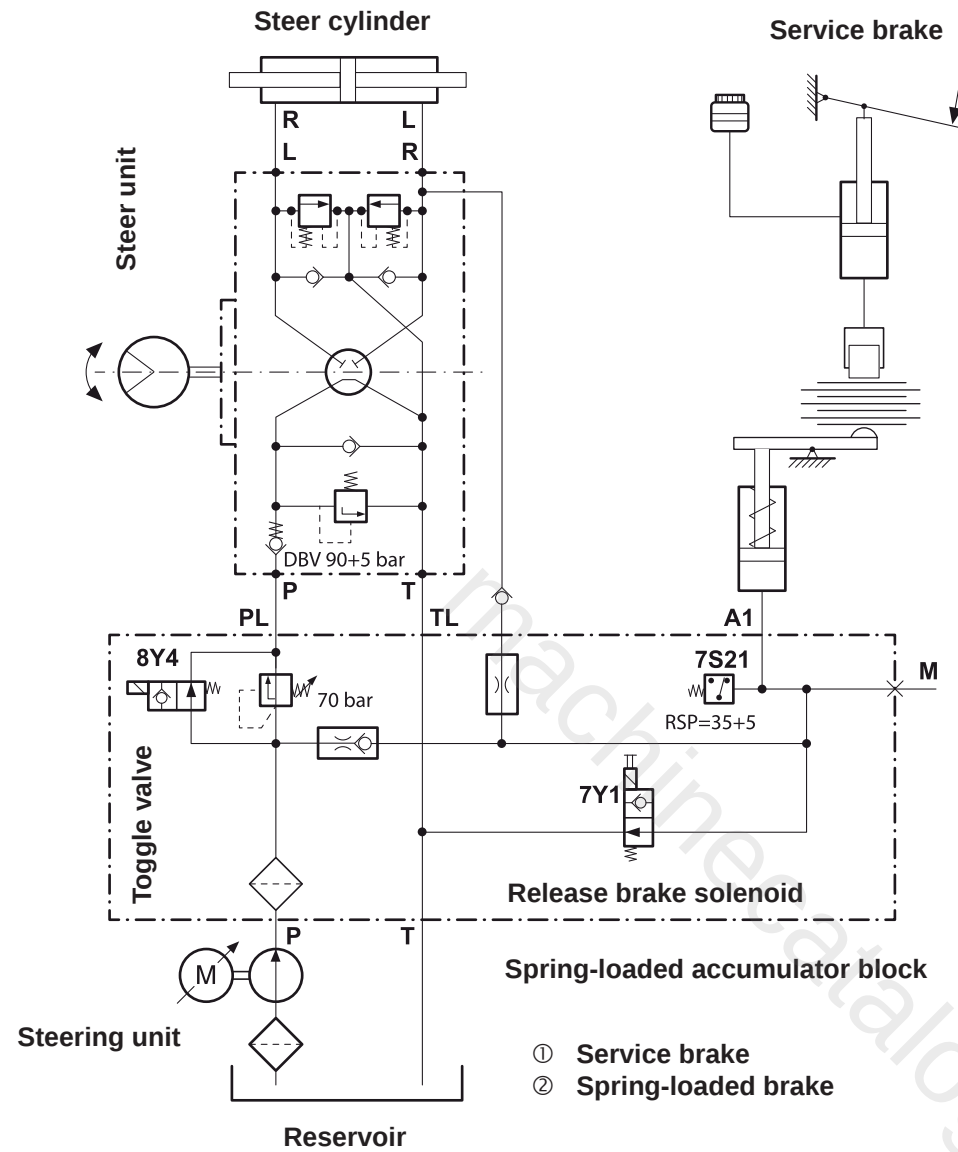


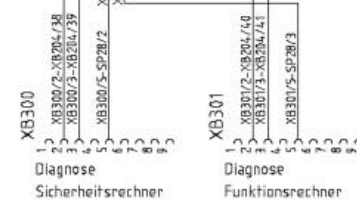
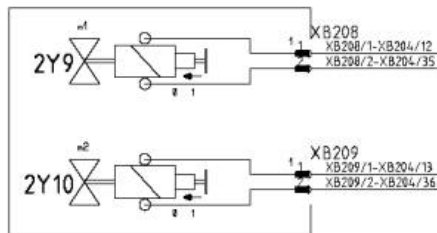
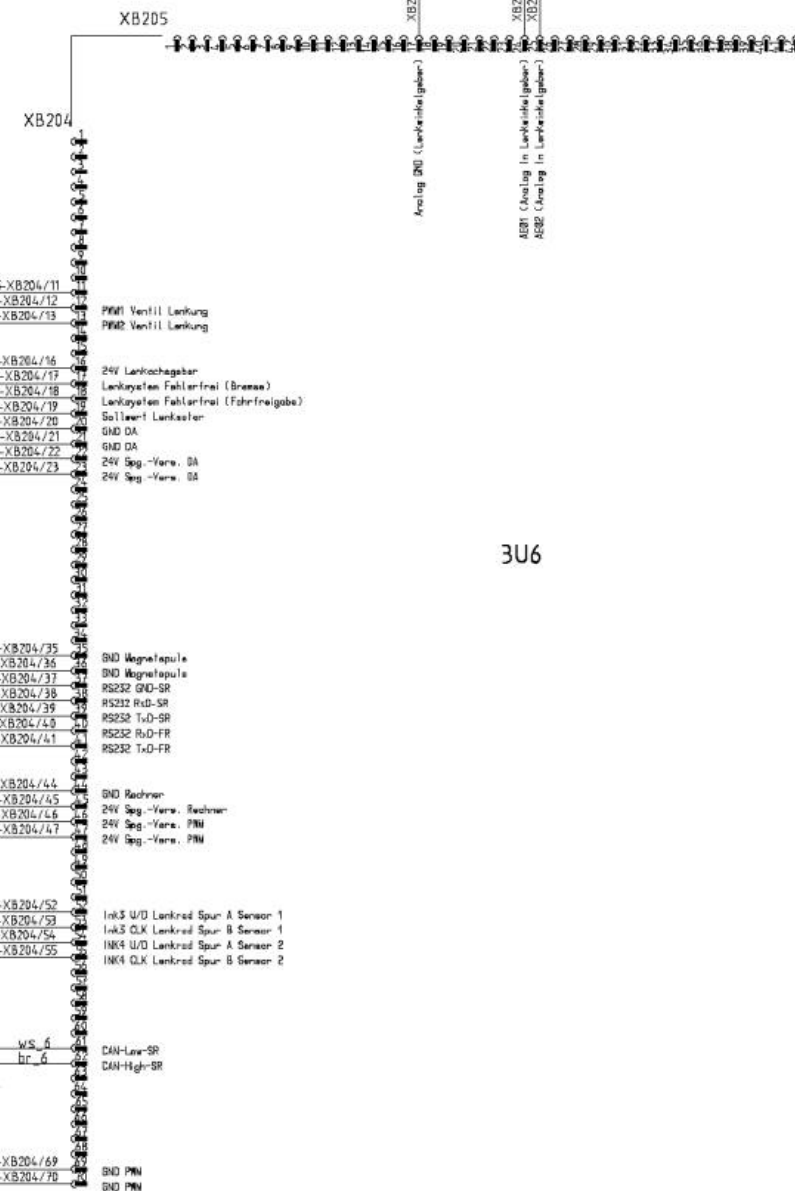
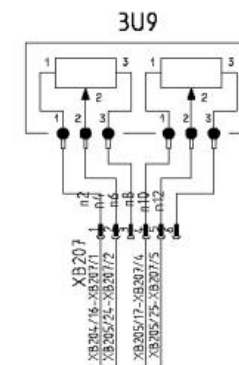
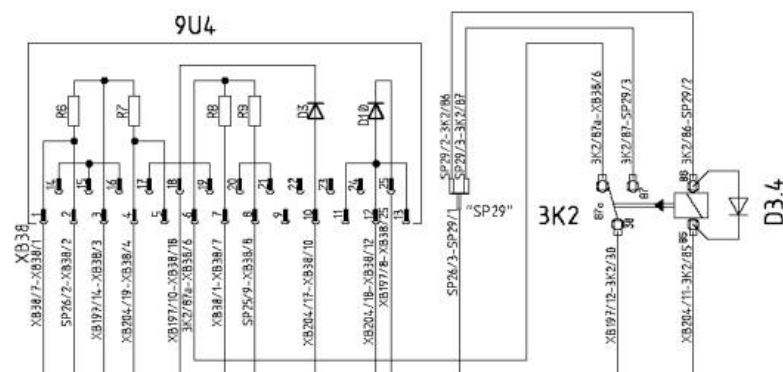
fig. 152

DE		EN
8H12	Lenkung gestört	Steering fault
8H13	Lastkorrektur	Load correction
8H14	Synchronisation Ein	Synchronization On
8H15	Lenkung verriegelt	Steering interlocked
8H16	Lampe für Empf. Sicherheitsbereich	Lamp for safety area receiver
8H17	Lenken nach rechts	Steering to the right
8H18	Lenken nach links	Steering to the left
8H19	8H19 Kontroll-Leuchte red. Geschwindigkeit	8H19 Reduced speed indicator
9H1	Kontrolleuchte Sitzbeheizung	Control lamp - seat heating
9H2	Kontrolleuchte Kühlkörper Fahrsteuerung	Control lamp - Drive control cooling body
9H3	Kontrolleuchte Skanner	Control lamp - Scanner
9H4	Kontrolleuchte Display-Verriegelung	Control lamp - Display interlock
K	Relais + Schütze	Relays + contactors
K1	Hauptschütz 1	Master contactor 1
K2	Batterie-Serien-Parallelschütz	Battery - Serial/parallel contactor
K3	Relais Ladegerät Ein	Relay for battery charger On
K4	Relais Ladegerät Verzögerte Störmeldung	Relay - battery charger delay fault
K5	Hauptschütz 2	Master contactor 2
K6	Schütz zur Spannungseinschaltung	Contactor power on
K7	Einschaltschütz	Power-on contactor
K90	Drehstrom Ein / Aus	Three-phase current On / Off
1K1	Fahrschütz vorwärts	Drive contactor forward
1K1.1	Fahrschütz vorwärts	Drive contactor forward
1K2	Fahrschütz rückwärts	Drive contactor backward
1K2.1	Fahrschütz rückwärts	Drive contactor backward
1K3	Sicherheitsschütz für Impuls	Safety contactor for impulse
1K3.1	Sicherheitsschütz-f. Impuls	Safety contactor for impulse
1K4	Kurzschlußschütz für Impuls	Short-circuit contactor for impulse
1K5	Hilfsrelais für Nebenschlußfeld	Auxiliary relay for shunt-wound field
1K5.1	Schütz für Nebenschlußfeld	Contactor for shunt-wound field
1K6	Fahrstufenschütz	Travel stepping contactor

- D3.4 B,10 Freilaufdiode
 3K2 B,9 Lenkhilfe-Relais
 6R2 J,11 Abschlusswiderstand-CAN-Bus
 3U6 G,14 Lenkkoordinator
 3U9 A,11 Istwertgeber-Lenken
 3U10 K,7 Sollwertgeber-Lenkung
 9U4 B,7 Spannungsreduziergeraet
 2Y9 I,2 Magnetventil-f.Drehen/Links
 2Y10 I,2 Magnetventil-f.Drehen/Rechts

XB197
 1 XB197/1-SP25/1
 2 hr_6
 3 WS_6
 4
 5
 6 XB197/6-SP26/1
 7
 8 XB197/8-XB38/25
 9
 10 XB197/10-XB38/18
 11
 12 XB197/12-3K2/30
 13
 14 XB197/14-XB38/3
 15
 16

"SP25"
 SP25/2-XB204/22
 SP25/3-XB204/23
 SP25/4-XB204/45
 SP25/5-XB204/46
 SP25/6-XB204/47
 SP25/7-XB36/7
 SP25/8-XB36/5
 SP25/9-XB38/8
 XB197/1-SP25/1
 "SP26"
 SP26/2-XB38/2
 SP26/3-SP29/1
 SP26/4-XB204/20
 SP26/5-XB204/21
 SP26/6-XB204/44
 SP26/7-XB36/8
 SP26/8-XB36/6
 SP26/9-XB204/69
 SP26/10-XB204/70



Datum	Name	Format	A1	Status	Mikrofilm
Bearb. 30.01.06	Kuba	Benennung			
Gepr. 30.01.06	Schmid, M.				
Norm. 30.01.06	Wagner				
Schaltplan					
EFG 500 Drehsitz					
Zeichnungsnummer		Stücklistennummer		Blatt	
52044472				04 BL	
a	52.6664	0x	16.05.06	BKU	
Zust.	Aenderung	Datum	Name	Urspr.	
"Schutzvermerk nach DIN 34 beachten"					

Design

A control block is used as standard with lifting/lowering, tilt and aux. hydraulics (ZH1).

If an additional function is required, a control valve (ZH2) and a multi pilot PCB can be added.

Solo Pilot

The travel direction switch and the horn switch are contained in the lift/lower lever.

Multi Pilot

All hydraulic functions are controlled by the multi pilot. The horn switch and the travel direction switch are contained in the multi pilot.

➔ The dual pedal version does not have a travel direction switch. (Option)

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Full Version Available

Caterpillar EP 45N Forklift Service and Schematic Manual (99759-66120)

Caterpillar EP 45N Forklift service manual, covers hydraulics, drive unit, wiring, and repair procedures in PDF. Instant PDF download.

[VIEW THE FULL MANUAL](#)