EJC/EJC-Z 14/16

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Operating instructions

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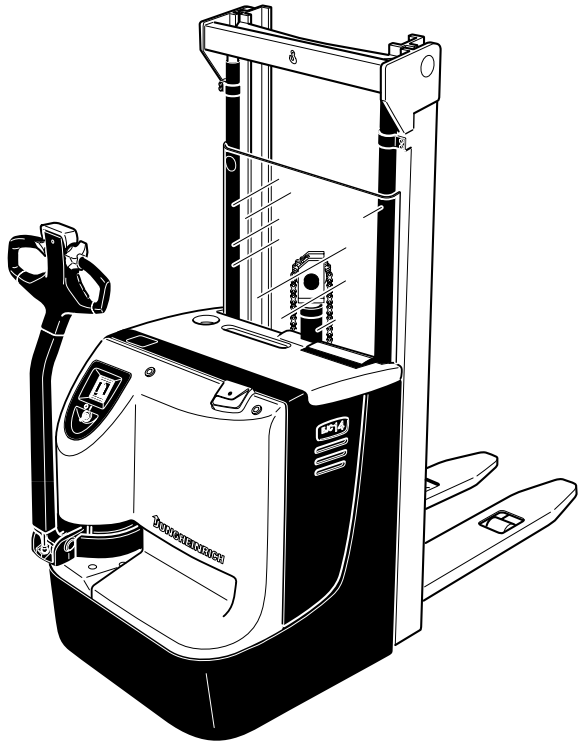

JUNGHEINRICH

Machines. Ideas. Solutions.

Foreword

The present ORIGINAL OPERATING INSTRUCTIONS are designed to provide sufficient instruction for the safe operation of the industrial truck. The information is provided clearly and concisely. The chapters are arranged by letter. Each chapter starts with page 1. The page identification consists of a chapter letter and a page number.
For example: Page B 2 is the second page in chapter B.

The operating instructions detail different truck models. When operating and servicing the truck, make sure that the instructions apply to your truck model.

Safety instructions and important explanations are indicated by the following graphics:

Used before safety instructions which must be observed to avoid danger to personnel.

Used before notices which must be observed to avoid material damage.

Used before notices and explanations.

- ● Used to indicate standard equipment.
- ○ Used to indicate optional equipment.

Our trucks are subject to ongoing development. Jungheinrich reserves the right to alter the design, equipment and technical features of the truck. No guarantee of particular features of the truck should therefore be inferred from the present operating instructions.

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E Operation

F Maintenance of the fork lift truck

A Correct use and application of the truck

A The “Guidelines for the Correct Use and Application of Industrial Trucks” (VDMA) are included in the scope of delivery for this truck. The guidelines are part of these operating instructions and must always be heeded. National regulations are fully applicable.

The fork lift truck described in these operating instructions is a truck that is suitable for lifting and transporting loads.
It must be used, operated and maintained according to the information in these operating instructions. Any other uses are outside the design envelope and can lead to injury to persons or damage to equipment and property. Above all, overloading caused by excessively heavy or unbalanced loads must be avoided. The max. admissible load to be picked up is indicated on the identification plate or load diagram label shown on the truck. The fork lift truck must not be operated in spaces subject to fire or explosion hazards, or in spaces where corrosive or very dusty atmospheres prevail.

Duties of the user: A “user” within the meaning of these operating instructions is defined as any natural or legal person who either uses the fork lift truck himself, or on whose behalf it is used. In special cases (e.g. leasing or renting), the user is considered the person, who, in accordance with existing contractual agreements between the owner and the user of the fork lift truck, is charged with the observance of the operating duties.
The user must ensure that the truck is not abused and only used within its design limits and that all danger to life and limb of the operator, or third parties, is avoided. In addition to this, it must be ensured that the relevant accident prevention regulations and other safety-related provisions, as well as the operating, servicing and maintenance guidelines, are observed. The user must also ensure that all persons operating the truck have read and understood these operating instructions.

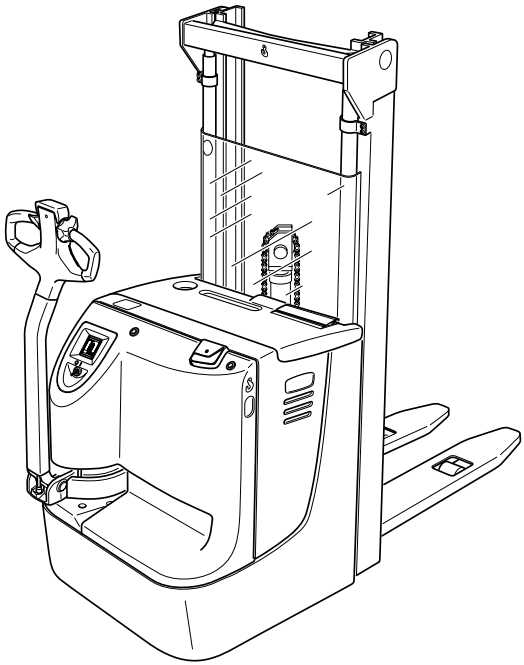
m If these operating instructions are not observed the warranty becomes void. The same applies if improper works are carried out at the device by the customer and/or third parties without permission of our Customer Service.

Mounting of attachments: The mounting or installation of any attachments which will interfere with, or supplement, the functions of the truck is permitted only after written approval by the manufacturer has been obtained. If necessary, the approval of local authorities has to be obtained.
Any approval obtained from local authorities does not, however, make the approval by the manufacturer unnecessary.

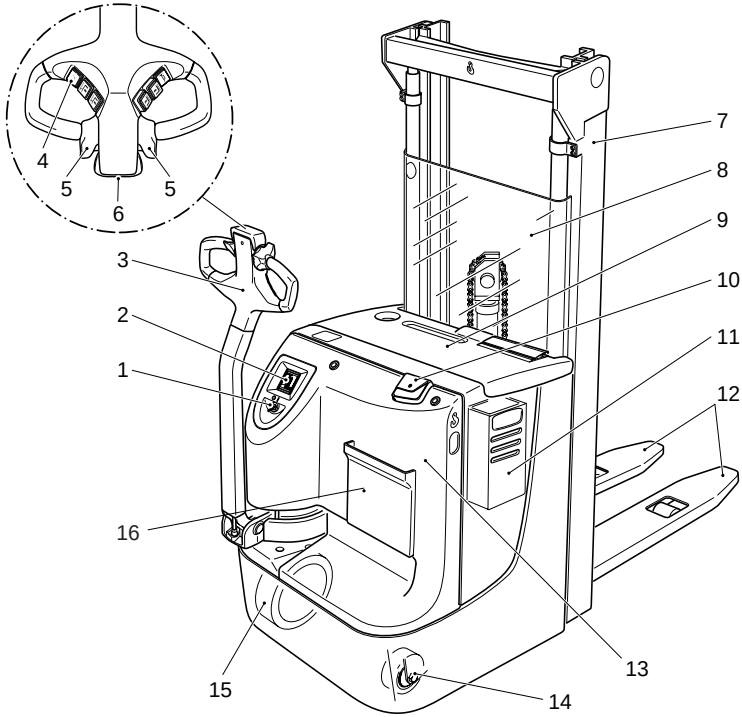
B Truck description

1 Description of application

The truck is a four-wheel electric lift truck with control shaft and controlled drive wheel. It is conceived for lifting and transporting palleted goods on level ground. Either open-ground pallets or trolleys can be picked up.
A wheel-arm lifting device is available as an option, extending the ground clearance during transports on uneven ground.
The nominal load capacity can be found on the identification label.
The load capacity in relation to lifting height and load centre distance is specified on the load capacity label.



2 Assembly groups



Pos.	EJC 14/16	EJC-Z 14/16	Description
1	t	t	Key switch
2	o	o	Combined instrument (battery discharge monitor and operating hour meter)
3	t	t	Control shaft with control shaft head
4	t	t	“Shunt driving” button
5	t	t	Driving regulator
6	t	t	Collision-guard button
7	t	t	Hoist frame
8	t	t	Protective pane
9	t	t	Battery hood
10	t	t	Master switch (emergency stop)
11	o	-	Battery charger
12	t	t	Lifting device
13	t	t	Front hood
14	t	t	Supporting wheel
15	t	t	Drive wheel
16	o	o	Document case

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3 Technical data

A Specification of technical data according to VDI 2198. Technical modifications and supplements reserved.

3.1 Performance data EJC 14/16 / EJC-Z 14/16

	Description	EJC 14 EJC-Z 14	EJC 16 EJC-Z 16	
Q	Nominal load capacity	1400	1600	kg
C	Load centre distance at standard fork length	600	600	mm
	Driving speed with / without load	6.0 / 6.0	6.0 / 6.0	km/h
	Lifting speed with / without load	15 / 23	14 / 23	cm/s
	Lowering speed with / without load	40 / 40	40 / 40	cm/s
	Max. hill-climbing ability with / without load	8 / 16	7 / 16	%

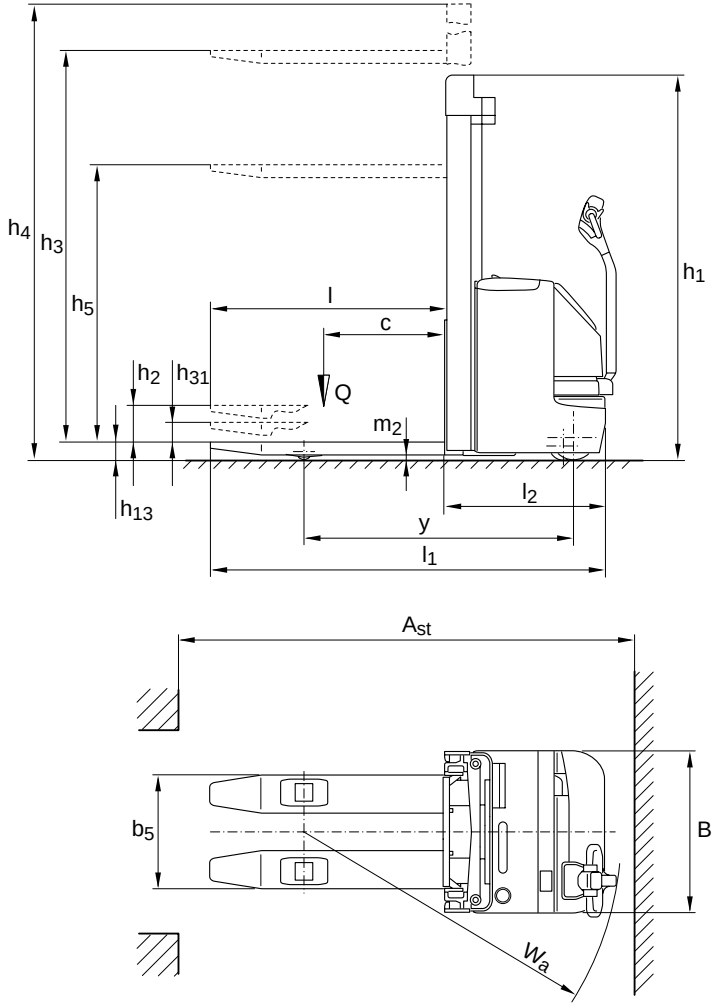
3.2 Dimensions EJC 14/16

	Description	Version[1)]	EJC 14	EJC 16	
h_1	Overall height (depending on mast) 2)		1700 - 2600	1700 - 2600	mm
h_2	Free lifting capacity 3)		100	100	mm
h_3	Lifting height (depending on mast)	short long	2500 - 4300 2500 - 5350	2400 - 4200 2400 - 5250	mm
h_4	height with mast protruded (depending on mast type) 7)	short long	2981 - 4781 2981 - 5831	2931 - 4731 2931 - 5781	mm
h_5	Free lifting capacity (double-lifting device) (depending on mast type) 4) 8)		1219 - 2119	1169 - 2069	mm
h_{13}	Fork lowered		90	90	mm
y	Wheel base	short long	1217 1357	1217 1357	mm
l_1	Truck length (= l_2 + l) 6)	short long	1836 1976	1836 1976	mm
l_2	Length of front section 5) 6)	short long	686 826	686 826	mm
B	Truck width		800	800	mm
b_5	Overall distance of fork		560	560	mm
m_2	Ground clearance		30	30	mm
A_{st}	Working corridor width 800 x 1200 longitudinal 5) 6)	short long	2140 2278	2140 2278	mm
A_{st}	Working corridor width 800 x 1200 longitudinal (according to VDI) 5) 6)	short long	2277 2416	2277 2416	mm
W_a	Turning circle for shunt driving (raised control shaft)	short long	1428 1567	1428 1567	mm

3.3 Dimensions EJC-Z 14/16

	Description	Version[1)]	EJC-Z 14	EJC-Z 16	
h_1	Overall height (depending on mast)[2)]		1700 - 2600	1700 - 2600	mm
h_2	Free lifting capacity [3)]		100	100	mm
h_3	Lifting height (depending on mast)	short long	2500 - 4300 2500 - 5350	2400 - 4200 2400 - 5250	mm
h_4	height with mast protruded [7)] (depending on mast type)	short long	2981 - 4781 2981 - 5831	2931 - 4731 2931 - 5781	mm
h_5	Free lifting capacity (double-lifting device) [4) 8)] (depending on mast type)		1219 - 2119	1169 - 2069	mm
h_{13}	Fork lowered		90	90	mm
y	Wheel position (lowered/lifted)	short long	1457/1397 1597/1537	1457/1397 1597/1537	mm
l_1	Truck length (= l_2 + l) [6)]	short long	1868 2008	1868 2008	mm
l_2	Length of front section [5) 6)]	short long	718 858	718 858	mm
B	Truck width		830	830	mm
b_5	Overall distance of fork		560	560	mm
m_2	Ground clearance [9)]		20	20	mm
A_{st}	Working corridor width [5) 6)] 800 x 1200 longitudinal	short long	2171 2310	2171 2310	mm
A_{st}	Working corridor width [5) 6)] 800 x 1200 longitudinal (according to VDI)	short long	2348 2487	2348 2487	mm
W_a	Turning circle for shunt driving (raised control shaft) Wheel arms lowered/raised	short long	1668/1608 1807/1747	1668/1608 1807/1747	mm
h_{31}	Lifting height of wheel-arm		122	122	mm

1) "short/long" version refers to the length of the battery compartment (see chap. D)
2) for ZT hoist frame with 100 mm free lifting capacity (h_2) : (h_1) = + 50 mm
3) onyl telescope hoist frame (ZT)
4) only ZZ and DZ hoist frame
5) with load guard: (l_2) = + 15 mm
6) with DZ hoist frame: (l_2) = + 38 mm (EJC 14) + 43 mm (EJC 16)
7) with LSG + 610 mm (EJC 14) + 560 mm (EJC/EJC(-Z)16)
8) with LSG - 610 mm (EJC 14) - 560 mm (EJC 16)
9) Wheel-arm lifting height with lowered wheel arm


h4
h3
h5
h2
h31
h13
l
c
Q
m2
h1
l2
y
l1
Ast
b5
B
Wa

3.4 EN standards

Continuous sound level: 65 dB(A)

according to prEN 12053 as stipulated in ISO 4871.

A The continuous sound level is a value averaged according to standard regulations, taking the sound pressure level into account when driving, lifting and idling. The sound pressure level is measured at the ear.

Electromagnetic compatibility (EMC)

The manufacturer confirms compliance with the limit values for electromagnetic emission and interference immunity as well as testing of static electricity discharge according to prEN 12895 and the references to other standards contained therein.

A Electrical or electronic components and their arrangement may only be modified after written approval by the manufacturer has been obtained.

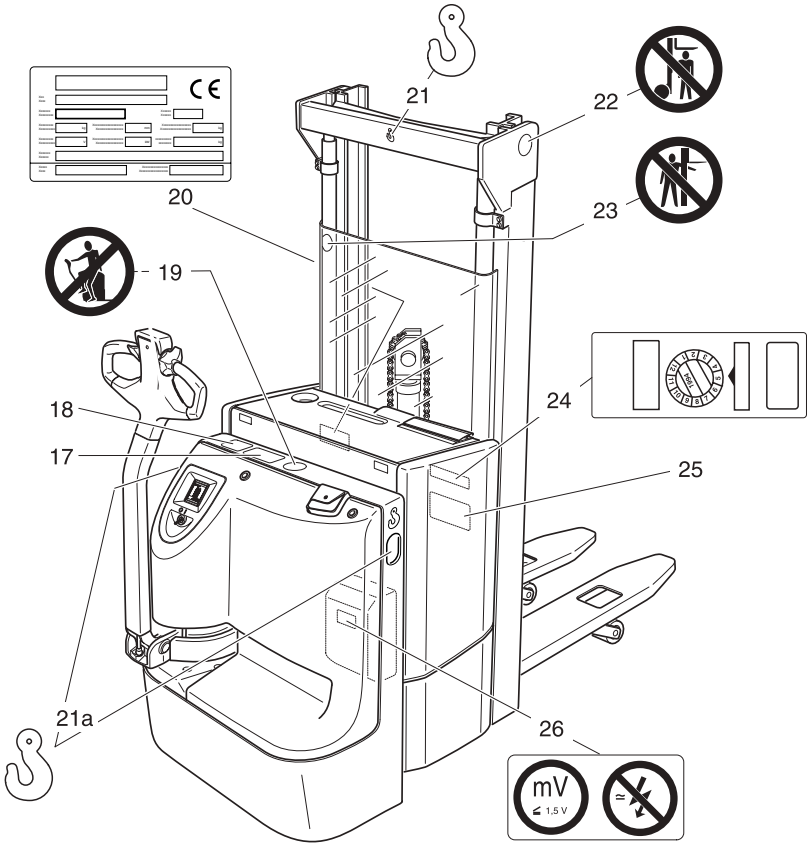
3.5 Conditions for application

Ambient temperature:

- during operation 5 °C to 40 °C

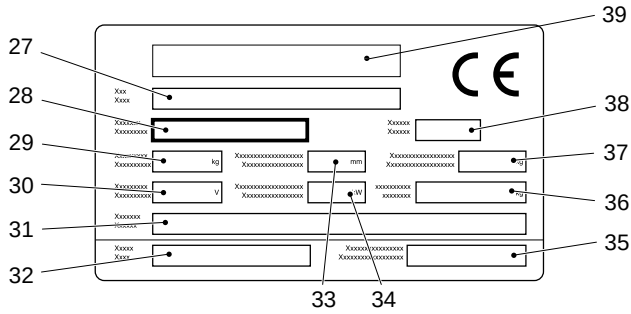
A Industrial trucks must be specially equipped and approved for continuous use in environments with temperatures below 5 °C or in cold stores respectively with extreme temperatures or humidity changes.

4 Location of instruction labels and identification labels



Item	Description
17	Load capacity wheel-arm lifting device
18	Load capacity
19	Prohibition sign “Do not transport other persons”
20	Truck identification label
21	Limit-stop for crane loading (21a only EJC-Z)
22	Prohibition sign “Keep away from under the load lifting device”
23	Prohibition sign “Do not put your hands through the hoist frame”
24	UVV control label
25	Identification label, battery
26	Warning sign “Caution: Low-voltage electronics”

4.1 Truck identification label

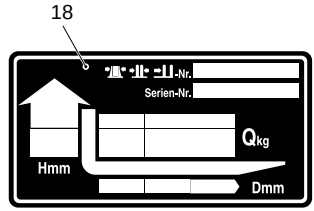


Item	Designation	Item	Designation
27	Type	34	Drive power in kW
28	Serial No.	35	Customer no.
29	Rated capacity in kg	36	Min./max. battery weight in kg
30	Battery: Voltage V Ampere hours Ah	37	Dead weight without battery in kg
31	Manufacturer	38	Year of manufacture
32	Order no.	39	Manufacturer logo
33	Load centre distance in mm		

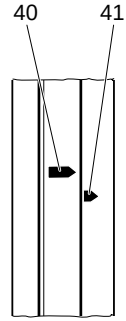
A In the event of queries relating to the truck or spare part orders, please state the serial no. (28) of the truck.

4.2 Load capacity

f The label (18) includes a table indicating the loading capacity (Q in kg) in relation to the load centre distance (D in mm) and the lifting height (H in mm).



The arrow-shaped markings on the inner mast (40) and outer mast (41) show the driver when he has reached the lifting height limits that is defined on the load capacity label (18).



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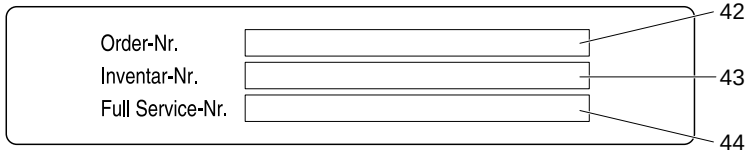
4.3 Load capacity, wheel-arm lifting device

Trucks with a wheel-arm lifting device are provided with an extra label (17) indicating the permissible assignment to wheel-arm lifting device and main lifting device.

4.4 Label/Order/Inventory/Service No.



Item	Description
42	Order no.
43	Inventory No.
44	Full Service No.

A This label contains the Full Service No. and is only handed out when a service contract is being concluded.

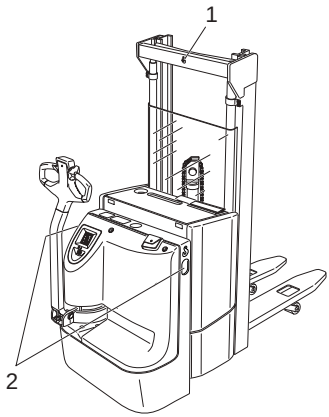
C Transportation and commissioning

1 Transportation by crane

f Only use lifting equipment with sufficient bearing capacity (loading weight see identification label on truck).
If trucks are to be lifted that are provided with a wheel-arm lifting device, be careful not to protrude the lifting cylinders while the truck is being lifted. If the device is completely protruded, there is the risk that the cylinder protection is being released due to overloading.

A A hoisting point (1) is provided at the hoist frame for loading the truck with the help of hoisting gear.
Trucks that are provided a with wheel-arm lifting device, have two more hoisting points (2) for loading.

– Park the truck and render it safe (refer to chapter E).
– Attach the hoisting gear to the stop (1) on the hoisting mast.
– In case of trucks that are provided with a wheel-arm lifting device, the hoisting gear can also be attached to the stops (2) on the vehicle chassis.



m Secure the hoisting gear to the hoisting points ensuring that the hoisting gear will not slip! The hoisting gear must be attached in such a way that it does touch any add-on parts while the truck is being lifted.
Trucks with wheel-arm lifting device must hang horizontally or slightly inclined in the direction of the lifting device.

2 First commissioning

m The truck must only be operated on battery current. Rectified alternate current will damage the electronics. Cables connected to the battery (towing cable) must be less than 6 meters in length.

f It is prohibited to hoist loads when the truck is operated via a towing cable with an external battery.

In order to prepare the truck for work following delivery or transportation, the following operations must be performed:

– Check whether the equipment is complete and in perfect condition.
– If required, mount the battery, make sure not to damage the battery cable (see chapter D).

A At trucks with an optionally built-in battery charger, adjust the characteristics (loading cam) (see chapter D).

– Load the battery (see chapter D).
– If required, check whether the settings of the combined instrument correspond to the battery (see chapter D).
– Commission the truck as prescribed (see chapter E).

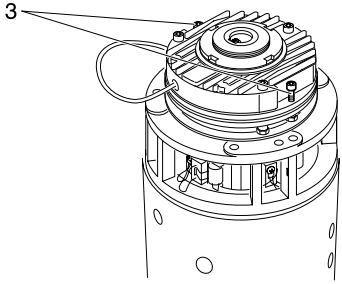
A If the truck is parked for longer periods, the running surfaces of the wheels may be flattened. However, this flattening will disappear quickly when the truck is being driven.

3 Moving the truck without own drive

f This type of operation is prohibited on slopes and inclinations.

If the truck must still be moved after a fault has occurred, proceed as follows:

– Set master switch to “OFF” position.
– Set key switch to “0” position and remove the key.
– Secure the truck against rolling away.
– Open and remove front hood (see chapter F).
– Turn the screws (3) anticlockwise until you reach the limit stop.



The solenoid brake is triggered. The truck can now no longer be moved.

f If you reached the target location, reset the brake system to its original condition! The truck must not be parked with released brake!

– Return the screws (3) anticlockwise until they touch the limit stop.

The original brake condition is restored.

D Battery - Servicing, recharging, replacement

1 Safety regulations governing the handling of lead-acid batteries

The truck must be parked and rendered safe before any operations on batteries are undertaken (refer to chapter E).

Servicing staff: Recharging, servicing and replacing of batteries must only be performed by qualified personnel. The instructions contained in this operating manual, and the instructions of the manufacturer of the battery and of the battery recharging station, must be observed when performing the above operations.

Fire protection measures: Smoking and naked flames are not permitted when handling batteries. No inflammable substances or spark-generating materials must be present or stored within a distance of 2 meters of the truck parked for battery recharging. The location must be well ventilated and fire fighting equipment must be kept ready.

Servicing of batteries: The battery cell screw caps must be kept dry and clean. Terminals and cable shoes must be clean, lightly greased with pole grease and must be securely tightened. Batteries with bare terminal posts must be covered using a non-skid insulating mat.

Disposal of the battery: Batteries must only be disposed of as stipulated in the national environmental protection regulations or waste disposal provisions. The manufacturer's specifications for the disposal must be heeded.

m Before closing the battery hood, make sure that the battery cable cannot be damaged.

f Batteries contain dissolved acid which is toxic and caustic. For this reason, protective clothing and goggles must be worn whenever work is undertaken on batteries. Avoid physical contact with battery acid.
If clothing, skin or eyes accidentally come into contact with battery acid, liberally flush the affected parts with clean water. Consult a doctor when skin or eyes come into contact with battery acid. Spilled battery acid must be immediately neutralized.

m Only batteries with closed tray may be used.

f Battery weight and dimensions have considerable influence on operational safety of the truck. Changing the battery equipment is not permitted without prior approval by the manufacturer.

2 Battery types

The vehicle is equipped with different battery types depending on the type.
The battery weights are specified on identification label of the battery.

m When changing / assembling the battery, make sure that it is properly fixed in the battery compartment the truck.

The following table shows the standard battery combinations and battery capacities:

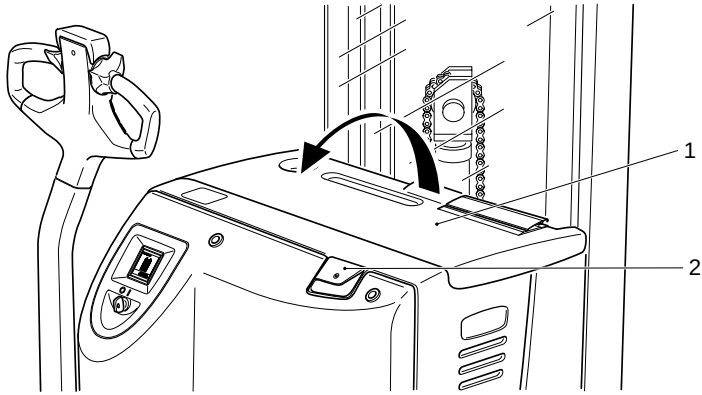
Truck type	24V - Pz... - battery
EJC 14	2 PzB 126 Ah
EJC 14	2 PzB 150 Ah
EJC /-Z 14 / 16	2 PzB 180 Ah
EJC /-Z 14 / 16	3 PzS L 270 Ah
EJC /-Z 14 / 16	3 PzS L 330 Ah

Depending on the battery type, also high-performance or maintenance-free batteries can be used.

3 Open battery hood

– Park the truck and render it safe (refer to chapter E).
– Set master switch (2) to “OFF” position.
– Open the battery hood (1).

f The battery hood (1) is held in place by its own weight.



4 Charging the battery

As default, the truck is to be loaded with a stationary battery charger. The truck without wheel-arm lifting device can optionally be supplied with an integrated battery charger.

m For recharging the battery, the truck has to parked in-doors in a sufficiently ventilated environment.

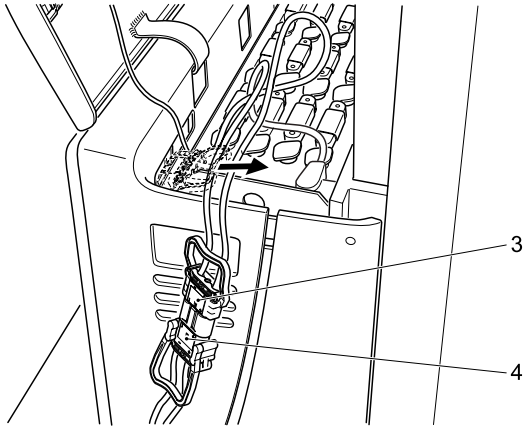
4.1 Charging the battery with stationary battery charger

– Park the truck and render it safe (refer to chapter E).

m Connection / disconnecting battery connector and socket as well as pressing the master switch (2) may only be performed with truck and battery charger being switched off.

– Expose the battery (refer to section 3).

f During the recharging operation the tops of the battery cells must be exposed to ensure adequate ventilation. Metal objects must not be placed on the battery. Prior to starting the recharging operation, check all cable connections and plugged connections for visible damage.
The safety instructions provided by the battery supplier and battery charger supplier must be strictly observed.



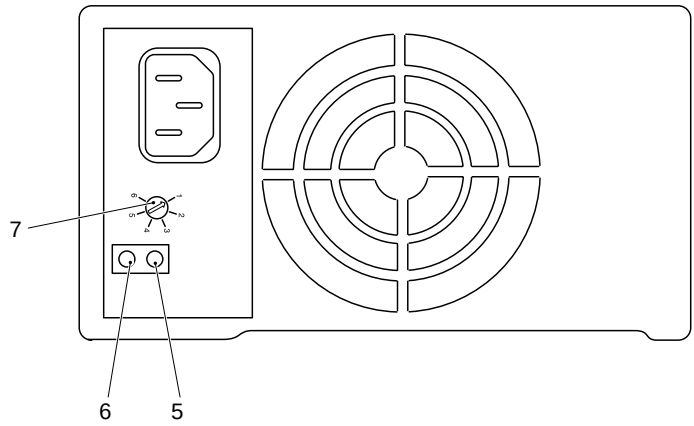
– Pull battery connector (3) from the plug and socket connection of the truck.
– Remove insulation mat from battery, if necessary.
– Connect the charging cable (4) of the battery recharging station with the battery connector (3) and switch on the battery charger.

m Recharge the battery observing the instructions provided by the battery supplier and by the battery charger supplier.

4.2 Recharging the battery with integrated battery charger (o)

f The battery charger must not be opened. If it is damaged, it has to be exchanged.

A Due to safety reasons, intermediate positions are available between the regulation positions “1” to “6” of the switch (7).
If the truck is delivered without battery, an intermediate position is pre-selected as default. The red light-emitting diode (5) flashes - the battery cannot be recharged.



Select charging curve in the integrated battery charger

Use switch (7) at the battery charger to adjust the charging curves to the appropriate battery according to the following table.

m The power plug must be pulled before the corresponding charging curve is to be adjusted!

Provided that a battery is connected, a new setting can be acknowledged via the LEDs (cf., indicator) which will then be immediately effective.

Position of switch (7)	selected charging curves (characteristics)
1	Wet batteries: 100 - 300 Ah
2	Maintenance-free: 100 - 140 Ah
3	Maintenance-free: 150 - 200 Ah
4	Maintenance-free: 210 - 300 Ah
5	F r e e
6	F r e e

Adjusting the charging curve

The charging curve can be adjusted by performing the following steps:

Connect the battery	This permits to use the battery charger as an adjustment aid	
Turn the adjustment switch to the right (i.e. clockwise) until it touches the limit stop.	The red LED flashes fast	no valid charging curve selected
Turn the adjustment switch to the left (i.e. anticlockwise) until it touches the limit stop.	After 3 seconds the green LED flashes only once	charging curve 1 selected
Select the desired charging curve by turning the adjustment switch to the right	The red LED starts to flash in the intermediate positions. If a valid charging curve is selected, the green LED starts to flash in the relevant switch position.	

Starting the recharging process with integrated battery charger

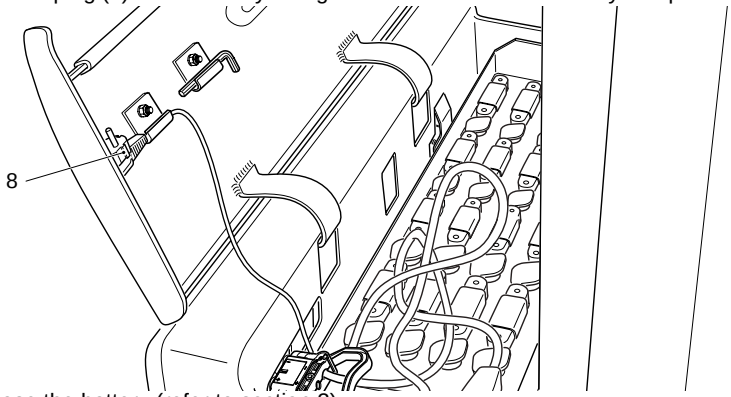
– Park the truck and render it safe (refer to chapter E).

f During the recharging operation the tops of the battery cells must be exposed to ensure adequate ventilation. Metal objects must not be placed on the battery. Prior to starting the recharging operation, check all cable connections and plugged connections for visible damage. The safety instructions provided by the battery supplier and battery charger supplier must be strictly observed.

Mains supply

Line voltage: 230 V (+10/-15%)
Line frequency: 50 Hz / 60 Hz

The power plug (8) of the battery charger can be found in the battery compartment.



– Expose the battery (refer to section 3).
– Remove insulation mat from battery, if necessary.
– Pull out master switch (2) (position “ON”).
– Connect power plug (8) with a power socket.

A The master switch (2) may only be operated with truck and battery charger being switched off.

The flashing LED indicates the charging status and/or a fault (flashing codes see table “LED display”).

A If the power plug (8) is connected to the mains, all electric functions of the truck are interrupted (electric driving lock). No operation of the truck is possible.

– Pull plug (8) from the power socket and place it in the battery compartment.

A The recharge procedure is automatically continued after a power failure.
The recharge procedure can be interrupted by pulling the power plug and can be continued in steps.

f The mains cable must not be damaged.
Before commissioning the truck, the battery hood must be properly closed.

Charging times

The time required for recharging depends on the capacity of the battery.

LED display

Green LED (6) (charging status)	Red LED (5) (fault)	Indication
is lit	---	Recharge procedure is finished; battery is full. (charging break, fill-up charge or equalization charge)
flashes slowly	---	Charging process
flashes fast	---	Indicates the start of a recharge procedure or that a new charging curve was adjusted. The number of the flashing pulses corresponds to the adjusted charging curve.
---	is lit	Excess temperature. Recharge process is interrupted.
---	flashes slowly	Safety charging interval exceeded. Recharge process is interrupted. Disconnection from the mains is required for restarting the charging process.
---	flashes fast	charging curve setting is invalid.
---	---	Power failure and/or no battery connected.

Fill-up charge

The fill-up charge begins automatically after the recharge procedure has ended.

Partial recharging

The battery charger is designed in such a way that it automatically adapts to the charging status of partially recharged batteries. This permits to reduce wear and tear of the battery.

5 Removing and installing the battery

– Expose the battery (refer to section 3).

f The truck must stand horizontally. Batteries with exposed terminals or connectors must be covered with a rubber mat to prevent short-circuits. Place battery connector and battery cable in such a way that they do not get caught within the truck interior when the battery is pulled out.

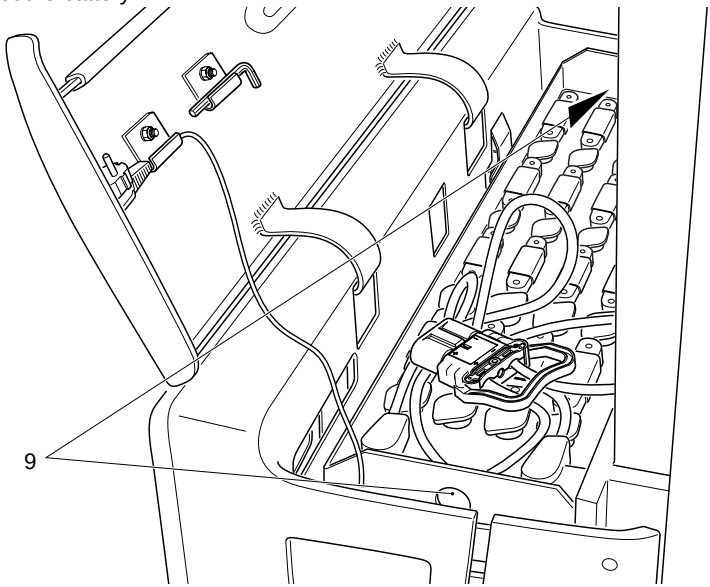
f When replacing batteries, ensure that a battery of the same type is fitted. Supplementary weights may not be removed or changed in their position.

f After reinstallation of the battery, visually check all leads and connectors for damage. Before commissioning the truck, the battery hood must be properly closed.

A When changing the battery with the aid of a lifting gear, ensure that the lifting gear is of adequate capacity (the battery weight is indicated on the battery identification plate at the battery trough). The battery must be lifted vertically to prevent crushing of the battery trough. The hooks are to be attached to the battery hoisting ears (9) that they cannot fall onto the battery cells when the hoisting gear is released.

5.1 Remove battery by lifting it upwards (truck without wheel-arm lifting device)

– Withdraw the battery connector.
– Attach hoisting gear to the hoisting ears (9).
– Lift out the battery.



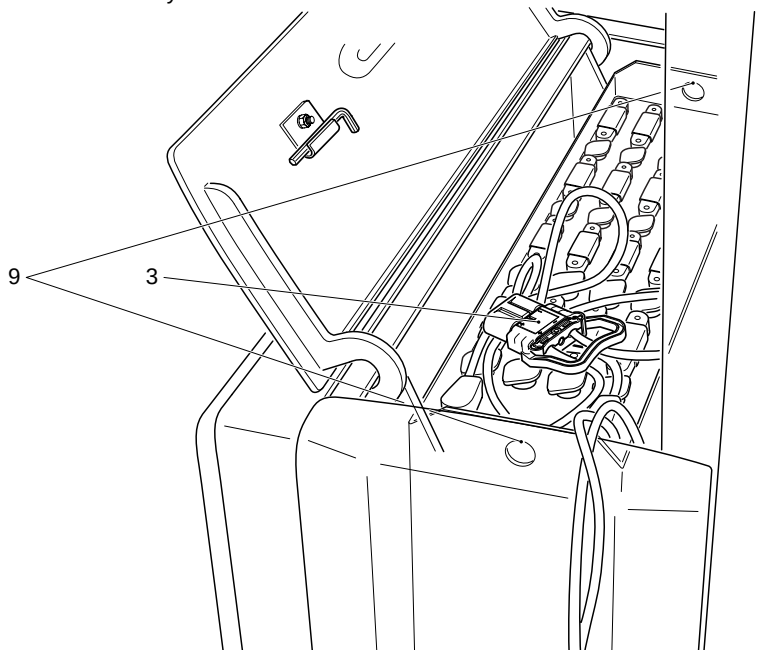
The re-assembly can be performed by reversing the above actions; pay attention to the correct mounting position and battery connection.

5.2 Remove battery by lifting it upwards (truck with wheel-arm lifting device)

– Withdraw the battery connector (3).

f The battery cable of the truck must be laterally led outside. While removing the battery, make sure that the cable is not squeezed.

– Attach hoisting gear to the hoisting ears (9).
– Lift out the battery.



The re-assembly can be performed by reversing the above actions; pay attention to the correct mounting position and battery connection.

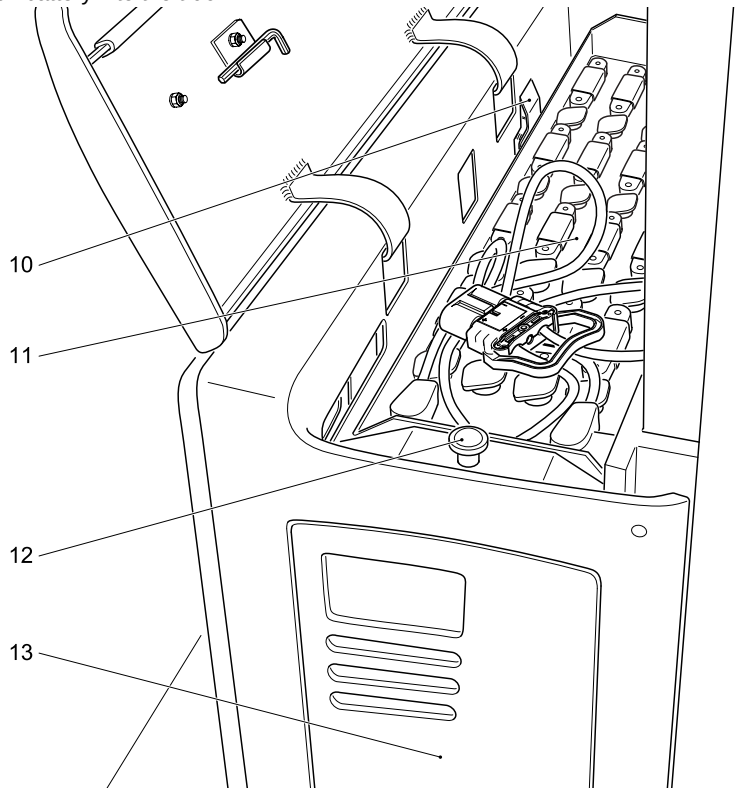
5.3 Lateral battery change (o)

– Withdraw the battery connector.
– Pull the locking mechanism (12) of the battery cover upwards while firmly holding the battery cover (13).
– Lift out the battery cover (13) and keep it in a safe location.
– Position battery trolley next to the truck.
– Push cautiously battery (11) from the truck onto the battery trolley / battery change station.

f Be careful not to place your fingers between partition wall of the truck and the battery. Heed the operating instructions of the battery change station.

Mounting the battery:

– Insert battery up to battery stop (10).
– Press in the battery stop and keep it in that position.
– Pull battery into the truck.



The re-assembly can be performed by reversing the above actions; pay attention to the correct mounting position and battery connection.

6 Combined instrument

Battery discharge indicator: The discharging status of the battery is indicated by 10 beams on battery icon (14) representing 10%-steps.

As the discharge proceeds, the beams go out from top to bottom.

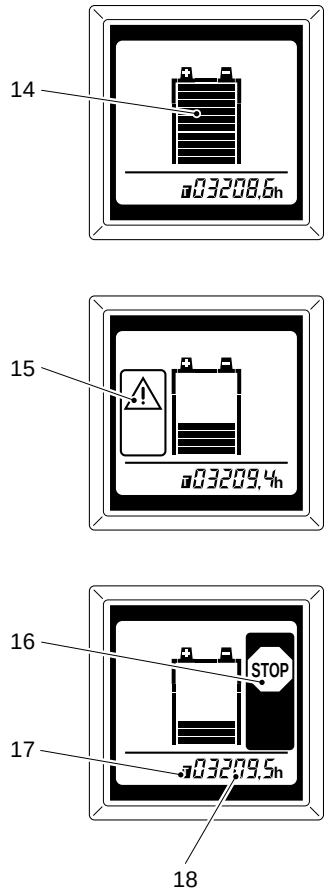
m If maintenance-free batteries are used, the instrument must be adjusted in such a way that the T icon (17) appears next to the operating hours indicator. If this setting is not selected, the battery may be damaged due to a complete discharge. For adjusting the instrument, it is recommended to consult the manufacturer service.

When a remaining battery capacity of
- 30% for standard batteries
- 50% for maintenance-free batteries

is reached, a “CAUTION” icon (15) is indicated.
Recharging the battery is recommended.

When a remaining battery capacity of
- 20% for standard batteries
- 40% for maintenance-free batteries

is reached, the “CAUTION” icon goes out and a flashing “STOP” icon (16) appears.
After 5 min., the “STOP” icon box lights up permanently. Recharging the battery is recommended.



Battery discharge monitor: When the “STOP” icon is permanently lit, the lifting function is switched off.

A The lifting function can only be re-activated, when the connected battery is at least recharged by 70%.

Operating hour meter: The operating hour meter (18) is integrated in the battery discharge indicator and displays the overall operating time of all driving and lifting movements.

A The digit to the right-hand side of the decimal point is flashing when the device is active.

E Operation

1 Safety regulations governing the operation of the fork lift truck

Driving permission: The fork lift truck must only be operated by persons who have been trained in the operation of trucks, who have demonstrated to the user or his representative their capability of moving and handling loads, and who have expressly been charged by the user or his representative with the operation of the truck.

Rights, duties and conduct of the driver: The driver must be: informed of his rights and duties; trained in the operation of the fork lift truck; and familiar with the contents of these operating instructions. All necessary rights must be granted to him.
If the fork lift truck can be used in the pedestrian-controlled mode, the driver must wear safety boots when operating the truck.

Prohibition of unauthorised use: The driver is responsible for the fork lift truck during working time. He must forbid unauthorised persons to drive or operate the fork lift truck. The transport or lifting of persons is forbidden.

Damage and defects: Damage or defects noted on the fork lift truck or on the attachments must immediately be brought to the notice of the person in charge. fork lift trucks that cannot be safely operated (e.g. due to worn tyres or defective brakes) must not be used until they have been properly repaired.

Repairs: Without specific training and express authorisation, the driver is not allowed to perform any repairs or modifications on the fork lift truck. Under no circumstances must the driver change the setting of switches or safety installations or render them ineffective.

Danger area: A “danger area” is considered to be the area within which persons are endangered by the travelling or lifting movements of the fork lift truck or its load lifting devices (e.g. fork or attachments), or by the loads being transported. This also includes the area within reach of falling loads or falling / lowering truck attachments.

f Unauthorised persons must be asked to leave the danger area. The driver must give a warning signal whenever a situation presenting danger to persons might develop. The fork lift truck must immediately be brought to a standstill if persons, although asked, do not leave the danger area.

Safety devices and warning labels: The safety devices, warning labels and warning notes described in the present operating instructions must always be heeded.

2 Description of controls and indicating instruments

Pos.	Controls or indicating instrument respectively	EJC 14/16	EJC-Z 14/16	Function
1	Master switch (Emergency Stop)	t	t	The circuit is interrupted, all electric functions are switched off. The truck is compulsory braked.
2	Key switch	t	t	Switches the control current on and off. When the key is removed from the key switch, the truck cannot be operated by unauthorised persons.
3	Combined instrument	o	o	Indicates the remaining capacity of the battery and the hours of operation that truck has already performed (see chapter D).
4	Control shaft	t	t	Steering and braking the truck.
5	Button - Shunt driving	t	t	If the control shaft is in the upper braking range, the braking function can be by-passed by pressing this button. The truck can only be moved with reduced speed (shunt driving).
6	Button - wheel arms lowering	-	t	Wheel arms are lowered with constant speed
7	Button - wheel arms lifting	-	t	Wheel arms are lifted with constant speed
8	Driving regulator	t	t	Controls the driving direction driving speed.
9	Collision-guard button	t	t	Truck drives away from the operator and stops.
10	Button - Lifting the lifting device	t	t	Lifting the lifting device. The lifting speed can be continuously adjusted with this key (adjustment range 8 mm).
11	Button - Lowering the lifting device	t	t	Lowering the lifting device. The lowering speed can be continuously adjusted with this key (adjustment range 8 mm).
12	Button - warning signal (horn)	t	t	Trigger warning signal.
13	Terminal strip	t	t	Depositing of freight documents.
14	Control lamp at the battery charger	o	-	Indicates the loading states (see chapter D).
15	Integrated battery charger	o	-	Used for recharging the battery
16	Document case	o	o	Used for depositing documents

t = Standard equipment o = Optional equipment

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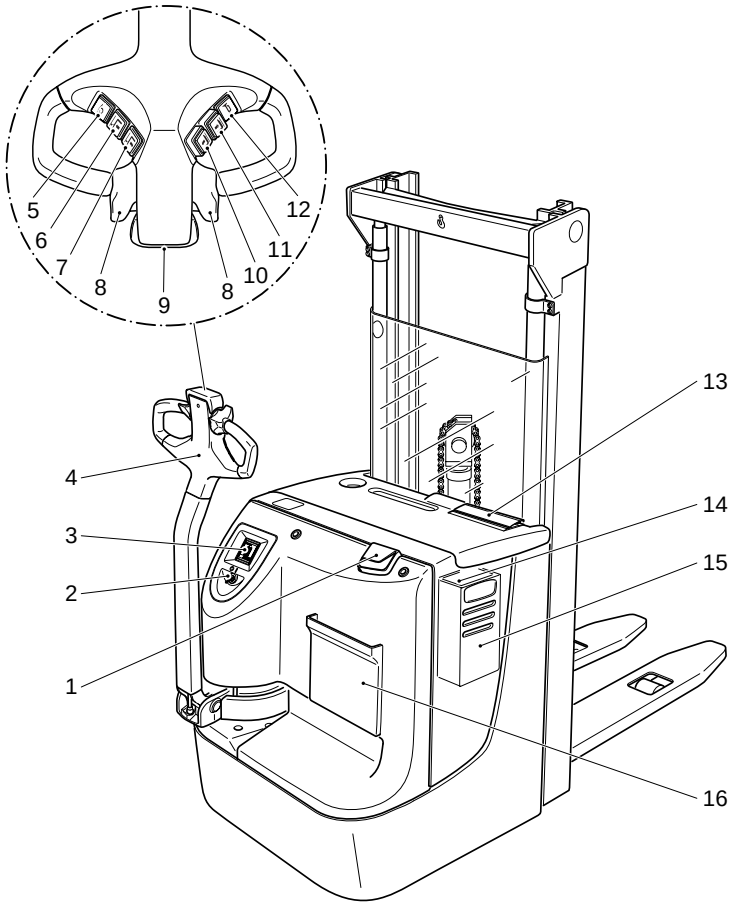
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3 Putting vehicle in operation

f Before starting or operating the truck, or before lifting any loads, the driver has to make sure that nobody is within the danger area.

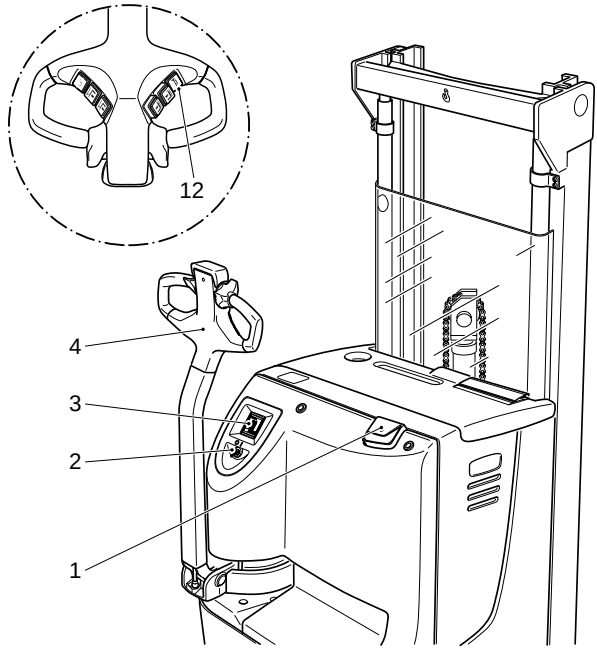
Checks and actions before routine start-up

– Visual inspection for damages of the whole truck (especially tyres and load carrying devices).
– Visual inspection of battery fixing and cable connections.

Starting up the truck

– Pull out master switch (1).
– Put key into the key switch (2) and turn right until stop to position “I”.
The combined instrument (3) indicates the available battery capacity.
– Check function of horn (12).
– Check control shaft (4) for braking and driving function (see section 4.2).

The truck is now ready for operation.



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4 Operation of the fork lift truck

4.1 Safety regulations applicable when operating the truck

Driving lanes and work areas: Only such lanes and routes that are specially allocated for truck traffic must be used. Unauthorized persons must stay away from work areas. Loads must only be stored at places specially provided for this purpose.

Driving conduct: The travelling speed must be adapted to the prevailing local conditions. The truck must be driven at slow speed when negotiating bends or narrow passages, when passing through swing doors and at blind spots. The driver must always observe an adequate braking distance between the fork lift truck and the vehicle in front and he must be in control of his truck at all times. Sudden stopping (except in emergencies), rapid U-turns and overtaking at dangerous or blind spots is not permitted. It is forbidden to lean out of or reach beyond the working and operating area.

Visibility: The driver must look in the direction of travel and must always have a clear view of the route ahead. When loads blocking the view are carried, the fork lift truck must be driven with the load at the rear. If this is not possible, a second person must walk in front of the fork lift truck to give suitable warnings.

Negotiating slopes and inclines: Negotiating of slopes and inclines is permitted only when they are recognised lanes, when they are clean and non-slipping, and when the technical specification of the truck permits safe driving on such slopes or inclines. Loads must always be carried at that end of the truck facing uphill. U-turns, cutting obliquely over slopes or inclines and parking of the fork lift truck on slopes or inclines is not permitted. Inclines must only be negotiated at slow speed, with the driver ready to brake at any moment.

Use of lifts and driving on loading platforms: Lifts and loading platforms must only be used if they are of adequate load bearing capacity, if suitable for driving on, and if authorised by the user of the truck for truck traffic. The fork lift truck driver has to satisfy himself accordingly before driving into lifts or on to loading platforms. The truck must enter lifts with the load in front and must take up a position which does not allow it to come into contact with the walls of the lift shaft.
Persons riding in the lift together with the fork lift truck must only enter the lift after the fork lift truck has come safely to a standstill, and must leave the lift before the fork lift truck.

Nature of the loads carried: Only loads that have been safely and correctly secured must be carried. Never transport loads stacked higher than the top of the fork carriage, or stacked higher than the guard grille.

Towing trailers: The maximum trailer load given for the fork lift truck for braked and/or unbraked trailers must not be exceeded. The trailer load must be properly secured and must not exceed the dimensions permitted for the driving routes. After attaching the trailer but before starting driving, the driver must check that the trailer attachment is secured against detachment. Towing fork lift trucks must be operated in such a manner that safe driving and braking of the truck and the trailer is guaranteed for all driving movements.

4.2 Driving, steering, braking

f Increased attention has to be paid during driving and steering the truck, especially if movements outside of the truck contour are to be performed.
It is not admissible to stay on the vehicle during driving.

Driving with load lifting devices or loads lifted higher than the ground clearance distance is only permitted when the load is to be picked up or to be lowered to the ground. From a certain type dependant lift height, the drive speed is automatically reduced during lifting and increased again during lowering.

EMERGENCY STOP

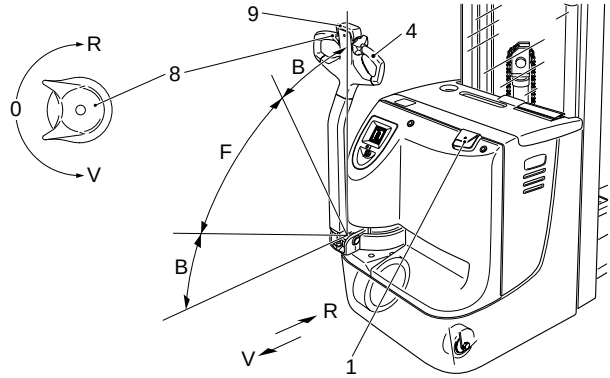
– Push master switch (1) down.

All electric functions are switched off. The truck is compulsory braked.

Emergency stop

When the control shaft (4) is released, the truck is compulsory braked (emergency stop) - the control shaft (4) automatically swivels into the upper braking range (B).

f If the control shaft (4) swivels only slowly into the braking position, it is required to perform troubleshooting measures. For example, the return spring must be exchanged!



Driving

f Do not drive the truck unless the hoods are closed and locked in the stipulated manner. When driving through swinging doors, etc., make sure that the doors do not trigger the collision-guard button (9).

– Commissioning the truck (see section 3).
– Push the control shaft (4) into the driving range (F) and set the driving switch (8) to the desired driving direction (V or R).

The truck starts to drive into the selected direction.

A The driving speed can be continuously regulated with the driving switch (8).

f If the truck can only be moved with reduced driving speed, a defect has occurred which is influencing the safety of operation of the truck. It may be that the service brake can only be used after pressing the EMERGENCY-STOP switch (1).
The truck needs to be taken out of service and must be repaired by expert personnel (see chapter F).

Driving on slopes

m The load must be transported pointing towards the mountain!

Securing the truck against “rolling downhill”:

If the driving switch is set to zero, the service brake is automatically triggered when the truck starts to roll downhill (the control system detects the unintended movement of the truck). The driving switch can be used to release the service brake and to select the desired driving speed and direction.

f If the roll-off brake was deactivated by the service, only service brake and counterflow brake are available.

Steering

– Swivelling the control shaft to the left-hand or right-hand side.

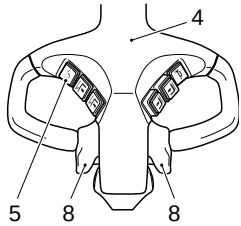
Shunt driving

f The driver must pay special attention if he uses the “Shunt driving” button (5).

The truck can be moved with its control shaft (4) in vertical position (e.g. in confined spaces / lifts):

– Press “Shunt driving” button (5).
– Set the driving switch (8) to the desired driving direction (V or R).

The service brake is triggered. The truck changes to the slow-driving mode.



m The service brake is only activated after releasing the “Shunt driving” button; in the Shunt driving mode, braking is only possible using the counterflow brake (driving switch (8)).

f In case of danger, the truck can be immediately braked by releasing the “Shunt driving” button (5).

Braking

f The braking effect of the truck is mainly depending on the road surface. This must be taken into account by the driver for his driving behavior.

The truck may be braked in three ways:

– Using the service brake (control shaft (4)),
– Using dynamic braking (roll-off brake can be adjusted by the service),
– Control with regenerative brake via the drive control (8).

A For standard driving operations, only the dynamic brake and that counterflow brake are to be used, since these brake types are reduce wear and tear and help to save energy (energy return supply).

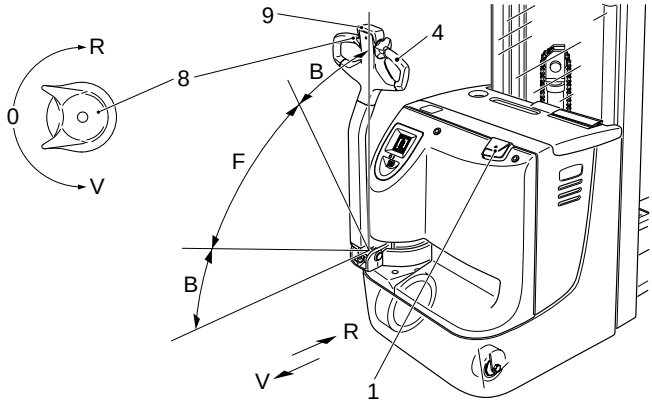
Braking with the service brake:

f In case of danger, the truck must be braked with the service brake (control shaft (4)).

– Swivel control shaft (4) upwards or downwards into one of the braking ranges (B).

The drive motor is mechanically braked.

A When the control shaft (4) is released, it swivels into the upper braking range (B).If the truck is parked, the service brake is used as parking brake



Dynamic braking (roll-off brake):

– After releasing the driving switch (8) - driving switch set to zero - the truck is braked with the help of the dynamic brake (roll-off brake), depending on the selected setting.

f If the roll-off brake was deactivated by the service, only service brake and counterflow brake are available.

Braking with the counterflow brake:

m If the control system or driving mechanism breaks down, the counterflow brake becomes ineffective.

– Do not turn the drive control (8) into opposite driving direction.

A The braking effect depends on the position of the driving switch.

4.3 Picking up or lowering load units

f Before a load unit is picked up, the driver has to make sure that it is properly palletised and does not exceed the permitted bearing capacity of the truck.
Do not grab into the hoist frame during lifting and lowering.

– Drive the truck with the fork tines as far as possible below the load unit.
  It is not permitted to pick up long goods with the truck driving transversally below the good.

A The double-two lifting hoist frame (ZZ) and the triple-two hoist frame (DZ) the first lifting movement of the load carriage (free lifting capacity) is realised without changing the overall height with the help of a short free-lifting cylinder which is centrally arranged.

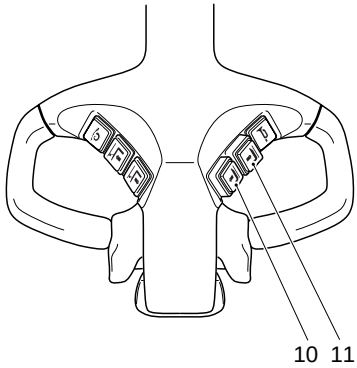
From a specific lifting height onwards (depending on the design), the driving speed is automatically reduced when the lifting movement is performed and increased when the lowering movement is started.

Lifting

– Press the “Lift the lifting device” button (10) until the desired height has been reached.

Lowering

– Press the “Lower the lifting device” button (11) until the desired height has been reached.



A The lifting/lowering speed can be continuously adjusted with this button (adjustment range 8 mm).

Small button adjustment range = slow lifting / lowering
Large button adjustment range = fast lifting / lowering

m Avoid any abrupt lowering of the load unit.

Wheel-arm lifting device (o)

A The “Lift wheel arms” and “Lower wheel arms” can be used to perform the lifting or lowering movement with a fixed speed.

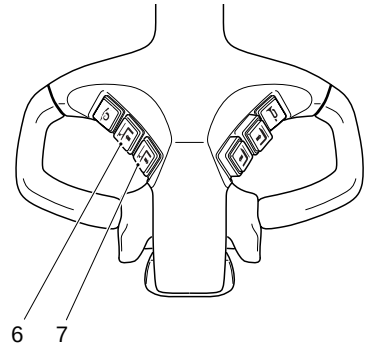
f To ensure the stability of the truck, the wheel arms will be automatically lowered from a specific lifting height of the fork onwards, depending on the used hoist frame type. From this lifting height onwards, the wheel-arm lifting device can no longer be used. The lowering movement cannot be interrupted! (Danger of injuries)

Lifting the wheel arms

– Press the “Lift wheel arms” (7) button.
– Keep the button pressed, until the desired lifting height has been reached.

Lowering the wheel arms

– Press the “Lower wheel arms” (6) button.
– Keep the button pressed, until the desired lowering height has been reached.



Emergency lowering system

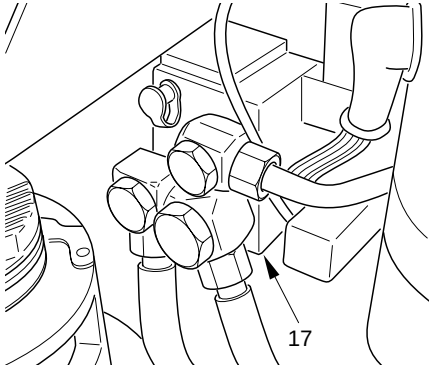
f The emergency lowering system may only be used if there are no persons within the danger zone.

If the lifting device can no longer be lowered due to a defect in the lifting control system, the emergency lowering system has to be activated.

– Set key switch (2) to its “0” position and set the master switch (1) to its “OFF” position.
– Pull the battery connector (see chapter D).
– Open the front hood (see chapter F).
– Loosen the screw on the valve group (17).

A The required Allen key (2.5 mm) can be found at the valve group.

The lifting device is lowered.



– Retighten the screw (17) after the emergency lowering procedure has been performed.

f The truck may only be retaken into service after the required troubleshooting measures were successfully performed.

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4.4 Safe parking of the truck

If the truck is left unattended, even for only short periods of time, it must be rendered safe.

f Do not park the truck on slopes! The lifting device must always be completely lowered.

– Bring control shaft (4) into brake position (B).
– Lowering the lifting device.
– Set key switch (2) to “0” position and remove the key.
– Set master switch (1) to “OFF” position.

4.5 Fault location

This chapter helps the operator to locate and fix simple malfunctions or the results of operating errors him- or herself. The order of the work stated in the table must be observed for fault location.

Fault	Possible cause	Remedy
Truck does not move	– Battery connector not connected	– Check the battery connector and reconnect it, if necessary
	– Master switch (EMERGENCY STOP) pressed	– Release master switch (EMERGENCY STOP)
	– Key switch set to “0“ position	– Set the key switch to position “I”
	– Battery voltage too low	– Check the charging status of the battery and recharge, if necessary
	– Control shaft not swivelled into driving range (F)	– Swivel control shaft into driving range (F)
	– Faulty fuse	– Check fuses F1 and 1F1
	– Truck battery charger is connected	– Disconnect the truck battery charger from the mains
Load cannot be lifted	– Truck not ready for operation	– Perform all troubleshooting measures that are mentioned under “truck does not drive”
	– Hydraulic oil level too low	– Check hydraulic oil level
	– Faulty fuse	– Check fuse 2F1
	– load too high	– Pay attention to the maximum bearing capacity (see identification label)
	– Discharge monitor is triggered (STOP icon)	– Check the charging status of the battery and recharge, if necessary

f If it is not possible to rectify the fault by performing the indicated “remedial actions”, please contact the Customer Service, as more intricate faults can only be rectified by specially trained and qualified service personnel.

F Maintenance of the fork lift truck

1 Operational safety and environmental protection

The checks and servicing operations contained in this chapter must be performed in accordance with the intervals as indicated in the servicing checklists.

Modifications of fork lift truck assemblies, especially of the safety installations, are not permitted. On no account must the operational speeds of the truck be changed.

Only original spare parts have been certified by our quality assurance service. To ensure safe and reliable operation of the fork lift truck, only spare parts of the manufacturer must be used. Used parts, oils and fuels must be disposed of in accordance with the applicable environmental protection regulations. For oil changes, the oil service of the manufacturer is available to you.

Upon completion of any checking and servicing activities, the operations contained in the section “Recommissioning” must be performed (refer to chapter F).

2 Safety regulations applicable to truck maintenance

Servicing and maintenance personnel: The fork lift truck must only be serviced and maintained by trained personnel of the manufacturer. The service organization of the manufacturer has external technicians trained especially for these assignments. We thus recommend signing a maintenance contract with the relevant service location of the manufacturer.

Lifting and jacking up: When a fork lift truck is to be lifted, the lifting gear must only be secured to the points specially provided for this purpose. When the truck is to be jacked up, suitable measures must be taken to prevent the truck from slipping or tipping over (use of wedges, wooden blocks). Work underneath the raised load lifting device must only be carried out when the fork is immobilised and supported by a chain of adequate strength.

Cleaning operations: No inflammable liquids must be used when cleaning the fork lift truck. Prior to commencing cleaning operations, all safety measures that are required to prevent sparking (e.g. by short-circuits) have to be taken. For battery-operated fork lift trucks, the battery plug must be removed. Only weak indraft, weak compressed air and non-conducting, antistatic brushes must be used for the cleaning of electric or electronic assemblies.

If the fork lift truck is to be cleaned using a water jet or a high-pressure cleaner, all electric and electronic components must be carefully covered beforehand because moisture can lead to incorrect functioning.
Cleaning by means of a steam jet is not permitted.

Upon completion of cleaning work, the operations detailed in the section “Recommissioning” must be performed.

Work on the electric system: Work on the electric system of the truck must only be performed by personnel specially trained for such operations. Before commencing any work on the electric system, all measures required to prevent electric shocks have to be taken. For battery-operated fork lift trucks, the truck must also be depowered by removing the battery plug.

Welding operations: To prevent any damage to electric or electronic components, these have to be removed from the fork lift truck before any welding operations are undertaken.

Settings: When repairing or replacing hydraulic, electric or electronic components or assemblies, all truck-specific settings have to be retained.

Tyres: The quality of the tyres greatly affects the stability and the driving behaviour of the fork-lift truck. The factory-mounted tyres must only be replaced by original spare parts of the manufacturer, since otherwise the specification of the data sheet cannot be met. When replacing wheels or tyres, it must be ensured that the fork-lift truck remains level (tyres and wheels must always be replaced in pairs, i.e. left and right together).

Lift chains: The lift chains wear rapidly if not lubricated. The intervals in the service checklist apply to normal duty. If requirements are higher (dust, temperature), lubrication is required more often. The specified chain spray must be used as specified. The external application of grease does not provide sufficient lubrication.

Hydraulic hoses: The hoses must be renewed every six years. When replacing hydraulic components, also renew the hoses in this hydraulic system.

3 Servicing and inspection

Thorough and expert servicing is one of the most important preconditions for safe operation of the fork lift truck. The neglect of regular servicing intervals can lead to fork lift truck failure and constitutes a potential hazard to personnel and equipment.

⚠ The indicated servicing intervals are based on single-shift operation under normal operating conditions. For applications in dusty environments, or involving large temperature fluctuations or multiple-shift operation, the servicing intervals must be shortened accordingly.

The following servicing checklist indicates the operations to be performed and the respective intervals to be observed. The servicing intervals are defined as follows:

W1 = every 50 operating hours, but at least once per week
M3 = every 500 operating hours, but at least every 3 months
M6 = every 1000 operating hours, but at least every 6 months
M12 = every 2000 operating hours, but at least every 12 months

☞ The W1 maintenance intervals must be carried out by the operator / customer.

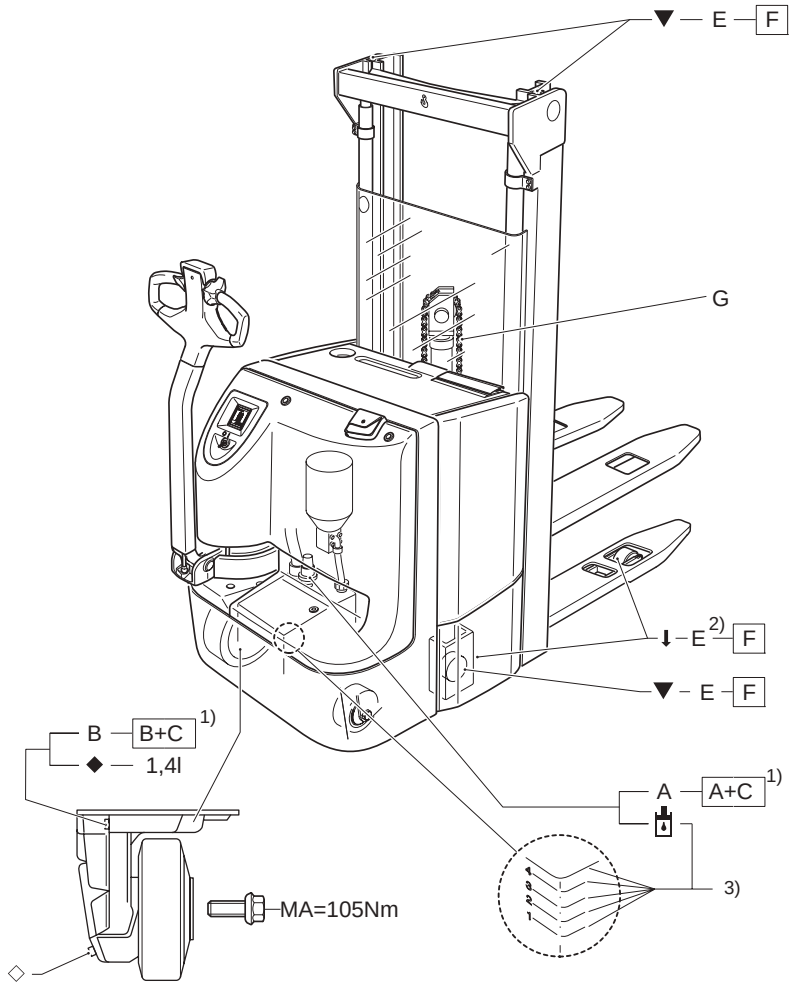
In the run-in period - after approx. 100 service hours - or after repair work, the owner must check the wheel nuts/bolts and re-tighten if necessary.

4 Maintenance checklist.

			Maintenance intervals			
			W	M	M	M
		Standard = ●				
		Cold-storage depot = ✳	1	3	6	12
Chassis/ Design:	1.1	Check all load bearing elements for damage		●		
	1.2	Check all bolted connections		●		
Drive unit:	2.1	Check the transmission for noises and leakage		●		
	2.2	Check the transmission oil level		●		
	2.3	Change the gear oil			✳	●
Wheels:	3.1	Check for wear and damage	●			
	3.2	Check seating and attachment	✳	●		
Steering:	4.1	Check the steering clearance		●		
Brake system:	5.1	Check for correct function and adjustment	✳	●		
	5.2	Check the return spring for repositioning function and damage		●		
	5.3	Check the brake linings for wear		●		
	5.4	Check the brake linkage; adjust and grease, if necessary	✳	●		
Hoist frame:	6.1	Visual check of rollers, slide pieces and stops	✳	●		
	6.2	Check fork tines and fork carrier for wear and damage	✳	●		
	6.3	Check secure attachment of hoist frame		●		
	6.4	Check lift chains and chain guide for wear, adjust and grease them.		●		
	6.5	Check the lateral clearance of the mast profiles and whether they are parallel to each other				●
	6.6	Check safety devices for proper attachment and damages	✳	●		
Lifting device:	7.1	Check function, wear and tear and adjustment		●		
	7.2	Visual check of rollers, slide pieces and stops	✳	●		
	7.3	Check fork tines and fork carrier for wear and damage	✳	●		
Hydr. system:	8.1	Check function	✳	●		
	8.2	Check all connections for leakage and damage	✳	●		
	8.3	Check hydraulic cylinders for leakage, damage and secure attachment	✳	●		
	8.4	Check the oil level	✳	●		
	8.5	Change hydraulic oil			✳	●
	8.6	Change filter			●	
	8.7	Check the pressure relief valves for correct functioning			✳	●

			Maintenance intervals			
			Standard = ●	W 1	M 3	M 6	M 12
			Cold-storage depot = ✳				
Electr. system:	9.1	Check function			●		
	9.2	Check all cables for secure connection and damage			●		
	9.3	Check the fuses for correct amperage					●
	9.4	Check switches and trip cams for proper functioning and seating			●		
	9.5	Check contactors and relays, replace wearing parts, if necessary			●		
	9.6	Check functioning of warning devices and safety circuits		✳	●		
Electric motors:	10.1	Check wear of carbon brushes			●		
	10.2	Check the motor for secure attachment			●		
	10.3	Suck out engine block, check wear of collector			✳	●	
Battery:	11.1	Check acid density, acid level and cell voltage		✳	●		
	11.2	Check the terminals for secure attachment and apply pole grease		✳	●		
	11.3	Clean battery connections, check for tight fit		✳	●		
	11.4	Check the battery cables for damage and replace, if necessary			●		
Lubrication service:	12.1	Grease truck according to lubrication schedule		✳	●		
General measurements:	13.1	Check electrical system for short to ground					●
	13.2	Check driving speed and braking distance					●
	13.3	Check lifting and lowering speed					●
	13.4	Check safety facilities and switch-off devices			●		
Demonstration:	14.1	Perform a trial run under a nominal load			●		
	14.2	Demonstrate the truck to a person charged with inspection upon completion of the maintenance of the truck		✳	●		

5 Lubrication schedule



- ▼ Slide faces
- ⬇ Grease nipple
- Filler neck for hydraulic oil
- ◆ Filler neck Gear oil
- ◇ Drain plug Gear oil

1) Mixing proportion for application in cold-storage depots 1:1

2) Tandem load wheel

3) Filling level see “Check hydraulic oil level”

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5.1 Fuels, coolants and lubricants

Handling consumption type material: Consumption type material must always be handled properly. Manufacturer's instructions to be observed.

Improper handling is injurious to health, life, and environment. Consumption type materials must be stored in adequate containers. They might be inflammable and, therefore, must not come into contact with hot components or open fire.

When filling in consumption type materials use clean containers only. It is prohibited to mix consumption type materials of different grades or qualitiies resp., except if mixing is expressively prescribed in these operating instructions.

Avoid spilling. Spilt liquid must be removed immediately using a suitable binding agent, and the mixture of consumption type material and binding agent is to be disposed of according to the regulations.

Code	Order-no.	Supply Qty	Designation	Used for:
A	29 200 670	5,0 l	H-LP 46, DIN 51524	Hydraulic system
B	29 200 680	5,0 l	CLP 100, DIN 51517	Transmission
C	29 200 810	5,0 l	H-LP 10, DIN 51524	Transmission, hydraulic system
E	29 201 430	1,0 kg	Grease, DIN 51825	Lubrication
F	29 200 100	1,0 kg	Grease, TTF52	Lubrication

Grease Data

Code	Saponification	Dropp. point °C	Worked penetr. at 25° C	NLG1 class	Service temperat. °C
E	Lithium	185	265-295	2	-35/+120
F	--	--	310-340	1	-52/+100

6 Notes on maintenance

6.1 Preparation of the truck for servicing and maintenance operation

All required safety measures must be taken to prevent any accidents in the course of the servicing and maintenance operations. The following preparatory operations must be performed:

– Park the truck and render it safe (refer to chapter E).
– Disconnect the battery connector to prevent accidental or unauthorised truck operation.

When work has to be performed under the jacked-up truck, suitable measures must be taken to prevent any dropping, tilting or slipping of the truck. When lifting the truck, the instructions included in chapter “Transportation and Commissioning” have to be observed.

6.2 Open the battery hood

See chapter D.

6.3 Open the front hood

– Turn the control shaft to the truck outer edge or incline it slightly.
– Release the hood locking mechanism (1); the key (2) can be found in the battery compartment.
– Raise the hood (3) and place it next to the truck.

Mounting is performed in reverse order

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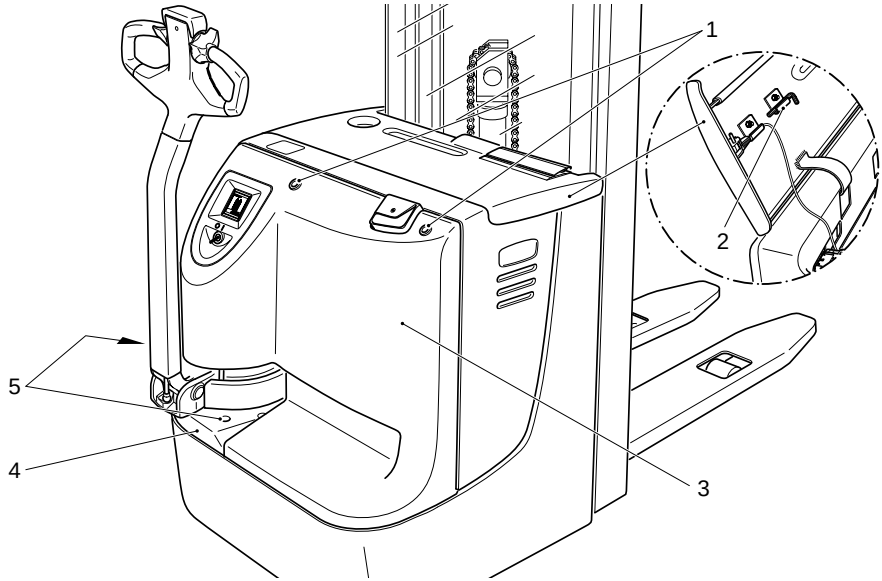

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6.4 Check hydraulic oil level

– Prepare the truck for servicing and maintenance operations (refer to chapter F, section 6.1).
– Open the front hood (see section 6.3).
– Check the hydraulic oil level of the hydraulic tank (see section 5).

☞ There are markings on the hydraulic tank (see section 5). The oil level must be chekked with the lifting device being lowered.

– If required, top up with hydraulic oil with the required characteristics (see section 6.4; see table)

Marking	Litre	Lifting heights (h_3)			
		E	ZT	ZZ	DZ
Upper edge	approx. 10.5	-	-	-	up to 5350
4	approx. 10	-	-	-	-
3	approx. 8.3	-	-	up to 4300	up to 4300
2	approx. 6.8	-	up to 4300	up to 3600	-
1	approx. 5.1	all	up to 3200	up to 2500	-

☞ Mounting is performed in reverse order.

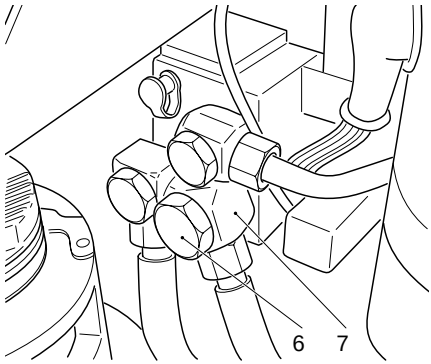
6.5 Check the transmission oil level

– Prepare the truck for servicing and maintenance operations (see section 6.3).
– Open the front hood (see section 6.2).
– Loosen 2 x screws (5) using the key (2).
– Remove carefully the wheel cover (4).
– Check gear-oil level - oil level must reach the filler neck (see section 5).
– If required, top up with gear oil with the required characteristics (see section 5).

☞ Mounting is performed in reverse order.

6.6 Exchanging the coarse sieve

– Preparation of the truck for servicing and maintenance operations (refer to chapter F, section 6.1).
– Open the front hood (see section 6.2).
– Loosen the screwed connection (6).
– Pull off the connection (7) and remove the coarse sieve.
– Insert a new coarse sieve.

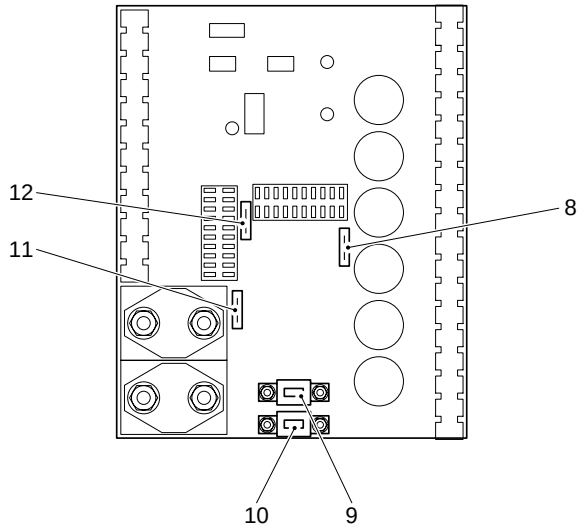


☞ Mounting is performed in reverse order.

☞ Tighten screwed connection (6) with max. 60^{+10} Nm.

6.7 Checking the electric fuses

– Preparation of the truck for servicing and maintenance operations (refer to section 6.1).
– Open the front hood (see section 6.3).
– Referring to the table, check all fuses for correct rating and replace, where required.



Item	Description	Protection of:	Value
8	F1	Total control fuse	10 A
9	1F1	Drive motor (in parallel to 1F10)	150 A
10	2F1	Pump motor	150 A
11	1F10	Drive motor (in parallel to 1F1)	40 A
12	6F1	Discharge indicator/operating hour meter	10 A

6.8 Recommissioning the truck

Recommissioning of the truck following the performance of cleaning or maintenance work is permitted only after the following operations have been performed:

- Check the horn for proper functioning.
- Check the master switch for correct functioning.
- Check the brake for correct functioning.
- Lubricate truck according to lubrication schedule.

7 Decommissioning the fork lift truck

If the fork lift truck is to be decommissioned for more than two months, it must be parked in a frost-free and dry location and all measures to be taken before, during and following decommissioning must be performed as detailed below.

During decommissioning, the fork lift truck must be jacked up, ensuring that the wheels are clear of the ground. Only this measure will ensure that wheels and wheel bearings do not suffer damage.

If the fork lift truck is to be decommissioned for more than 6 months, additional measures must be discussed with the Service Department of the manufacturer.

7.1 Operations to be performed prior to decommissioning

- Thoroughly clean the fork lift truck.
- Check the brakes for correct function.
- Check the hydraulic oil level and top up if required (refer to chapter F).
- Apply a thin film of oil or grease to all parts not protected by a paint coating.
- Grease the fork lift truck as detailed in the lubrication chart (refer to chapter F).
- Recharge the battery (refer to chapter D).
- Disconnect and clean the battery. Apply pole grease to the battery poles.

In addition to this, all instructions given by the battery supplier must be observed.

- Spray all exposed electrical contacts with a suitable contact spray.

7.2 Measures to be taken during decommissioning

Every 2 months:

- Recharge the battery (refer to chapter D).

Battery-operated fork lift trucks:
Regular recharging of the battery is very important; otherwise, exhaustive depletion of the battery caused by self-discharging would occur. Owing to sulfatisation, this will result in the destruction of the battery.

7.3 Recommissioning the truck

- Thoroughly clean the fork lift truck.
- Lubricate the fork lift truck according to the lubrication chart (refer to chapter F).
- Clean the battery. Grease the pole screws using pole grease and reconnect the battery.
- Recharge the battery (refer to chapter D).
- Check if the gear oil contains condensed water and change if required.
- Check if the hydraulic oil contains condensed water and change if required.
- Start up the fork lift truck (refer to chapter E).

☞ Battery-operated fork lift trucks:
If switching troubles are experienced in the electric system, spray the exposed contacts with contact spray and remove any oxide layer on the contacts of the operating controls by repeated operation.

STOP Perform several brake tests immediately after recommissioning the truck.

8 Safety checks to be performed at regular intervals and following any untoward incidents (Ⓓ: Accident prevention check according to VBG 36)

At least once yearly, or after any untoward incident, the fork lift truck has to be chekked by a qualified inspector. The inspector must assess the condition of the truck from a standpoint purely concerned with safety aspects, uninfluenced by any company or economic circumstances. The inspector must be adequately informed and experienced to be able to assess the condition of the fork lift truck and the effectiveness of the safety installations based on the technical rules and principles governing the inspection of fork lift trucks.

The inspection must comprise a comprehensive check of the technical condition of the fork lift truck with regard to accident prevention aspects. Apart from this, the fork lift truck must be thoroughly inspected for damage possibly caused by incorrect use of the fork lift truck. The inspection results must be recorded in an inspection report which must be kept available for a period spanning at least the next two inspection intervals.

The user has to ensure that all defects are eliminated without delay.

☞ The manufacturer has set up a special safety service with specially qualified staff. As visual proof that the fork lift truck has passed the safety inspection, a plaque is affixed to it. This plaque indicates in which month of which year the next test will be due.