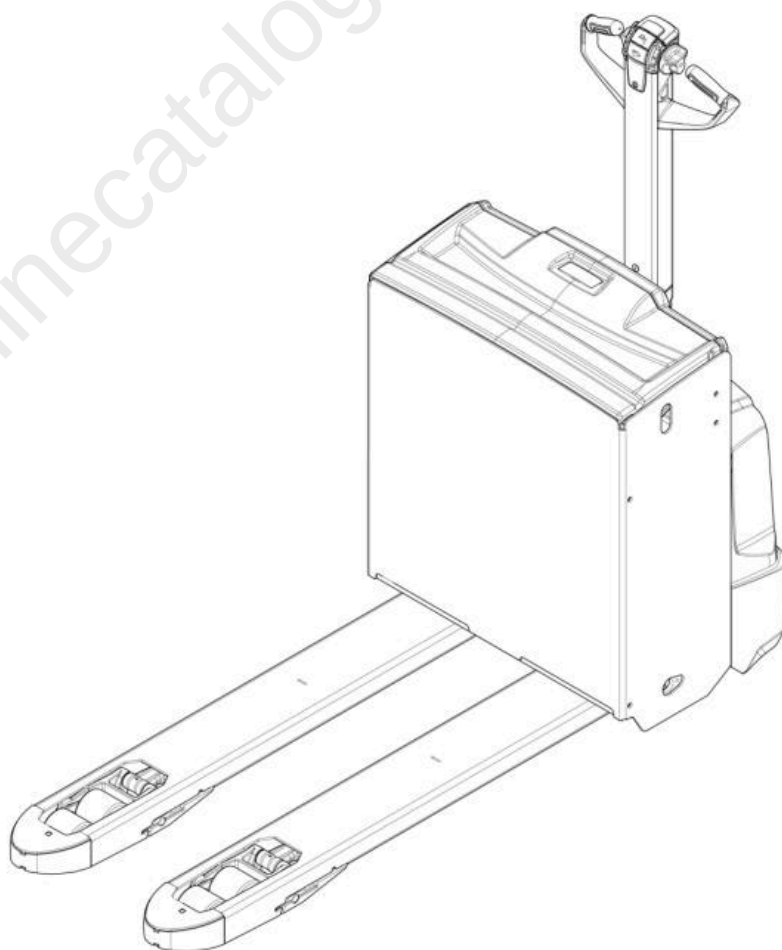
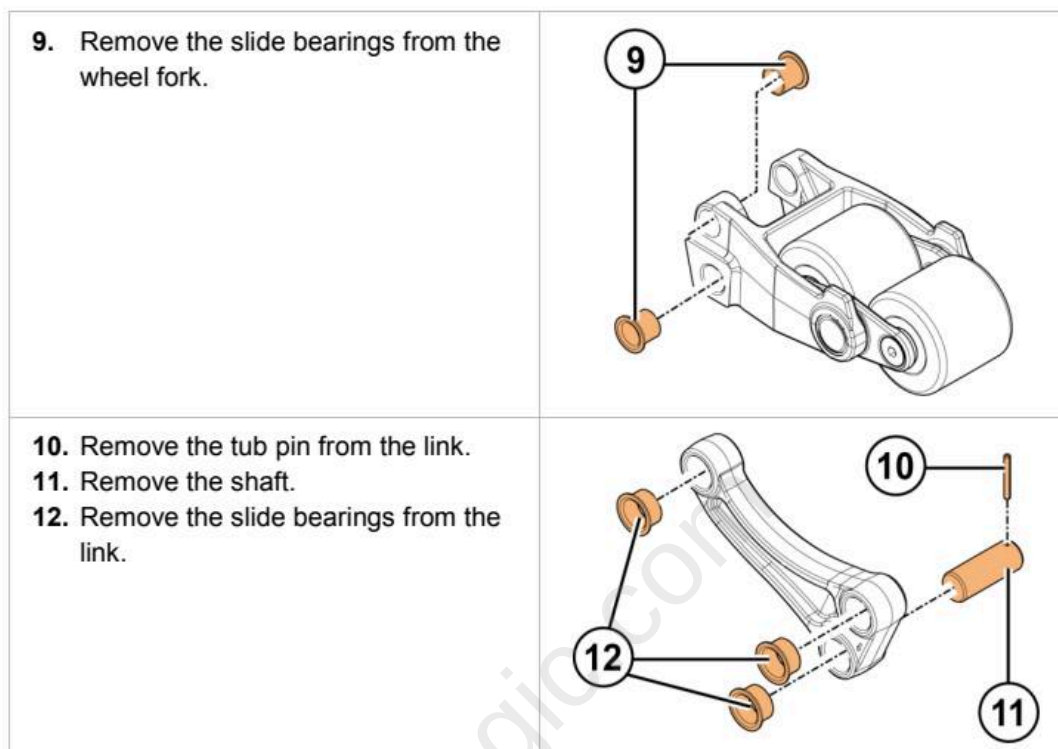


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NPP

16N2/18N2/20N2/20N2E





5.10 Castor wheels

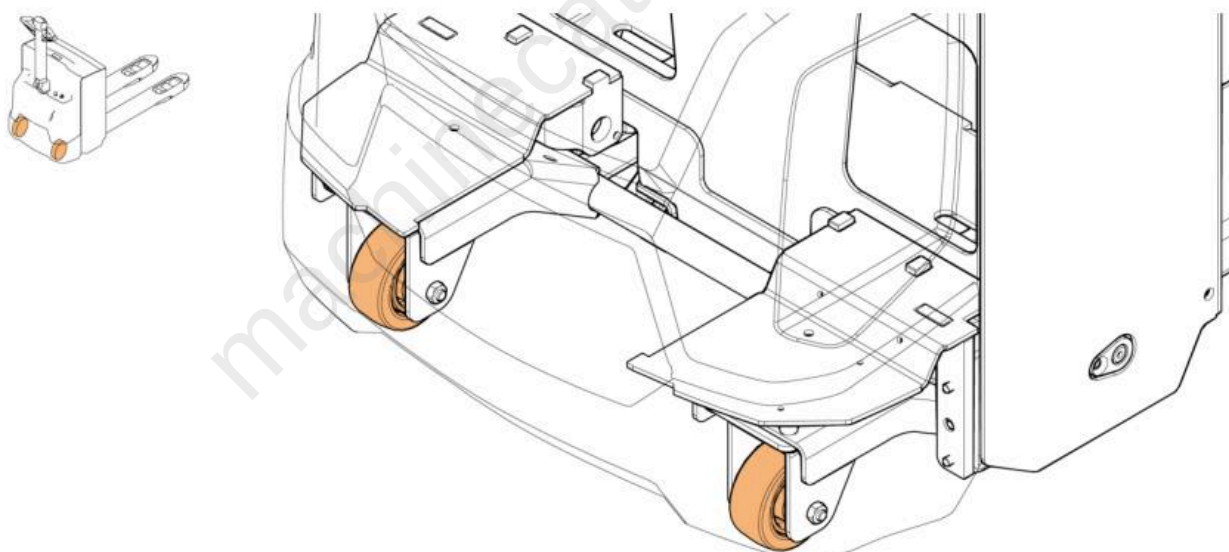


Figure 31. Castor wheel overview

Check the wear of the castor wheels:

- The diameter of a new castor wheel is 98 mm.
- It is recommended that the castor wheel is replaced when its diameter reaches 90 mm.

10.4 Hydraulic aggregate

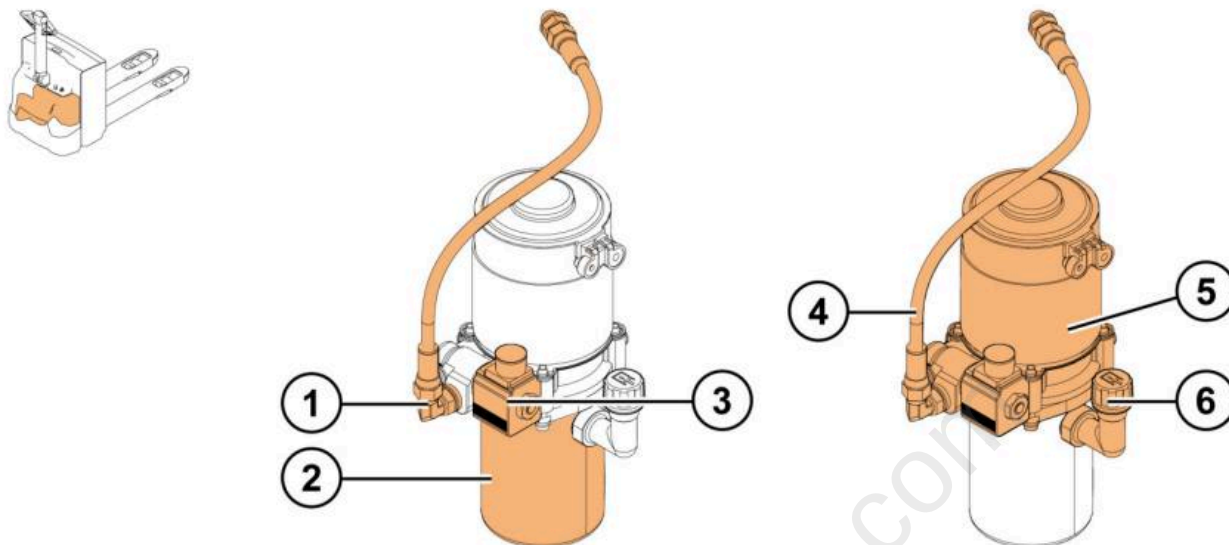


Figure 85. Hydraulic aggregate overview

- | | |
|------------------------|-----------------------------------|
| 1. Hydraulic connector | 4. Hydraulic hose |
| 2. Oil tank | 5. Pump motor |
| 3. Solenoid valve | 6. Filling hole for hydraulic oil |

The hydraulic aggregate consists of the electric pump motor, the hydraulic gear pump unit, the oil tank, the suction filter, the pressure relief valve, the solenoid valve, hydraulic hoses and connections for various hydraulic equipment.

The hydraulic aggregate is used to control the load handling device.

14.3 Maintenance check list

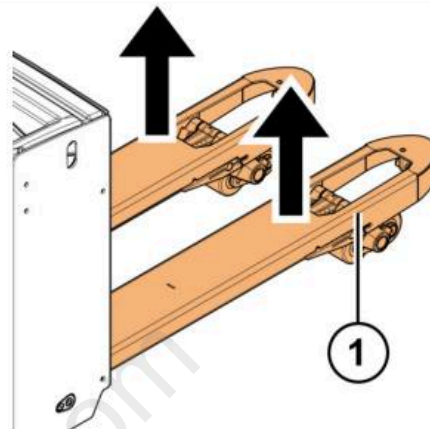
Legend: C = Check, R = Repair, Clean or Change, G = Grease

	BEFORE DAILY USE (USER)	MONTHLY (OWNER)	600 h OR ONCE A YEAR (SERVICE)	1,200 h OR EVERY SECOND YEAR (SERVICE)
Drive unit				
Transmission leakage check	C	C	C	C
Steering bearing			C	C
Fastening of the gearbox			C	C
Hydraulics				
Leakage check		C	C	C
Cleaning the oil filter				R
Hydraulic oil change				R
Oil level		C	C	C
Hose and cylinder		C	C	C
Operation of the hydraulics	C	C	C	C
Pressure relief valves			C	C
Linkage				
Bearings			C	C
Linkage			C	C
Wheels				
Traction wheel	C	C	C	C
Traction wheel has to be replaced when its diameter reaches 218 mm			C	C
Load wheels	C	C	C	C
Castor wheel suspension			C	C
Battery				
Battery water level	C	C	C	C
Battery cable and connector	C	C	C	C
Battery automatic watering system		C	C	C

8.2.5 Removing the electric panel

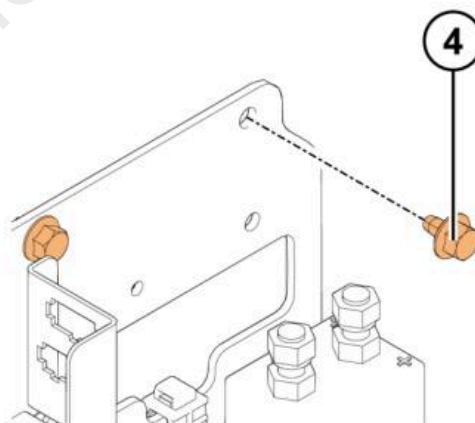
Instructions for removing the electric panel are provided below.

1. Lift the forks of the truck to their upmost position.

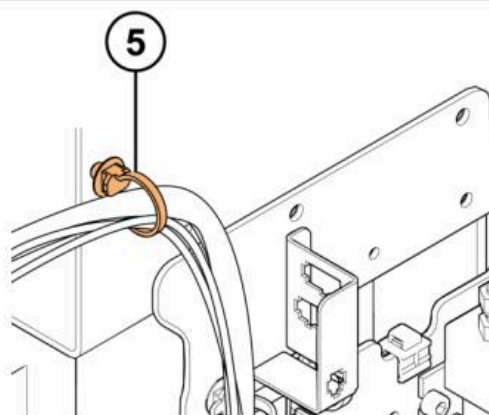


2. Switch the truck's power off.
3. Disconnect the battery connector.

4. Remove the two 10 mm bolts from the electric panel.

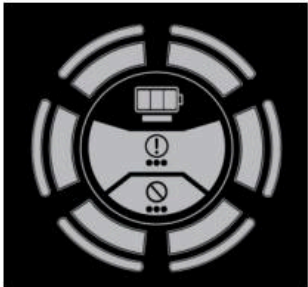


5. Remove the cable tie attaching the wires of the electric panel to the truck frame. Record the places of the connectors and wires you remove.



PARAMETER	DESCRIPTION
Max speed reverse MAX SPEED BACK	This parameter controls the maximum speed backward in the standard drive mode. Value range: • 10%: Slowest • 100%: Fastest NOTE: For safety reasons, do not exceed the parameter table value!
Pump acceleration ramp PU. ACCELER. DEL	This parameter controls the acceleration ramp for the pump motor. Value range: • 0.1: Fastest • 5.0: Slowest
Pump deceleration ramp PU. DECELER. DEL	This parameter controls the deceleration ramp for the pump motor. Value range: • 0.1: Fastest • 5.0: Slowest
Release braking ramp RELEASE BRAKING	This parameter controls the deceleration rate when the accelerator is released in the standard drive mode. Value range: • 0.1: Fastest • 10: Slowest
Speed limit braking ramp SPEED LIM BRK.	This parameter controls the deceleration rate when speed reduction is activated in the standard drive mode. Value range: • 100%: Fastest • 10%: Slowest
Turtle cutback speed reduction TURTLE CUTBACK	This parameter controls the speed reduction when the low speed mode is activated. Value range: • 10%: Enabled • 100%: Disabled

Table 2. Level of battery charge indications

LED DISPLAY	DESCRIPTION
	Green light in all six dial segments = Battery charge level at 70 - 100%
	Yellow light in the bottom four dial segments = Battery charge level at 40 - 70%
	Red light in the bottom two dial segments = Battery charge level at 20 - 40%
	Slowly flashing red light in the bottom two dial segments = Battery charge level at 0 - 20% (battery is empty, recharge immediately)

In case of a warning or error, press and hold down the brake release button to read the warning or error code. The LED display uses a flashing light sequence to indicate the error code as explained in Table 3.

15.4.1 Removing the controller for lifting and lowering

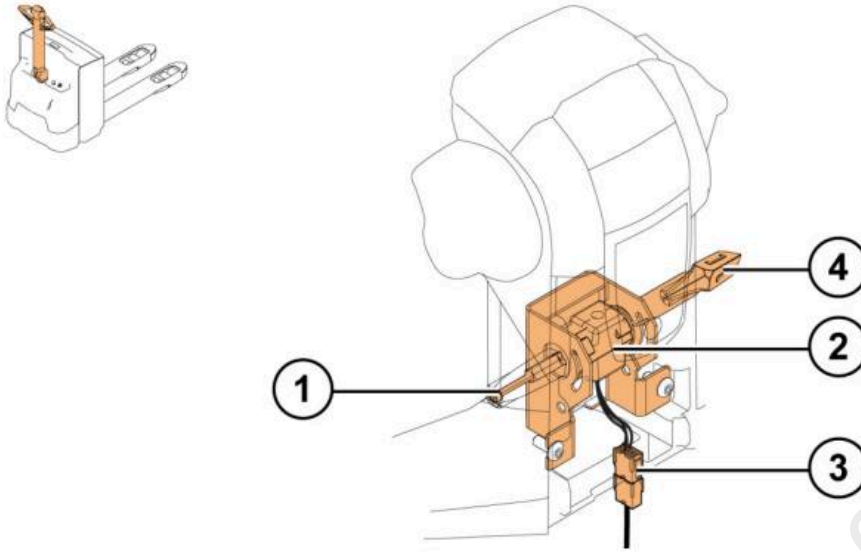
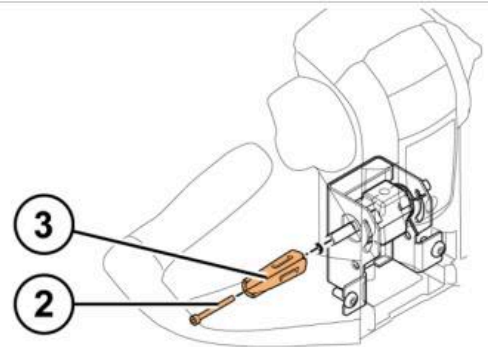


Figure 96. Removing the controller for lifting and lowering overview

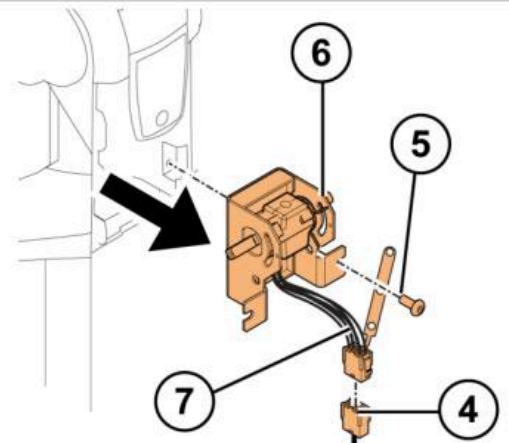
- | | |
|--|----------------------|
| 1. Screw | 3. Connector |
| 2. Controller for lifting and lowering | 4. Controller levers |

1. Remove the tiller head. For instructions, see section 8.1.1.

2. Remove the screws at the end of the levers.
3. Remove the levers.



4. Remove the lever connector.
5. Remove the two screws from the mounting bracket.
6. Remove the controller.
7. Remove the lever wires from the connector using special tool RL350505, see section 14.5.



1) TILLER SWITCH

This option handles the input CNC#6. This input opens when the operator leaves the truck (tiller released). It is connected to a key voltage when the operator is present. There are two levels:

- HANDLE: CNC#6 is managed as tiller input (no delay when released and INCORRECT START if the input is active at startup).
- SEAT: CNC#6 is managed as seat input (with a delay when released → de-bouncing function and NO INCORRECT START if the input is active at startup).
- DEADMAN: CNC#6 is managed as deadman input, with the same delay of a seat input, but with INCORRECT START if the input is active at startup.

2) EB ON TILLER BRK

- ON: The EB is applied when the traction decelerates because CNC#6 was deactivated whilst moving.
- OFF: The EB is NOT applied when the traction decelerates because CNC#6 was deactivated whilst moving.



Note: if the positive of the EB is coming from the tiller input this option is meaningless because EB is applied mechanically as soon as CNC#6 becomes OFF

3) HOUR COUNTER

This option specifies the hour counter mode. It can be set one of two:

- RUNNING: The counter registers travel time only
- KEY ON: The counter registers when the "key" switch is closed (controller supplied)

4) EVP TYPE

Analog/digital: defines the type of the EVP electrovalve, current controlled:

Analog: the related output manages a proportional valve, current controlled
Digital: the related output manages an on/off valve

5) BATTERY CHECK

This option specifies the handling of the low battery charge detection.

There are three levels:

- Level 0: Nothing happens, the battery charge level is calculated but is ignored, it means no action is taken when the battery is discharged.
- Level 1: BATTERY LOW alarm is raised when the battery level is calculated being less than or equal to 10% of the full charge. The BATTERY LOW alarm reduces the maximum speed down to 24% of the full speed and reduces the maximum current down to 50% of the full current.
- Level 2: BATTERY LOW alarm is raised when the battery level is calculated being less or equal to 10% of the full charge.
- Level 3: BATTERY LOW alarm is raised when the battery level is calculated being less or equal to 10% of the full charge. The BATTERY LOW alarm reduces the maximum speed down to 24% of the full speed.

6) STOP ON RAMP

Only when the encoder is present, it is possible to electrically hold the truck on a slope when the accelerator is released but the tiller is not released.

- ON: The stop on ramp feature (truck electrically hold on a ramp) is managed

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