

Linde Service Guide Order picker V08-01 and V08-02 type 1110



V08-0 Order picker with lift platform

1

V08-0 Order picker with lift platform equipped

2 with an auxiliary lift

Order pickers V08-01 and V08-02 type 1110 are specially designed for order picking at ground level and at first level

Their features are as follows:

- Capacities:

- V08-01: 1000 kg capacity (long wheelbase) or 700 kg capacity (short wheelbase)

- V08-02: 800 kg capacity (centre of gravity 500 mm)

- Speeds with wheelbase having 3-point ground contact (+ 2 fixed stabilisers):

- 10 km/h in forward travel and 7 km/h in the fork direction
- 5 km/h with the lift platform raised
- 1 to 2 km/h in both directions of travel with the option of slow travel
- A drive unit centrally positioned on the chassis

- Two suspended side stabilisers

- Battery compartment:

- Side access on rollers for 24-V batteries from 270 Ah (3PzS) and up to 620 Ah (4PzS) for the V08-02.

- LAC 03 (Linde Asynchronous Controller) microprocessor controller to control the:

- Traction
- Proportional lift of the platform
- Auxiliary lift of the platform (V08-02)

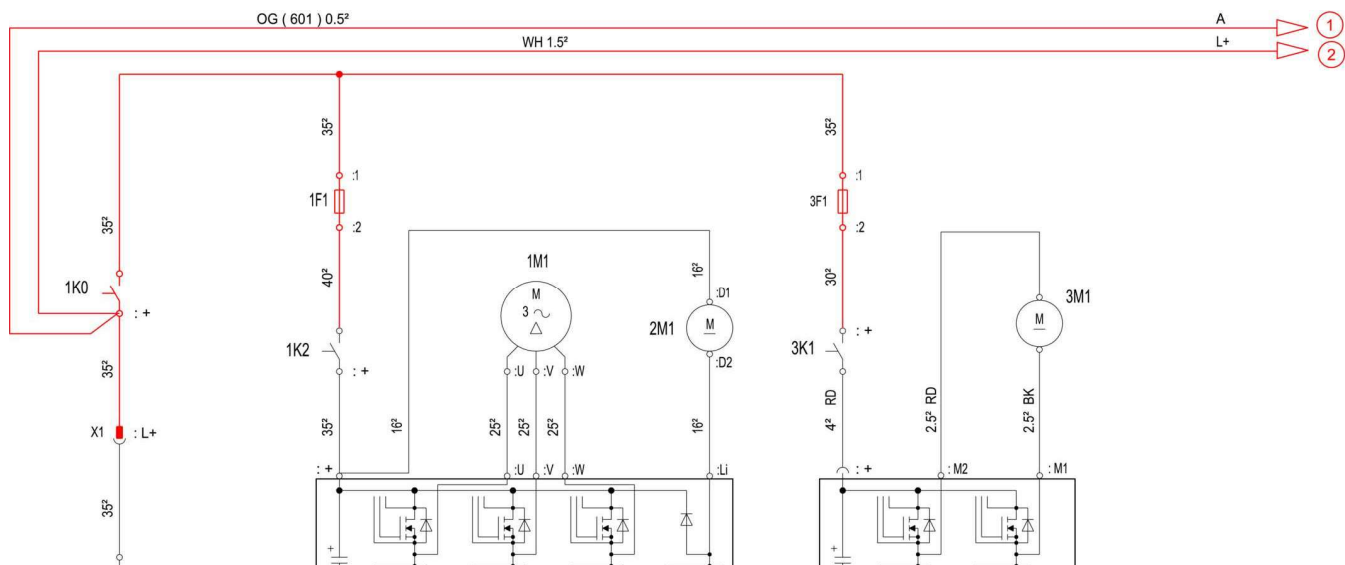
Up to W41110F00001, the steering geared motor unit consists of:

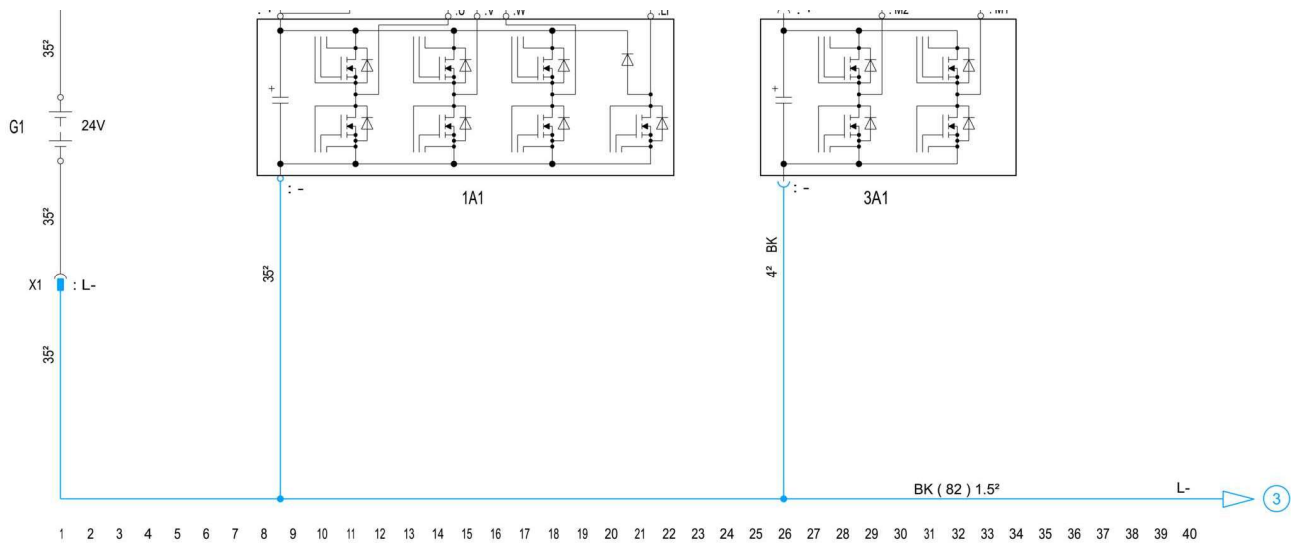
- A 0.185-kW (DC) steering geared motor with brush maintenance
- An LES 40 (Linde Electrical Steering) microprocessor controller for electric steering control
- A handlebar
From W41110F00002, the ES30-24 single unit consists of:
- An asynchronous 0.350-kW steering geared motor (maintenance-free)
- A controller to control the electric steering
- An integrated Hall effect position sensor
 - Pump-motor unit:
- V08-01: 3.0 kW (15% of use)
- V08-02: 3.0 kW (15% of use)
 - Mast types:
- V08-01: Lift platform mast
- V08-02: Operator platform mast (equipped with an auxiliary lift)
- ISO fork for the V08-02
 - Checks, settings and troubleshooting using a PC, equipped with PathFinder diagnostic software, linked to the various control boxes (LAC, LES, multifunction indicator) via a CAN bus link.

From <<https://xtranet.lindemh.com/lsg/print?21>>

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Power circuit diagram





Power

1A1 Traction and initial lift controller (7-22)

3A1 Steering controller (25-35)

1F1 250 A traction/lift fuse (9)

3F1 80 A steering fuse (26)

G1 Battery (1)

1K0 Line circuit-breaker (1)

1K2 Traction switch (9)

3K1 Steering switch (26)

1M1 Traction motor (14-17)

2M1 Lift motor (20-22)

3M1 Steering motor (31-33)

X1 Battery socket (1)

Legend for electric wire codes:

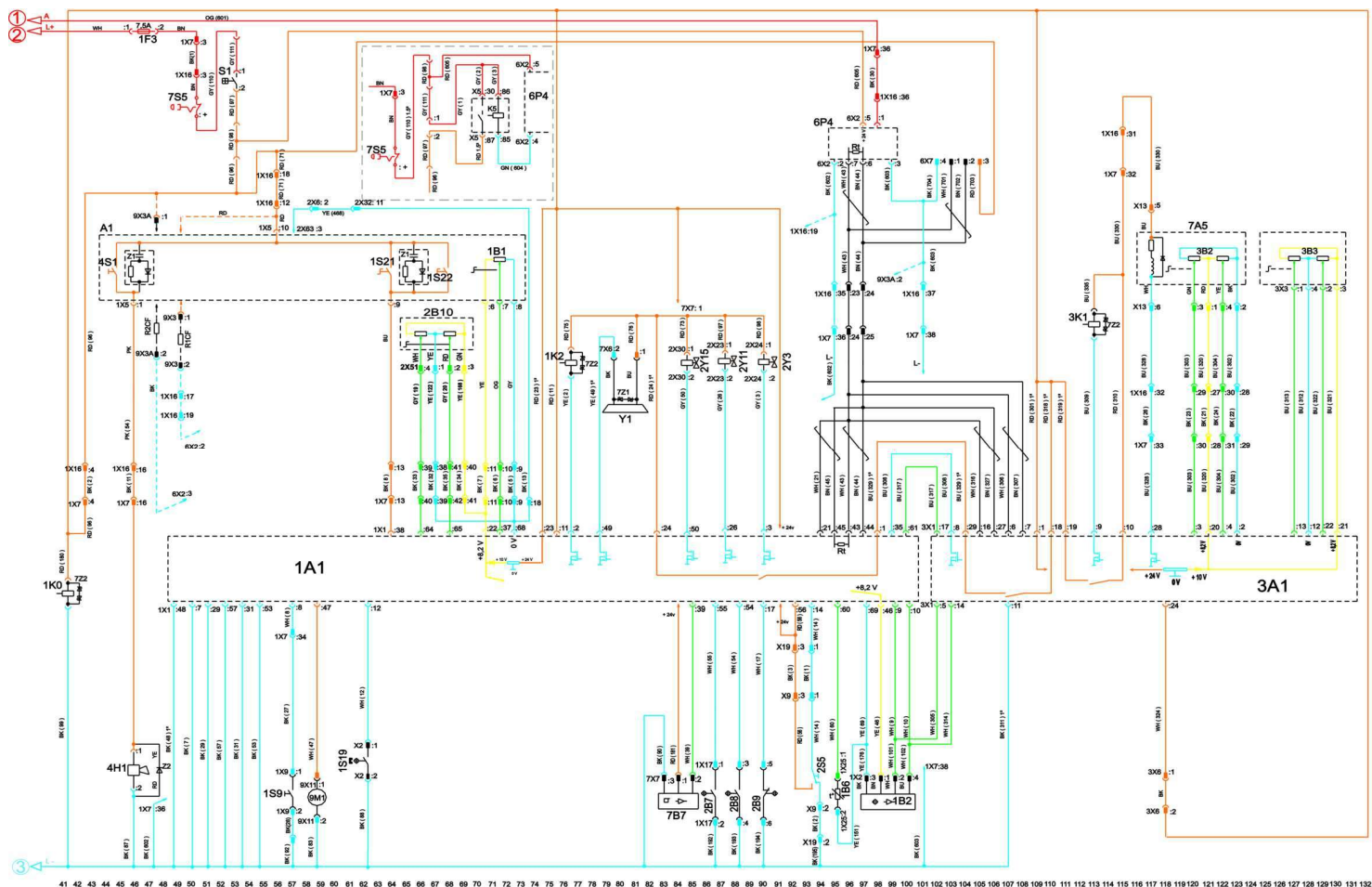
Code	Colour
BK	Black
WH	White
BU	Blue
OG	Orange
BN	Brown
GN	Green
VT	Violet
RD	Red
YE	Yellow
GY	Grey

From <<https://xtranet.linde-mh.com/lsg/print?15>>

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Circuit diagram for V08-01





CONTROLS:

- A1 Control interface (travel, lift, horn) (43-73)
- 1A1 Traction and lift controller (LAC) (47-117)
- 1B1 Accelerator potentiometer (69-72)
- 2B7 Platform lower position height sensor (106)
- 2B8 Platform height sensor at 500 mm from the ground (intermediate) (109)
- 2B9 Platform upper position height sensor (111)
- 2B10 Platform lift potentiometer (65-69)
- 7B7 Pressure sensor (102-105)
- 1F3 7.5 A control circuit fuse (cold store 10 A) (44)
- 4H1 Warning horn (46)
- 1K0 Line circuit-breaker (41)
- 1K2 Traction/lifting switch (82)
- 9M1 Fan (57)
- S1 Ignition key (50)
- 1S9 Driver presence contact (67)
- 1S19 Battery locking contact (61)
- 1S21 Forward travel throttle valve (63)
- 1S22 Reverse travel throttle valve (67)
- 2S5 Platform lowering control pedal (115)
- 4S1 Warning horn (44)
- 7S5 Control circuit opening control (49)

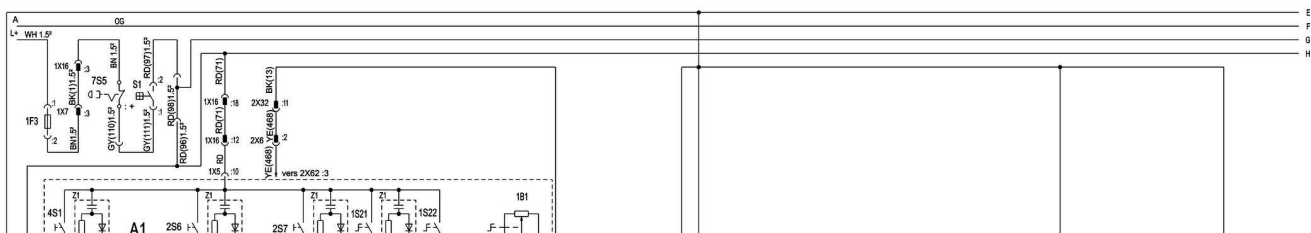
- X2 Battery locking connector (61)
- X9 Platform lowering pedal connector (114-116)
- X19 Technical compartment platform lowering pedal connector (114-116, 85-87)
- 1X1 Traction/lifting control module connector (LAC) (48-116)
- 1X5 Control module connector (45-73)
- 1X7 Technical compartment/platform link connector (43-72)
- 1X9 Driver presence connector (67)
- 1X16 Platform connector (43-73)
- 1X17 Platform height detection connector (106-111)
- 2X23 Load retainer solenoid valve connector **2Y11** (95)
- 2X24 Proportional solenoid valve connector **2Y3** (97)
- 2X30 Platform/mast needle solenoid valve connector (100)
- 2X51 Platform lifting control connector (67-70)
- 7X6 Electromagnetic brake connector **Y1** (85-88)
- 7X7 Pressure relief valve connector (102-104)
- 9X11 Fan connector (57)
- Y1 Electromagnetic brake (85-88)
- 2Y3 Proportional solenoid valve (98)
- 2Y11 Load retaining solenoid valve (95)
- 2Y15 Platform/mast needle solenoid valve (101)
- Z1 Interference suppression circuit (47, 64)
- Z2 Interference suppression diode (46)
- 7Z2 Contactor interference suppression (43)

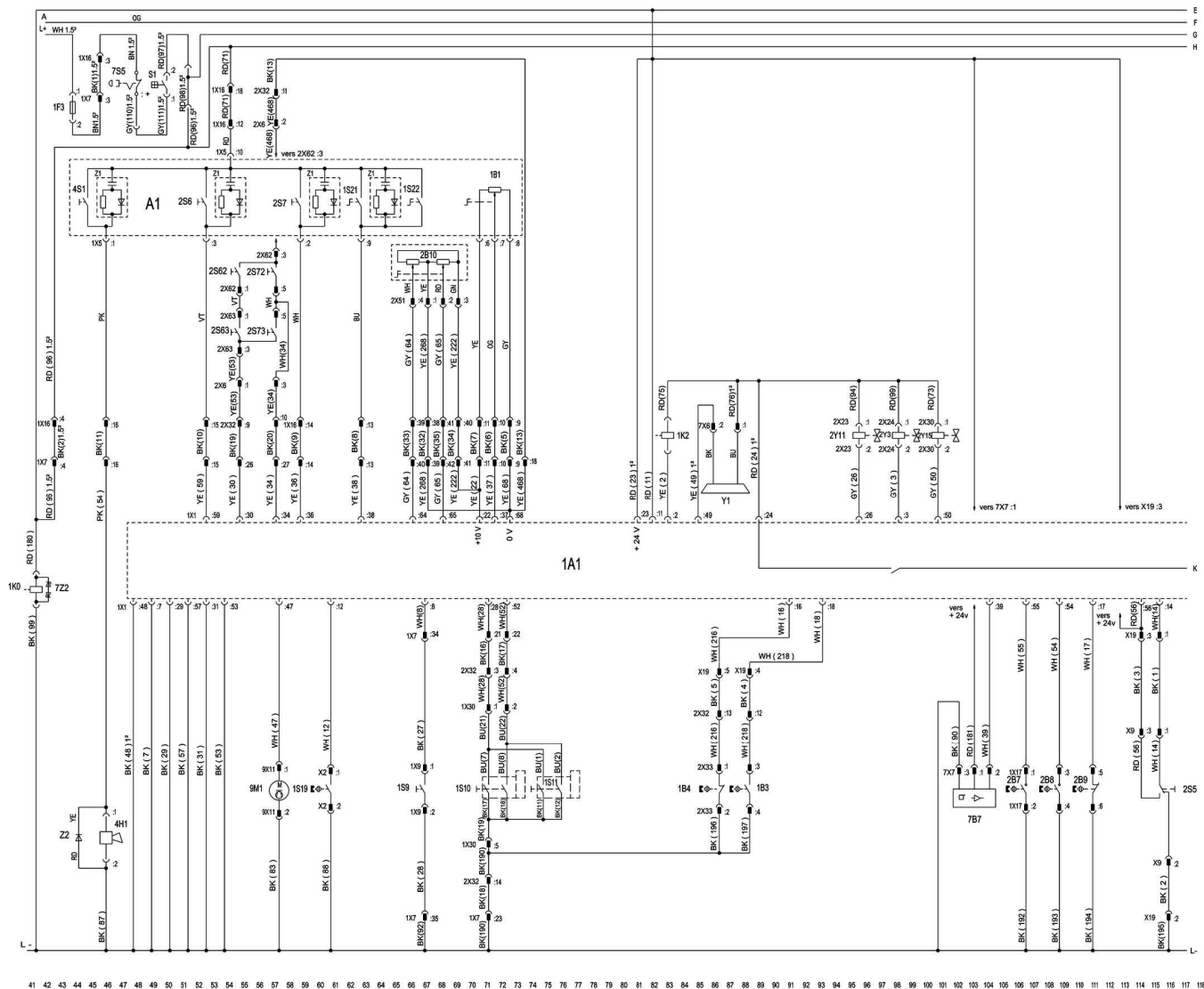
Legend for electric wire codes:

Code	Colour
BK	Black
WH	White
BU	Blue
OG	Orange
BN	Brown
GN	Green
VT	Violet
RD	Red
YE	Yellow
GY	Grey

From <<https://xtranet.linde-mh.com/lsg/print?16>>

Linde Service Guide V08-02 electric circuit diagram





CONTROLS:

- A1 Control interface (travel, lift, horn) (43-73)
- 1A1 Traction and lift controller (LAC) (47-117)
- 1B1 Accelerator potentiometer (69-72)
- 1B3 Fork in lower position gauge (88)
- 1B4 Fork in upper position gauge (86)
- 2B7 Platform lower position height sensor (106)
- 2B8 Platform height sensor at 500 mm from the ground (intermediate) (109)
- 2B9 Platform upper position height sensor (111)
- 2B10 Platform lift potentiometer (65-69)
- 7B7 Pressure sensor (102-105)
- 1F3 7.5 A control circuit fuse (cold store 10 A) (44)
- 4H1 Horn (46)
- 1K0 Line contact switch (41)
- 1K2 Traction/lifting contact switch (82)
- 9M1 Fan (57)
- S1 Switch key (50)
- 1S9 Driver presence contact (67)

- 1S10 Right-hand slow speed contact (71)
- 1S11 Left-hand slow speed contact (75)
- 1S19 Battery lock contact (61)
- 1S21 Forward gear throttle valve (63)
- 1S22 Reverse gear throttle valve (67)
- 2S5 Platform lowering control pedal (115)
- 2S6 Fork lowering control (52)
- 2S7 Fork lifting control (60)
- 2S62 Fork lowering control on backrest (54)
- 2S63 Fork lowering control on backrest (54)
- 2S72 Fork lifting control on backrest (57)
- 2S73 Fork lifting control on backrest (57)
- 4S1 Horn (44)
- 7S5 Control circuit opening control (49)
- X2 Battery lock connector (61)
- X9 Platform lowering pedal connector (114-116)
- X19 Technical compartment platform lowering pedal connector (86-88, 114-116)
- 1X1 Traction/lifting control module connector (LAC) (48-116)
- 1X5 Control module connector (45-73)
- 1X7 Technical compartment/platform link connector (43-78)
- 1X9 Driver presence connector (67)
- 1X16 Platform connector (43-73)
- 1X17 Platform height detection connector (106-111)
- 1X30 Forward/reverse slow speed connector (71-80)
- 2X6 Connector for lifting/lowering (54–57)
- 2X23 Load retainer solenoid valve connector **2Y11** (95)
- 2X24 Proportional solenoid valve connector **2Y3** (97)
- 2X30 Platform/mast needle solenoid valve connector (100)
- 2X32 Backrest/platform link connector (57–89)
- 2X33 Additional mast upper/lower cut-off connector (84–87)
- 2X51 Platform lifting control connector (67-70)
- 2X62 Connector for initial lift lifting/lowering (54–57)
- 2X63 Connector for initial lift lifting/lowering (54–57)
- 7X6 Electromagnetic brake connector **Y1** (85-88)
- 7X7 Pressure cut-off connector (102-104)
- 9X11 Fan connector (57)
- Y1 Electromagnetic brake (85-88)
- 2Y3 Proportional solenoid valve (98)
- 2Y11 Load retaining solenoid valve (95)
- 2Y15 Platform/mast needle solenoid valve (101)
- Z1 Interference suppression circuit (47, 55, 61, 64)
- Z2 Interference suppression diode (46)
- 7Z2 Contact switch interference suppression (43)

Legend for electric wire codes:

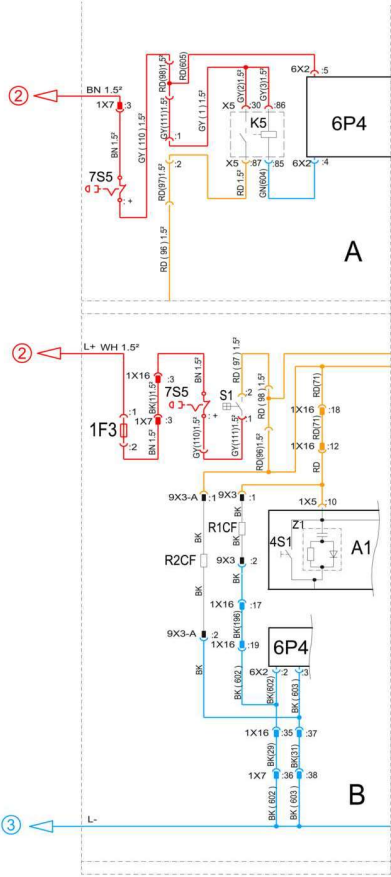
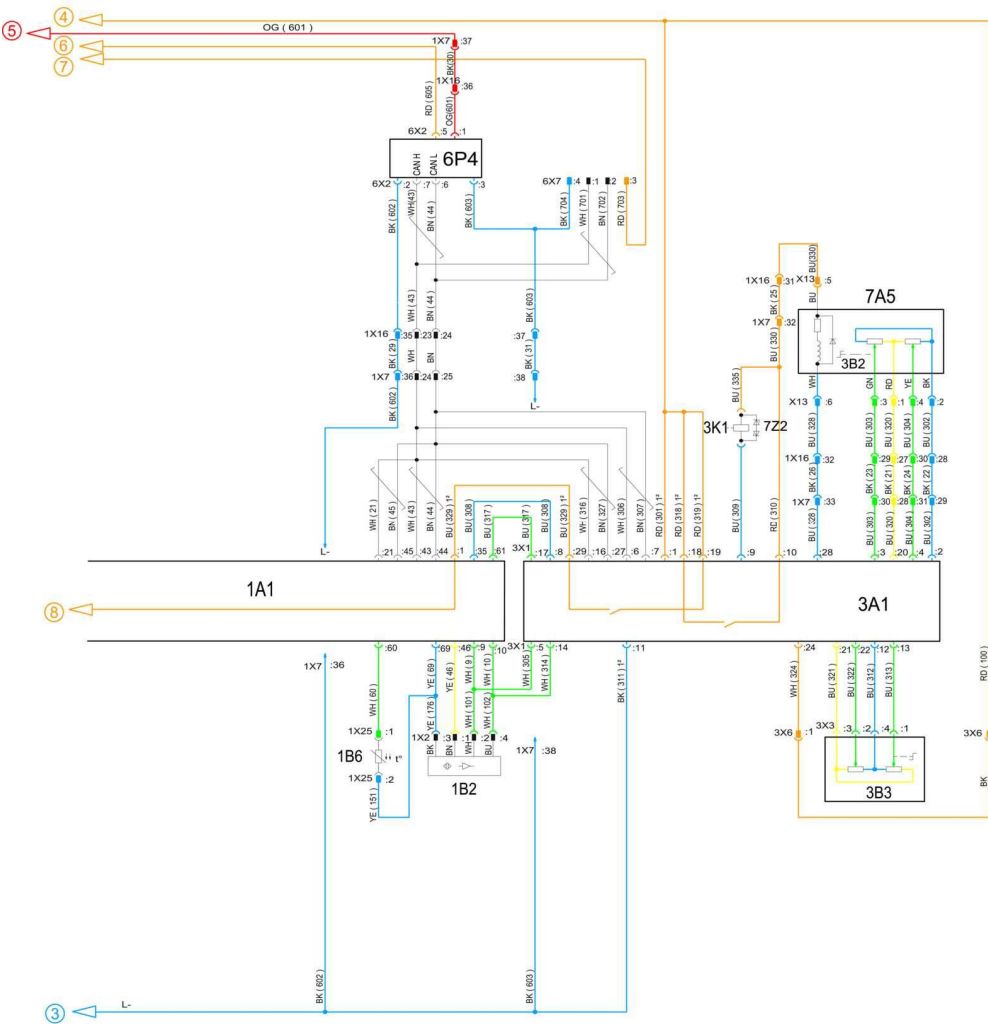
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From <<https://xtranet.linde-mh.com/lsg/print?17>>

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Circuit diagram options



CONTROLS:

- A1 Control interface (185-191)
- 1A1 Traction and lift controller (LAC) (119-140)
- 3A1 Electric steering (141–161)
- 7A5 Braking module (155–162)

1B2 Traction motor speed sensor (135-139)
 1B6 Temperature sensor (133)
 3B2 Setting steering potentiometer (158-162)
 3B3 Actual value steering potentiometer (157-161)
 1F3 7.5 A control circuit fuse (cold store 10 A) (178)
 3K1 Steering switch (152)
 6P4 Combined indicator (133-138, 185-192)
 S1 Ignition key (182)
 4S1 Warning horn (186)
 7S5 Control circuit opening control (178, 182)
 Z1 Interference suppression circuit (189)
 X13 Braking module connector (156-162) Option
 1X1 Traction/lifting control module connector (133-140)
 1X2 Speed sensor connector (136-139)
 1X5 Traction/lifting control module connector (188)
 1X7 Technical compartment/platform link connector (133-162, 179-187)
 1X16 Platform connector (133-162, 179-189)
 1X25 Motor temperature connector (133)
 3X1 Electric steering connector (141-162)
 3X3 Actual value potentiometer connector (157-161)
 3X6 Brush wear connector (155-165)
 6X2 Combined indicator connector (133-138, 182-188)
 6X7 Diagnostic socket connector (143-147)
 7Z2 Contactor interference suppression (153)

A: Digicode option

K5 Relay for digicode (185-187)
 X5 Digicode relay connector (184-187)

B: Cold store option

R1CF Handlebar cold store resistor (184)
 R2CF Front lift potentiometer cold store resistor (182)
 9X3 Cold store resistance connector (184)
 9X3-A Front lift potentiometer cold store resistor connector (182)

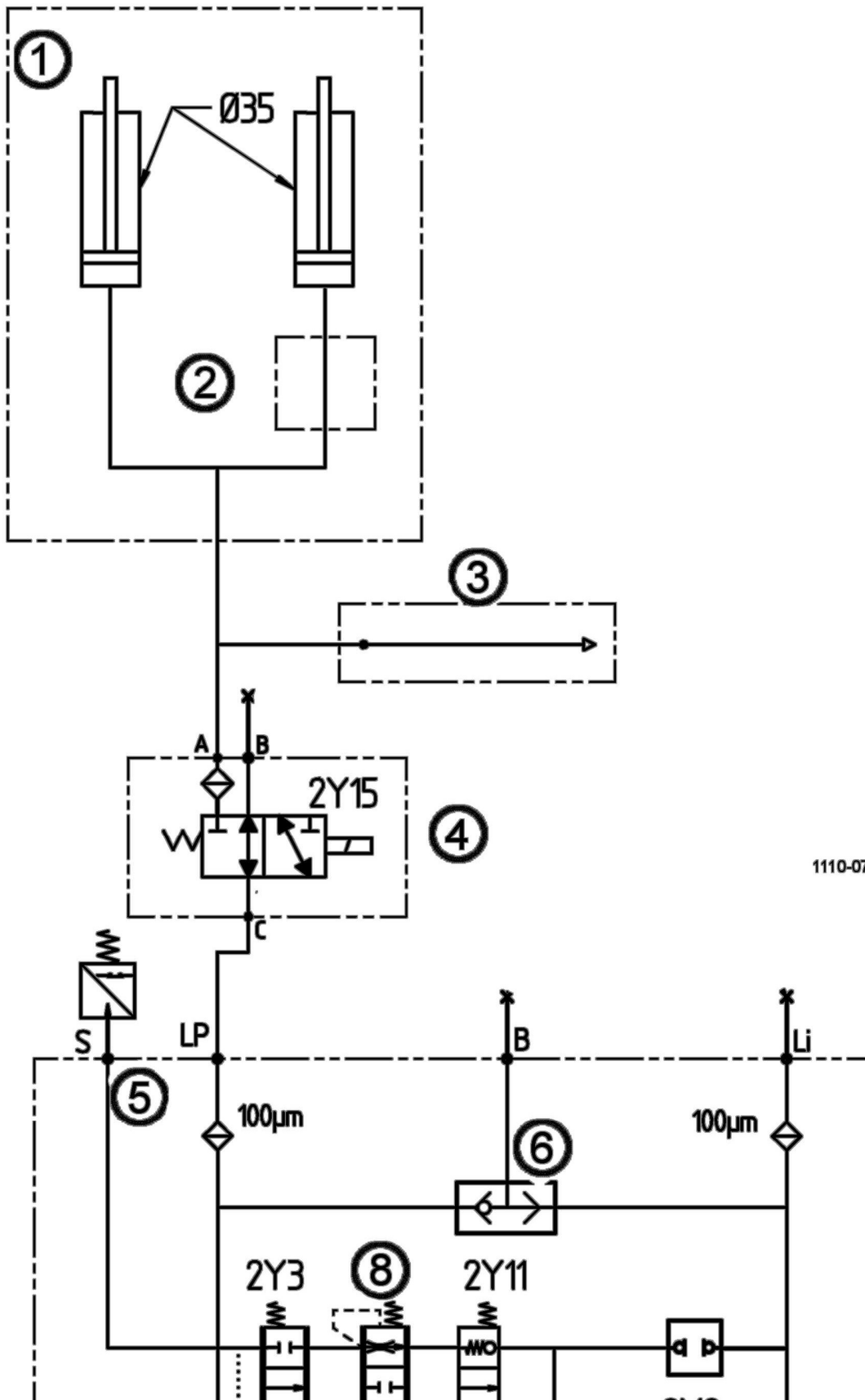
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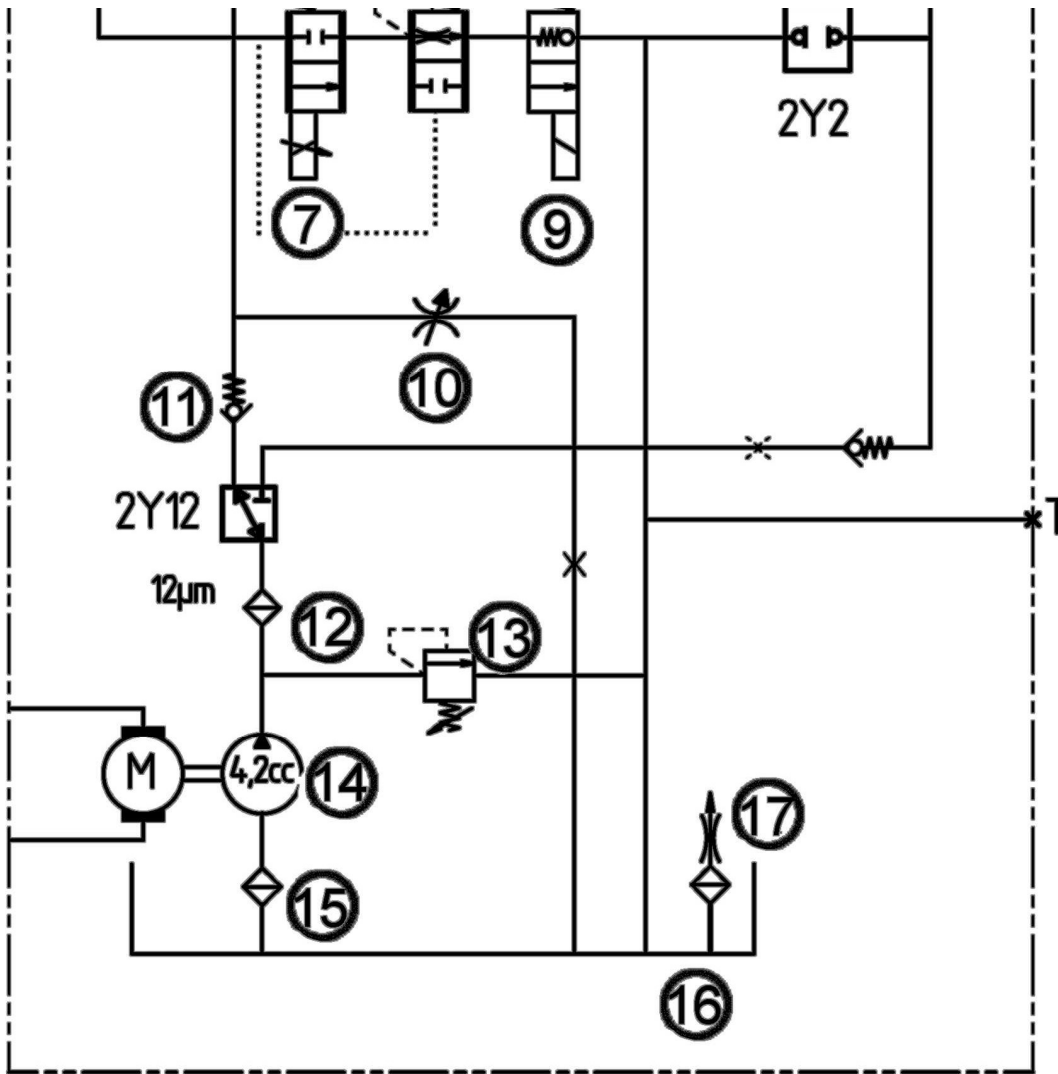
From <<https://xtranet.linde-mh.com/lsg/print?18>>

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Hydraulic diagram for V08-01

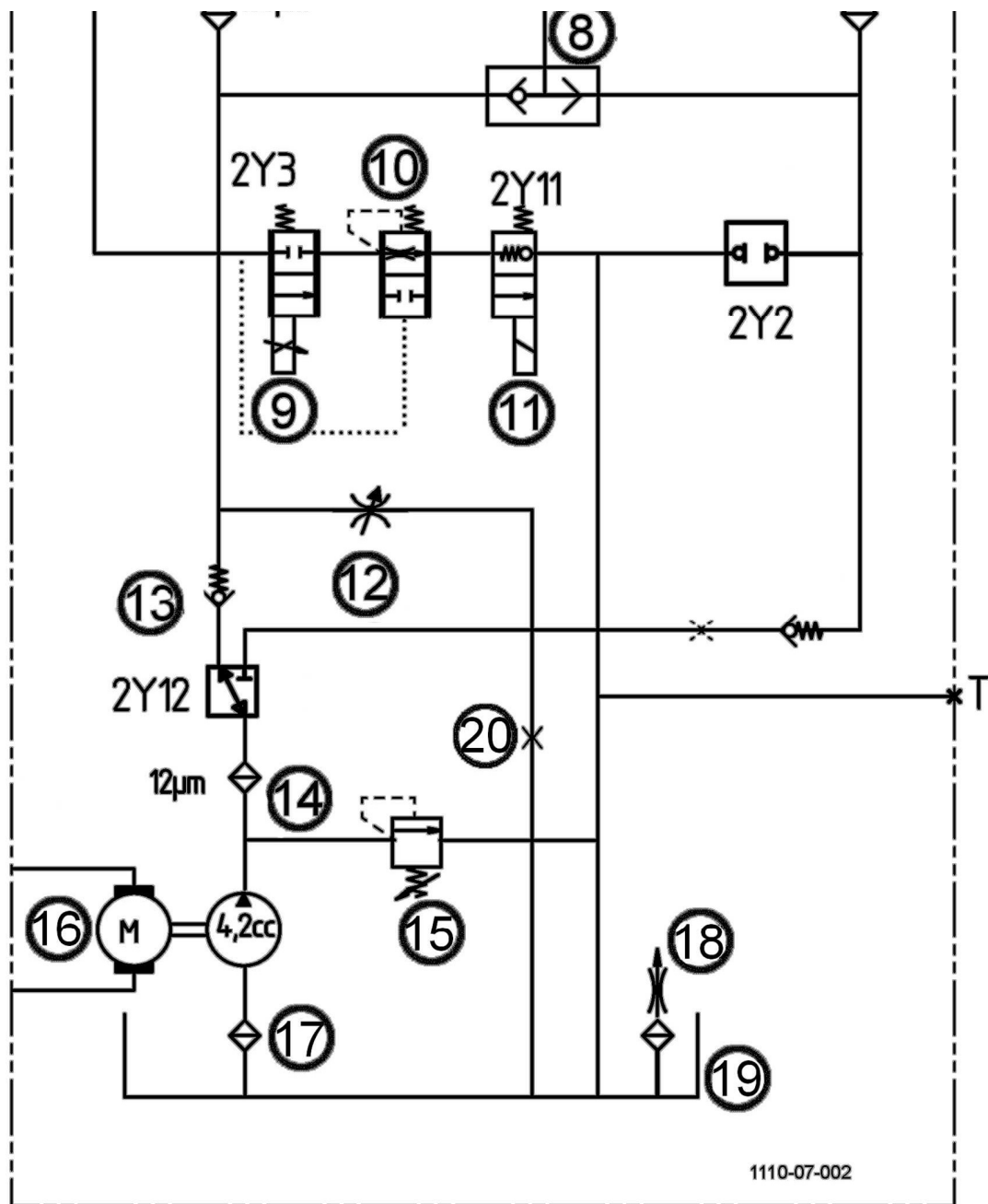


1110-07-001



- 1 Platform lift cylinders
- 2 Cylinder safety valves
- 3 Brake assistance
- 4 Hydraulic assembly distributor
- 5 Strainer 100 µm
- 6 Circuit selector for brake assistance
- 7 Proportional lowering solenoid valve **2Y3**
- 8 Pressure balance* linked to the proportional solenoid valve
- 9 Load retainer solenoid valve **2Y11**
- 10 High lift circuit safety valve
- 11 High lift circuit non-return valve
- 12 12 µm filter cartridge
- 13 Main pressure release valve
- 14 Pump
- 15 Suction screen
- 16 Hydraulic tank
- 17 Filler cap fitted with a breather filter
- 18 Pressure sensor **7B7**

*: Limits the influence of the load on



- 1 Platform lift cylinders
- 2 Cylinder safety valves
- 3 Apron lift cylinders
- 4 Cylinder safety valve
- 5 Platform/apron needle solenoid valve **2Y15**
- 6 Pressure sensor **7B7**
- 7 Brake assistance
- 8 Circuit selector for brake assistance
- 9 Proportional lowering solenoid valve **2Y3**
- 10 Pressure balance* linked to the proportional solenoid valve
- 11 Load retainer solenoid valve **2Y11**
- 12 High lift circuit safety valve
- 13 High lift circuit non-return valve

- 12 High lift circuit safety valve
 - 13 High lift circuit non-return valve
 - 14 12 µm filter cartridge
 - 15 Main pressure release valve
 - 16 Pump
 - 17 Suction screen
 - 18 Filler cap fitted with a breather filter
 - 19 Hydraulic tank
 - 20 Diaphragm Ø=1.2 mm linked to the safety valve (12)
- *: Limits the influence of the load on the lowering speed.

From <<https://xtranet.linde-mh.com/lsg/print?20>>