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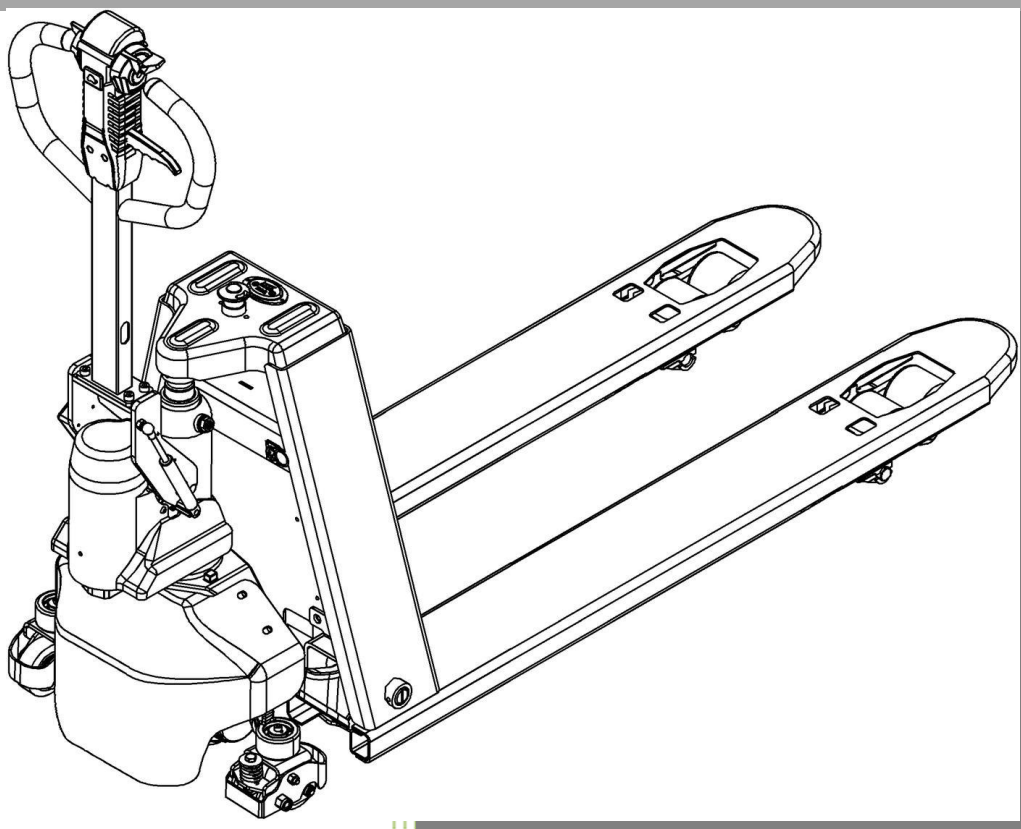
INSTRUCTION HANDBOOK

Electric Pallet Truck

PTE15-C&SPTE15-C



WARNING

Do not use the pallet truck before reading and understanding these operating instructions.

NOTE:

- **Please check the designation of your present type at the last page of this document as well as on the ID-plate.**
- **Keep for future reference.**

Version 10/2020

PTE15-C/SPTE15-C-SMS-001-CHN

FOREWORD

Before operating the truck, read this ORIGINAL INSTRUCTION HANDBOOK carefully and understand the usage of the truck completely. Improper operation could create danger.
This handbook describes the usage of different electric pallet trucks. When operating and servicing the truck, make sure, that it applies to your type.

Keep this handbook for future reference. If this or the warning/ caution labels are damaged or got lost, please contact your local dealer for replacement.
This truck complies with the requirements according to EN 3691-1; -5 (Industrial trucks- safety requirements and verification, part 1; part 5), EN 12895 (Industrial trucks- electromagnetic compatibility), EN 12053 (Safety of industrial trucks- test methods for measuring noise emissions), EN 1175-1 (Industrial truck safety – electrical requirements), assumed the truck is used according to the described purpose.
The noise level for this machine is 69 dB(A) according to EN 12053.

ATTENTION:

- Environmentally hazardous waste, such as batteries, oil and electronics, will have a negative effect on the environment, or health, if handled incorrectly.

- The waste packages should be sorted and put into solid dustbins according to the materials and be collected disposal by local special environment protection bureau. To avoid pollution, it's forbidden to throw away the wastes randomly.

- To avoid leaking during the use of the products, the user should prepare some absorbable materials (scraps of wooden or dry duster cloth) to absorb the leaking oil in time. To avoid second pollution to the environment, the used absorbable materials should be handed in to special departments in terms of local authorities.

- Our products are subject to ongoing developments. Because this handbook is only for the purpose of operating /servicing the pallet truck, therefore please have understanding, that there is no guarantee out of particular features out of this handbook.

NOTE: On this manual, the left sign means warning and danger, which can lead to death or serious injury if not followed.

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1. CORRECT APPLICATION

It is only allowed to use this electric pallet truck according to this instruction handbook.

The trucks described in this handbook are self propelled electric power pallet trucks. The trucks are designed to lift, lower and transport palletized loads.

A wrong usage can cause human injuries or can damage equipment.
The operator/ the operating company has to ensure the correct usage and has to ensure, that this pallet truck is used only by staff, which is trained and authorized to use this truck.

The pallet truck has to be used on substantially firm, smooth, prepared, level and adequate surfaces. The truck is intended to be used for indoor applications with ambient temperatures between +5°C and + 40°C and for various transportation applications without crossing permanent obstacles or potholes. The work on ramps is allowed if ramp is not exceeding the allowed angle. While operating, the load must be placed approximately on the longitudinal centre plane of the truck.
Lifting or transporting people is forbidden.

If used on tail lifts or loading ramps, please ensure that these are used correctly according to the operating instructions.

The capacity is marked on capacity sticker as well on the Identification plate. The operator has to consider the warnings and safety instructions.
Operating lighting must be minimum 50 Lux.

<u>Modification</u>

No modifications or alterations to this pallet truck which may affect, for example, capacity, stability or safety requirements of the truck, shall be made without the prior written approval of the original truck manufacturer, its authorized representative, or a successor thereof. This includes changes affecting, for example braking, steering, visibility and the addition of removable attachments. When the manufacturer or its successor approve a modification or alteration, they shall also make and approve appropriate changes to capacity plate, decals, tags and operation and maintenance handbooks.

Only in the event that the truck manufacturer is no longer in business and there is no successor in the interest to the business, may the user arrange for a modification or alteration to a powered industrial truck, provided, however, that the user:

a) arranges for the modification or alteration to be designed, tested and implemented by an engineer(s) expert in industrial trucks and their safety,

b) maintains a permanent record of the design, test(s) and implementation of the modification or alteration,

c) approves and makes appropriate changes to the capacity plate(s), decals, tags and instruction handbook, and

d) affixes a permanent and readily visible label to the truck stating the manner in which the truck has been modified or altered, together with the date of the modification or alteration and the name and address of the organization that accomplished those tasks.

By not observing these instructions, the warranty becomes void.

2. DESCRIPTION OF THE PALLET TRUCK

a. Overview of the main components

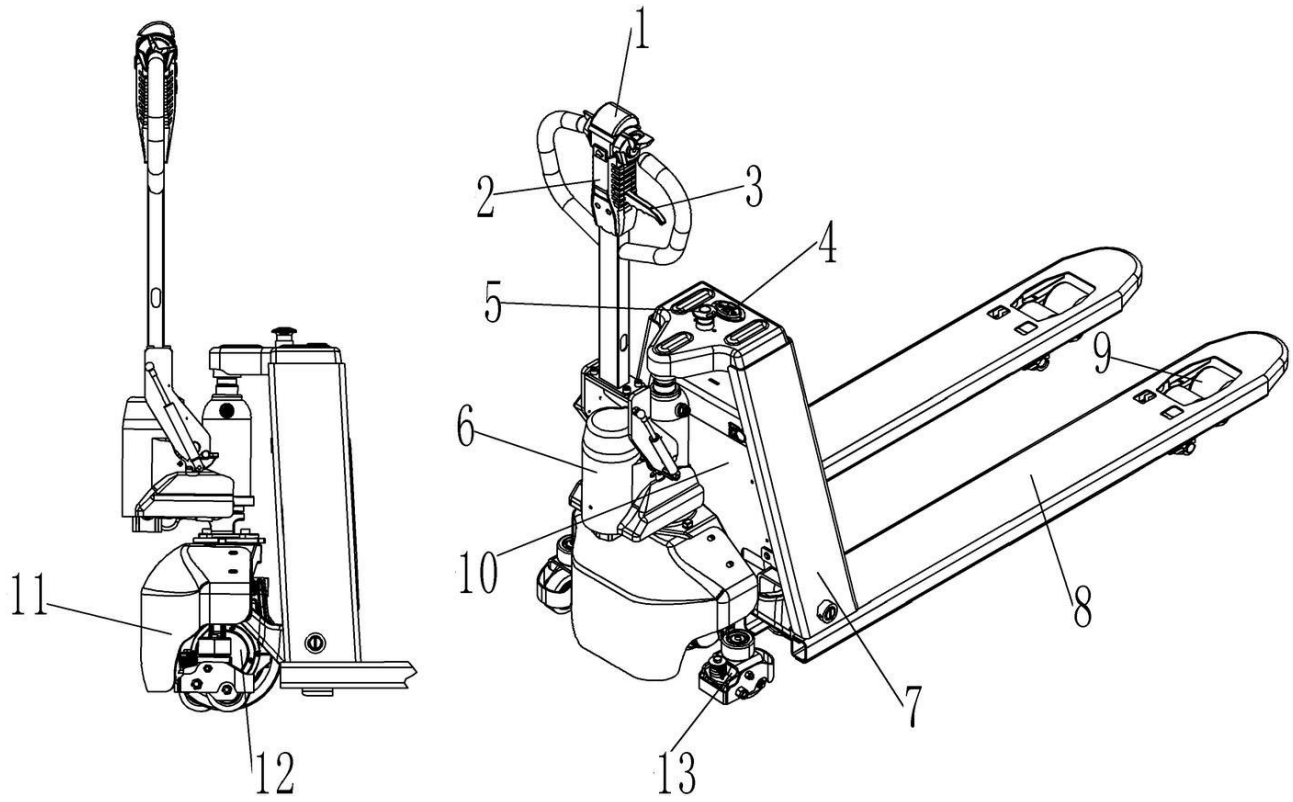


Fig. 1: Overview main components

1. Safety (belly) button
2. Tiller
3. Finger tip control
4. Display
5. Emergency button
6. Hydraulic unit cover
7. Chassis
8. Leg
9. Load roller
10. Electric assembly
11. Apron
12. Driving unit
13. Side roller (option for PTE15-C/SPTE15-C)

b. Main technical data

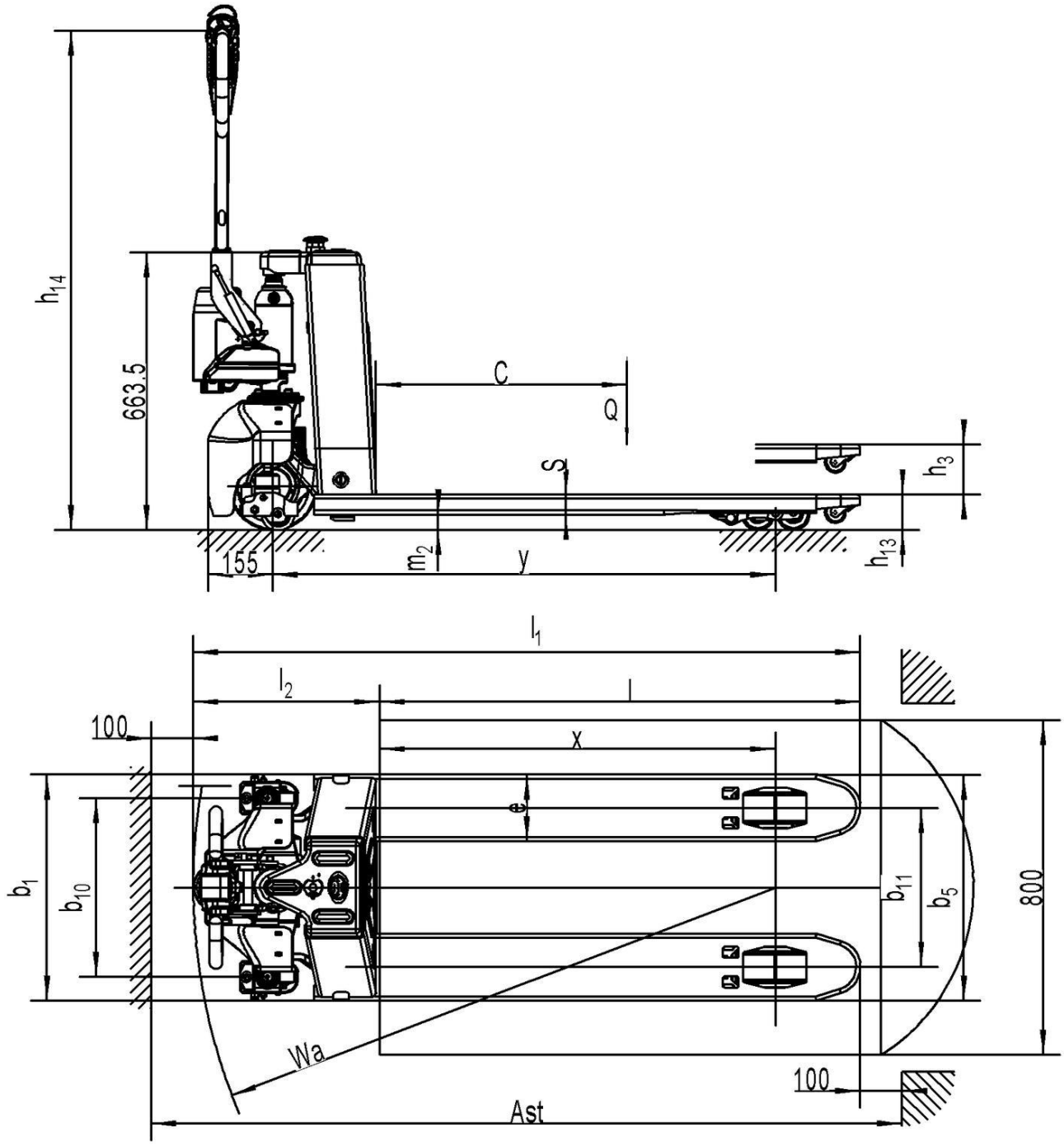


Fig. 2: Technical data

Table 1: Main technical data for standard version

		Type sheet for industrial truck acc. to (VDI2198)			
Distinguishing mark	1.2	Manufacturer`stype designation		PT E15-C	SPT E15-C
	1.3	Power(battery,diesel,petrolgas,manual)		Battery	
	1.4	Operator type		Pedestrian	
	1.5	Load Capacity / rated load	Q (t)	1.5	1.5
	1.6	Load centre distance	c (mm)	600	600
	1.8	Load distance, centre of drive axle to fork	x (mm)	950	950
	1.9	Wheelbase	y (mm)	1200	1200
Weight	2.1	Service weight	kg	130	130
	2.2	Axle loading, laden front/rear	kg	570/1060	570/1060
	2.3	Axle loading, unladen front/ rear	kg	100/30	100/30
Tires, chassis	3.1	Tires		Polyurethane (PU)	
	3.2	Tire size, front	∅ x w (mm)	∅ 210×70	∅ 210×70
	3.3	Tire size, rear	∅ x w (mm)	∅ 80×93/∅ 80×70	∅ 80×93/∅ 80×70
	3.4	Additional wheels (dimensions)	∅ x w (mm)	-/∅ 80×30	-/∅ 80×30
	3.5	Wheels, number front/ rear(x=driven wheels)		1x/ 2	1x/ 2
	3.6	Tread, front	b_{10} (mm)	-/430	-/430
	3.7	Tread, rear	b_{11} (mm)	380/525	380/525
Dimensions	4.4	Lift height	h_3 (mm)	115	115
	4.9	Height of tiller in drive position min. / max.	h_{14} (mm)	680 / 1190	680 / 1190
	4.15	Height, lowered	h_{13} (mm)	80	80
	4.19	Overall length	l_1 (mm)	1595	1595
	4.20	Length to face of forks	l_2 (mm)	445	445
	4.21	Overall width	b_1 (mm)	540/685	540/685
	4.22	Fork dimensions	s/e/l (mm)	48 / 160 / 1150	48 / 160 / 1150
	4.25	Width across forks	b_5 (mm)	540/685	540/685
	4.32	Ground clearance, centre of wheelbase	m_2 (mm)	32	32
	4.34	Aisle width for pallets 800X1200 lengthways	Ast (mm)	2310	2310
	4.35	Turning radius	Wa (mm)	1390	1390
Performance	5.1	Travel speed, laden/ unladen	km/h	4.5/4.8	4.5/4.8
	5.2	Lift speed, laden/ unladen	m/s	0.015/0.02	Manual
	5.3	Lowering speed, laden / unladen	m/s	0.06/0.04	0.06/0.04
	5.8	Gradeability, laden/ unladen	%	5 / 15	5 / 15
	5.10	Service brake		Electromagnetic	
Motors	6.1	Drive motor rating S2 60min	kW	0.75	0.75
	6.2	Lift motor rating at S3 10%	kW	0.8	-
	6.3	Battery acc. to DIN 43531 /35 / 36 A, B, C		No	No
	6.4	Battery voltage, nominal capacity K5	V / Ah	48 / 12	48 / 12
	6.5	Battery weight (minimum)	kg	5	5
	6.6	Energy consumption acc. to EN16796-2	kWh/h	0.1	0.1
	8.1	Type of drive control		DC-brush less control	
	8.4	Sound level at driver`s ear acc. to EN 12053	dB(A)	<70	<70

c. Description of the safety devices and warning labels (Europe and other, excepting USA)

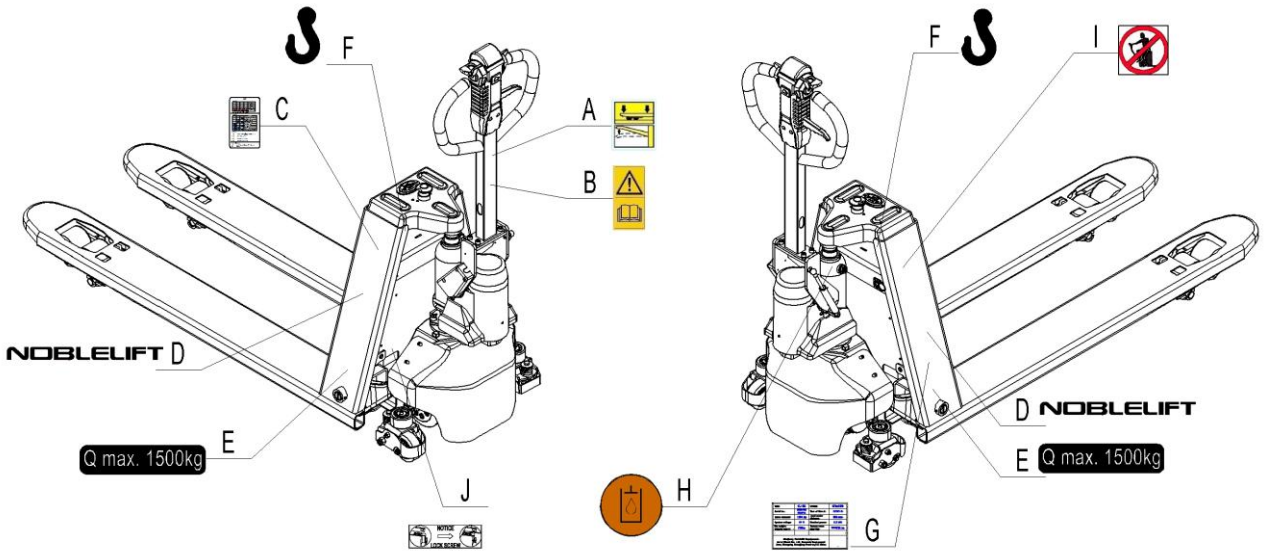


Fig. 3: Safety and

A Manual lowering label
B Sticker to read and follow this instruction
C Reminding Label(swtich)
D Sticker (NOBLELIFT)
E Capacity sticker(1500Kg)
F Crane hook label
G Identification plate (ID-plate)
H Filling sticker
I "No passengers" decal
J Warning Label

The truck is equipped with an emergency button (5) which stops all lifting-, lowering-, driving- functions and engages the failsafe electromagnetic brake when it is pressed. By turn this button clockwise, the truck can be operated after the controller checked the functions. Before operating, press button on display (4) to activate the truck.

To prevent against unauthorized access, press emergency button (5) or press button on display (4).

The truck is equipped with a safety (belly) button (1) which switches the driving function away from the operator, if the truck travels towards the operator and the tiller is activated in the tillers operating zone. Follow also the instructions given on the decals. Replace the decals if they are damaged or missing.

d. Identification plate

Pallet Truck					
Designation, type	xxxx		Rated capacity	xxxx	kg
Rated voltage	xx	V	Self weight	xxxx	kg
Battery weight maximum	xxx	kg	Battery weight minimum	xxx	kg
Own mass without battery without load	xxx	kg	Lifting height maximum	xxxx	mm
Serial number	XXXXXXXXXX		Device code	XXXXXXXXXX	
Manufacturer XXXXXXXXXXXXXXX Manufacturer XXXXXXXXXXXXXXX					

Fig. 4: Identification plate
Identification plate format and content

3. WARNINGS, RESIDUAL RISK AND SAFETY INSTRUCTIONS

DO NOT

- Put foot or hand under or into the lifting mechanism.
- Allow other person than the operator to stand in front of or behind the truck when it is moving or lifting/lowering.
- Overload the truck.
- Put foot in front of the wheels, injury could result.
- Lift people. People could fall down and suffer severe injury.
- Push or pull loads
- Side or end load. Load must be distributed evenly on the forks.
- Use the truck with unstable, unbalanced not stable load.
- Use truck without manufacturer's written consent.
- Lifted loads could become unstable at wind forces. In the case of wind forces do not lift the load if there is any influence to the stability.

Watch difference in floor levels when driving. Load could fall down or the truck could get uncontrollable.

Keep watching the condition of load. Stop operating the truck if load becomes unstable.

Brake the truck and activate the emergency button (5) by pushing when sliding load on or off the truck. If the truck has any malfunctions, follow chapter 10.

Practice maintenance work according to regular inspection. This truck is not designed to be water resistant. Use the truck under dry condition. Prolonged continuous operation might cause damage of the power pack. Stop operation if temperature of hydraulic oil is too high.

When operating the electric pallet truck, the operator has to wear safety shoes.

- The truck is intended to be used for indoor applications with ambient temperatures between +5°C and + 40°C.
- The operating lighting must be minimum 50 Lux.
- To prevent unintended sudden movements when not operating the truck (i.e. from another person, etc.), press emergency switch (5) or press the button on display.

4. COMMISSIONING, TRANSPORTING, DECOMMISSIONING

a. Commissioning

Table 2: Commissioning data

Type	SPTE15-C/ PTE15-C
Commissioning weight [kg]	130kg
Dimensions [mm]	1530x540x1250

After receiving our new pallet truck or for re-commissioning you have to do following before (firstly) operating the truck:

- Check if are all parts included and not damaged
- Make sure the tiller is assembled correctly (electrical socket is connected and fixed with two plastic clamps, circlip of the axle is installed)
- Check that battery is charged (follow chapter 8)
- Do the work according to the daily inspections as well as functional checks.

b. Lifting/ transportation

For transporting, remove the load, lower the forks to the lowest position and fix the truck safe with dedicated lifting gear according to the following figures.

Lifting

USE DEDICATED CRANE AND LIFTING EQUIPMENT
DO NOT STAND UNDER THE SWAYING LOAD
DO NOT WALK INTO THE HAZARDOUS AREA DURING LIFTING

Park the truck securely and lash the truck according to the points identified in Fig. 5. Lift the truck to its destination and place the truck securely before removing the lifting gear. The lashing points are according to the Fig. 5.

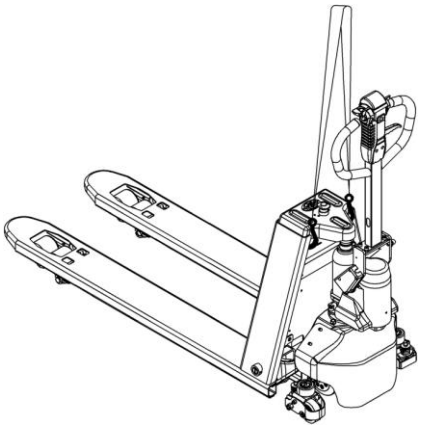


Fig. 5: Lifting with a crane

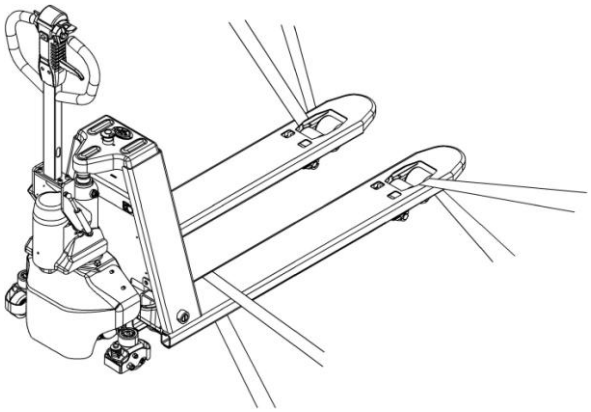


Fig. 6:Fixing points

Transportation

DURING TRANSPORTATION ON A LORRY OR TRUCK ALWAYS FASTEN THE TRUCK SECURELY.

Lower the forks and park the truck securely.
Fasten the truck according to Fig. 6 by fixing dedicated lashing belts to each side of the trucks crane hook holes and fasten the other side at the transporting truck.

c. Decommissioning

For storage, remove the load, lower the truck to the lowest position, grease all in this handbook mentioned greasing points (regular inspection), and eventually protect the truck against corrosion and dust. Remove the batteries and jack the truck safely, so that there will be no flattening after storage.
For final decommissioning hand the truck to a designated recycling company. Oil, batteries and electric components must be recycled due to legal regulations.

5. DAILY INSPECTION

This chapter describes pre-shift checks before putting the truck into operation.
Daily inspection is effective to find the malfunction or fault on this truck. Check the truck on the following points before operation.
Remove load from truck and lower the forks.

DO NOT USE THE TRUCK IF ANY MALFUNCTION IS FOUND.

- Check for scratches, deformation or cracks.
- Check if there is any oil leakage from the cylinder.
- Check the smooth movement of the wheels.
- Check the function of driving in both directions (section 6d).
- Check the functions of braking by activation of tiller arm sensor, reversing of driving buttons,

release of driving buttons and of the safety (belly) button (section 6f).

- Check the function of driving with tiller in its vertical position (section 6d).
- Check the function of the emergency brake by activating the emergency button.
- Check the lifting and lowering functions by operating the buttons (section 6b and 6c).
- Check the function of steering by turning the tiller from one end position to the other one. The steering should be smooth, without jerks or abnormal sound.
- Check if all bolts and nuts are tightened firmly.
- Visual check if there are any broken electric wires.
- If supplied with a backrest extension, check it for damages and correct assembling.
- Check the presence of warning stickers and signs (section 2c and section 12)

6. OPERATING INSTRUCTIONS

BEFORE OPERATING THIS TRUCK, PLEASE FOLLOW THE WARNINGS AND SAFETY INSTRUCTIONS (CHAPTER 3).

Make sure, that the load is palletized and stable and that the daily inspection is carried out.

Steps to activate the truck: start the emergency button and press the button on display.

Press the horn button (Fig.7,15) to activate the audible warning signal.
Steps to shutdown the truck: shutdown the emergency button.

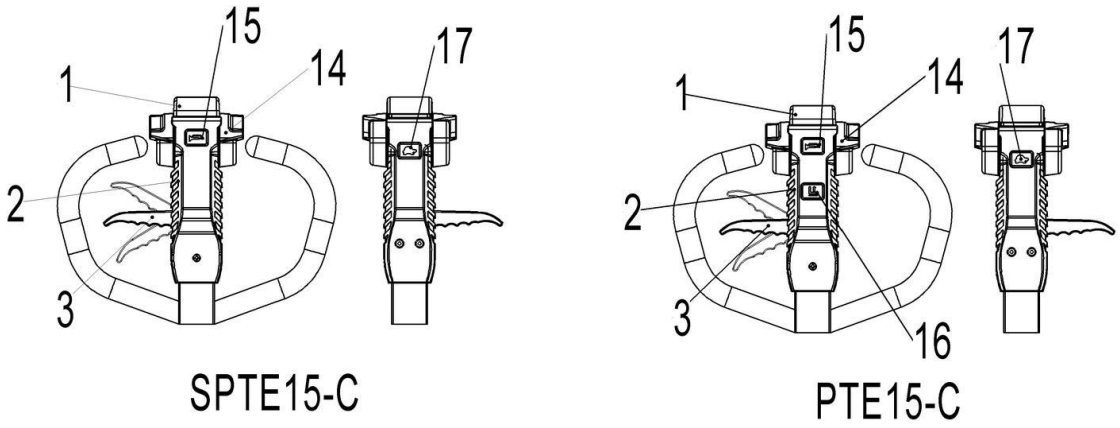


Fig.7: Tiller operating controls

a. Parking

DO NOT PARK THE TRUCK ON INCLINED SURFACES

The truck is equipped with an electromagnetic failsafe stopping and parking brake.
Always lower the forks fully. Press the emergency button (5).

b. Lifting

DO NOT OVERLOAD THE TRUCK!
THE MAXIMUM CAPACITY OF PTE15-C/SPTE15-C IS 1500 kg.

Travel with the lowered forks fully underneath the pallet and move the finger tip control (3) to the lifting position. Press the tiller of SPTE15-C to lift the loads. Press the lifting button (Fig. 7, 16) until you reached the desired lifting height.

c. Lowering

Move the finger tip control (3) to the lowering position to lower the loads. When release the finger tip, the lowering stops. Make sure there is enough rear space to carefully drive away from the loads area.

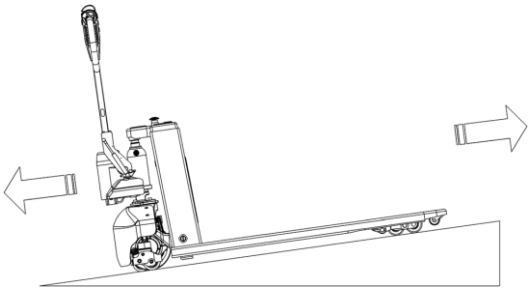


Fig. 8: Load facing uphill

d. Travelling

TRAVEL ON INCLINES ONLY WITH THE LOAD FACING UPHILL.
DO NOT TRAVEL ON INCLINES MORE THAN SPECIFIED WITH THE TECHNICAL DATA.

After starting the truck by activation from Pin-code panel, move the tiller to the operating zone (‘F’, Fig.9).

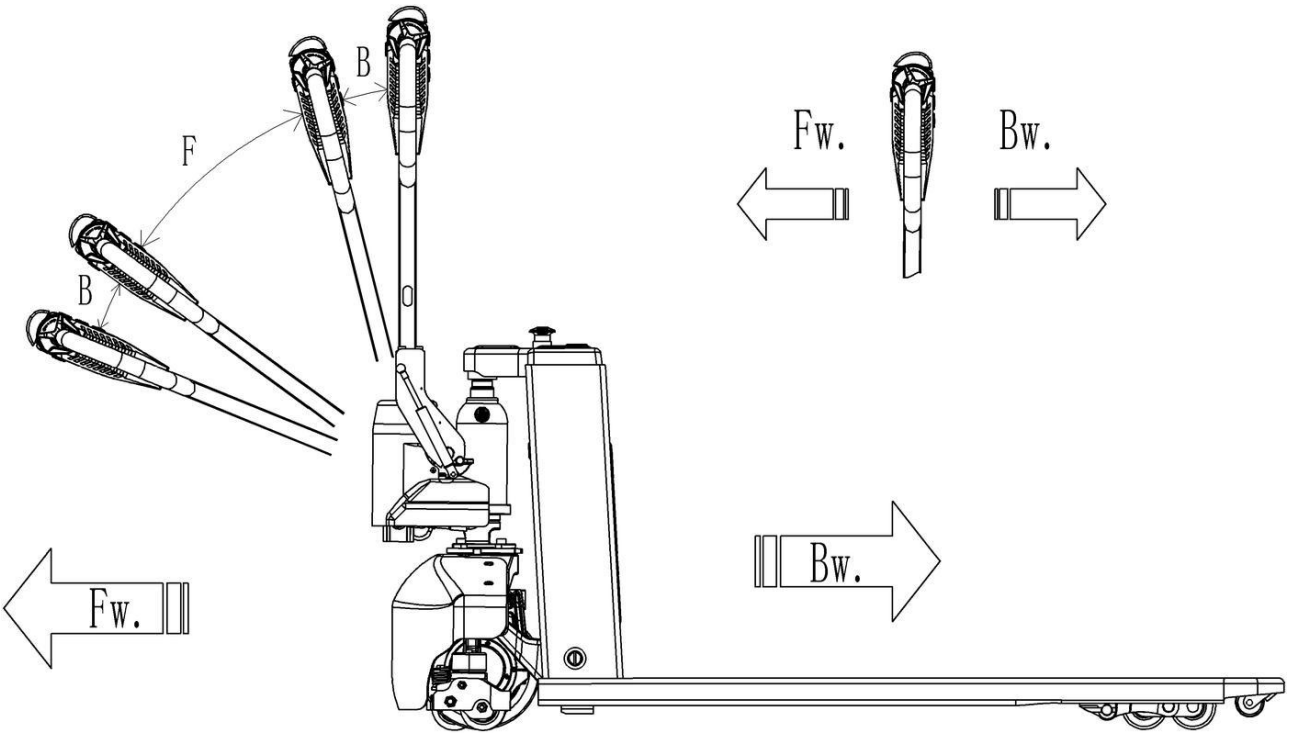


Fig. 9: Operating direction

Turn the accelerator button to the desired direction forwards ‘Fw.’ or backwards Bw.’(Fig. 9).
Control the travelling speed by moving the accelerator button (Fig.7, 14) carefully until you reached the desired speed.
If you move the accelerator button back to the neutral position, the controller decelerates the truck until the truck stops. If the truck stopped, the parking brake will be engaged.

Drive carefully the truck to the destination. Watch the route conditions and adjust the travelling speed with the accelerator button.
The truck has vertical driving function.

With tiller in its vertical position, press turtle button  (Fig.7, 17) and hold still, move the accelerator button to activate driving function and travel slowly, which is suitable for narrow space operation.

e. Steering

Steer the truck by moving the tiller to the left or right side.

f. Braking

PLEASE CHECK THE BRAKING DISTANCE WITH TRUCK BEFORE OPERATION
THE BRAKING PERFORMANCE DEPENDS ON THE TRACK CONDITIONS AND THE LOAD CONDITIONS OF THE TRUCK

The braking function can be activated on several ways:

- By moving the accelerator button (14) back to the initial ‘0’ position or by releasing the button, the regenerative braking is activated. The truck brakes until it stops.
- By moving the accelerator button (14) from one driving direction directly to the opposite direction, the truck brakes regenerative until it starts traveling into the opposite direction.
- The truck brakes, if the tiller is moved up or down to the braking zones (‘B’). If the tiller is released, the tiller moves automatically up to the upper baking zone (‘B’).The truck brakes until it stops.
- The safety (belly) button (1) prevents the operator from being crushed. If this button is activated, the truck decelerates and/ or starts traveling into the backwards direction (‘Bw.’) for a short distance and stops. Please consider, that this button also operates, if the truck is not traveling and the tiller is in the operating zone.

g. Malfunctions

If there are any malfunctions or the truck is inoperative, please stop using the truck and activate the emergency button (5) by pushing it. If necessary, tow the truck out of the operating area by using dedicated towing/ lifting equipment.

h. Emergency

In emergencies or in the event of tip over (or off dock), keep safe distance immediately. If possible push the emergency button (5). All electrical functions will be stopped.

7. BATTERY CHARGING AND REPLACEMENT

- Only qualified personnel are allowed to service or charge the batteries. The instructions of this handbook must be observed.
- The batteries are lithium batteries.
- Recycling of batteries undergoes national regulations. Please follow these regulations.
- By handling batteries, open fire is prohibited!
- In the area of battery charging neither burning materials nor burning liquids are allowed. Smoking is prohibited and the area must be ventilated.
- Park the truck securely before starting charging or installing/changing the batteries
- Before finishing the maintenance work, make sure, that all cables are connected correctly and that there are no disturbing towards other components of the truck.

Table 3: Available batteries

Model	Battery specification
PTE15-C/SPTE15-C	48V12Ah lithium battery, 5kg

IT IS ONLY ALLOWED TO USE LITHIUM BATTERIES. PLEASE CONSIDER THE MAXIMUM OPERATING TEMPERATURE OF THE BATTERIES

a. Replacement

Park the truck securely and press emergency button (5). Remove the front cover and the hoop, remove the battery plug and then take out the battery. The installation is in the reverse order.

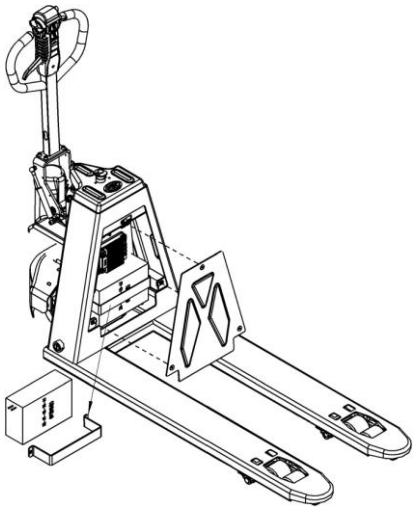
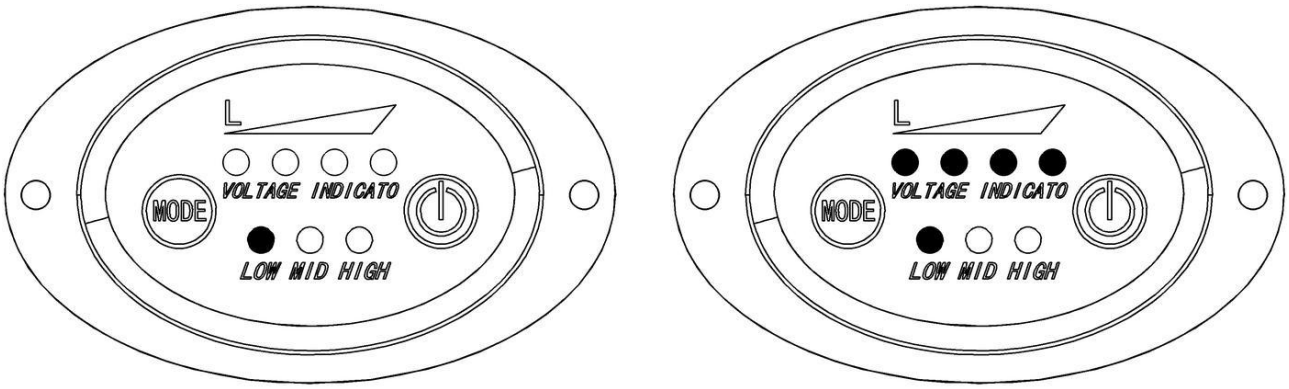


Fig. 10: Battery replacement

b. Battery indicator

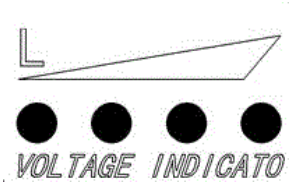


Battery discharged

Battery charged

Fig. 11: Battery discharge indicator

Battery State of charge



The battery's state of charge indicated through 4 LED indicate lamps. Each lamp represents 25% of the battery charge. As the battery becomes discharged, the lamps turn off progressively, one after another, in proportion to the value of the residual battery charge. When the battery is nearly running out, the LED lamp on the leftmost (L side) keeps flashing until it goes out and the battery runs out.

Four modes

1. Mode 1: Three indicator lamps are flashing in cycles; Long-press the button 

to switch mode.

2. Mode 2: LOW indicator lamp is always on; Click the button 

to switch mode.

3. Mode 3: MID indicator lamp is always on; Click the button 

to switch mode.

4. Mode 4: HIGH indicator lamp is always on; Click the button 

to switch mode.

c. Charging

- Before charging ensure that you are using an appropriate charger for charging the installed battery.
- Before using the charger, please fully understand the instructions of the charger instructions.
- Always follow these instructions.
- The room, where you are charging must be ventilated.
- The exactly charge status can be only checked from the discharge indicator. To control the status, the charging must be interrupted and the truck must be started.
- Turn off the emergency button during charging.

Park the truck at a dedicated secured area with a dedicated power supply. Lower the forks and remove the load; Switch the truck off and connect the charger plug (20) to the charging port (21) on the battery. The charger starts charging the battery if the charger plug (19) is connected to the main power supply. Disconnect the charger plug from the battery and close the cap after the charger finished charging.

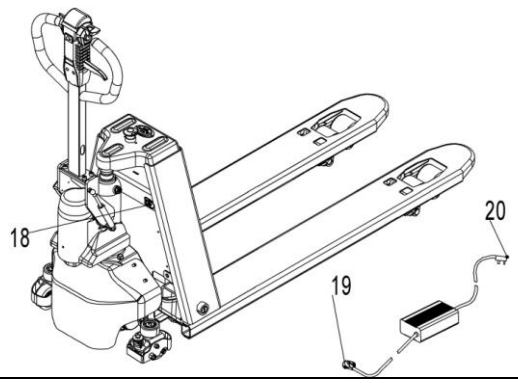


Fig.12: Battery charging

When charging is finished, disconnect the plug (19) from the socket and place it in the designated pocket. It's also allowed to remove the battery out and charge in dedicated area.

Table 4: LED-Status

LED- signal	Function
Red	Charging
Green	Fully charged

Table 5: Charger of PTE15-C/SPTE15-C

Model	Specification	Input	Output
DZL482006/BZ3D51J3	48V3A (CHN)	180Vac -240Vac～2.0A MAX	54.6V 5.0A

8. REGULAR MAINTENANCE

- Only qualified and trained personnel are allowed to do maintenance on this truck.
- Before maintaining, remove the load from the forks and lower the forks to the lowest position.
- If you need to lift the truck, follow chapter 4b by using designated lashing or jacking equipment. Before working, put safety devices (for instance designated lift jacks, wedges or wooden blocks) under the truck to protect against accidental lowering, movement or slipping.
- Please pay attention by maintain the tiller arm. The gas pressure spring is pre-loaded by compression, carelessness can cause injury.
- Use approved and from your dealer released original spare parts.
- Please consider that oil leakage of hydraulic fluid can cause failures and accidents.
- It is allowed to adjust the pressure valve only from trained service technicians.

Check the items emphasized in maintenance checklist.

a. Maintenance checklist

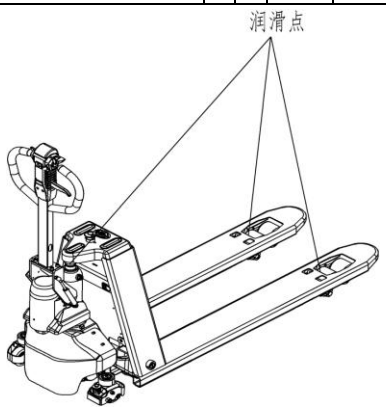
Table 7: Maintenance checklist

		Interval (Month)			
		1	3	6	12
Hydraulic system					
1	Check the hydraulic cylinder(s), piston for damage noise and leakage		•		
2	Check the hydraulic joints for damage and leakage		•		
3	Inspect the hydraulic oil level, refill if necessary		•		
4	Refill the hydraulic oil (12 month or 1500 working hours)				•
5	Check and adjust function of the pressure valve (1500kg (PTE15-C) +0/+10%)				•
Mechanical system					
6	Inspect the forks for deformation and cracks		•		
7	Check the chassis for deformation and cracks		•		
8	Check if all screws are fixed		•		
9	Check the push rods for deformation and damages		•		
10	Check the gearbox for abnormal sound and noise		•		
11	Inspect the wheels for deformation and damages		•		

12	Inspect and lubricate the steering bearing if necessary				●
13	Inspect and lubricate the pivot points if necessary		●		
14	Lubricate the grease nipples	●			
Electrical system					
15	Inspect the electric wiring for damage		●		
16	Check the electric connections and terminals		●		
17	Test the Emergency switch function		●		
18	Check the electric drive motor for noise and damages		●		
19	Test the display		●		
20	Check, if correct fuses are used		●		
21	Test the warning signal		●		
22	Check the contactor(s)		●		
23	Check the frame leakage (insulation test)		●		
24	Check function and mechanical wear of the accelerator		●		
25	Check the electrical system of the drive motor		●		
Braking system					
26	Check brake performance, if necessary replace the brake disc or adjust the air gap		●		
Battery					
27	Check the battery voltage		●		
28	Clean and grease the terminals and check for corrosion and damage		●		
29	Check the battery housing for damages		●		
Charger					
30	Check the main power cable for damages			●	
31	Check the start-up protection during charging			●	
Function					
32	Check the horn function	●			
33	Check the air gap of the electromagnetic brake	●			
34	Test the emergency braking	●			
35	Test the reverse and regenerative braking	●			
36	Test the safety (belly) button function	●			
37	Check the steering function	●			
38	Check the lifting and lowering function	●			
39	Check the tiller arm switch function	●			
General					
40	Check if all decals are legible and complete	●			
41	Inspect the castors, adjust the height or replace these if worn out.		●		
42	Carry out a test run	●			

b. Lubricating points

Lubricate the marked points according to the maintenance checklist.
The required grease specification is: DIN 51825, standard grease.



c. Check and refill hydraulic oil

It is recommended to use hydraulic oil in connection with average temperature:

Environment temperature	–5℃~25℃	>25℃
Type	HVLP 32，DIN 51524	HLP 46，DIN 51524
Viscosity	28.8-35.2	41.4 - 47
Amount	PTE15-C 0.3 L; SPTE15-C 0.2 L	

Waste material like oil, used batteries or other must be probably disposed and recycled according to the national regulations and if necessary brought to a recycling company.
The oil level in the oil tank should be between min and max marks with fully lowered forks.
If necessary add oil at the filling point.

d. Checking electrical fuses

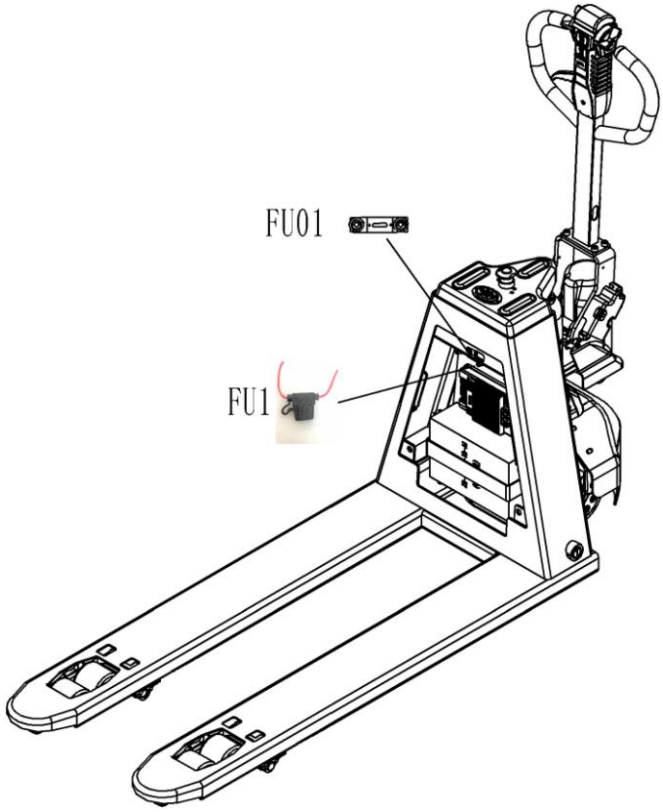


Fig. 15 Location of fuses for PTE15-C/SPTE15-C

Table 8: Size of the fuses

	Rate
FU 01	30A
FU 1	10A

9. TROUBLE SHOOTING

- If the truck has malfunctions follow the instructions, mentioned in chapter 6.

Table 9: Trouble shooting

TROUBLE	CAUSE	REPAIR
Load can't be lifted	Load weight too high	Lift only the max. capacity, mentioned on the ID-plate
	Battery low power	Charge the battery
	Lifting contactor failure	Check and contact with service support for replacement if necessary
	Hydraulic oil level too low	Check and eventually refill hydraulic oil
	Oil leakage	Repair the sealing of the cylinder
Oil leakage from air breathing	Excessive quantity of oil.	Reduce oil quantity.
Truck not starts operating	Battery is charging	Charge the battery completely and then remove the main power plug form the electrical socket.
	Battery not connected	Connect the battery correctly
	Fuse faulty	Check and eventually replace fuses
	Low battery	Charge the battery
	Emergency switch is activated	Turn the emergency clockwise
	Tiller in the operating zone	Move the tiller firstly to the braking zone.

If the truck has malfunctions and can't be operated out of the working zone, jack the truck up and go with a load handler under the truck and safe the truck securely. Then move truck out of the aisle.

10. WIRING/ CIRCUIT DIAGRAM

a. Electrical circuit diagram

PTE15-C Electrical lifting

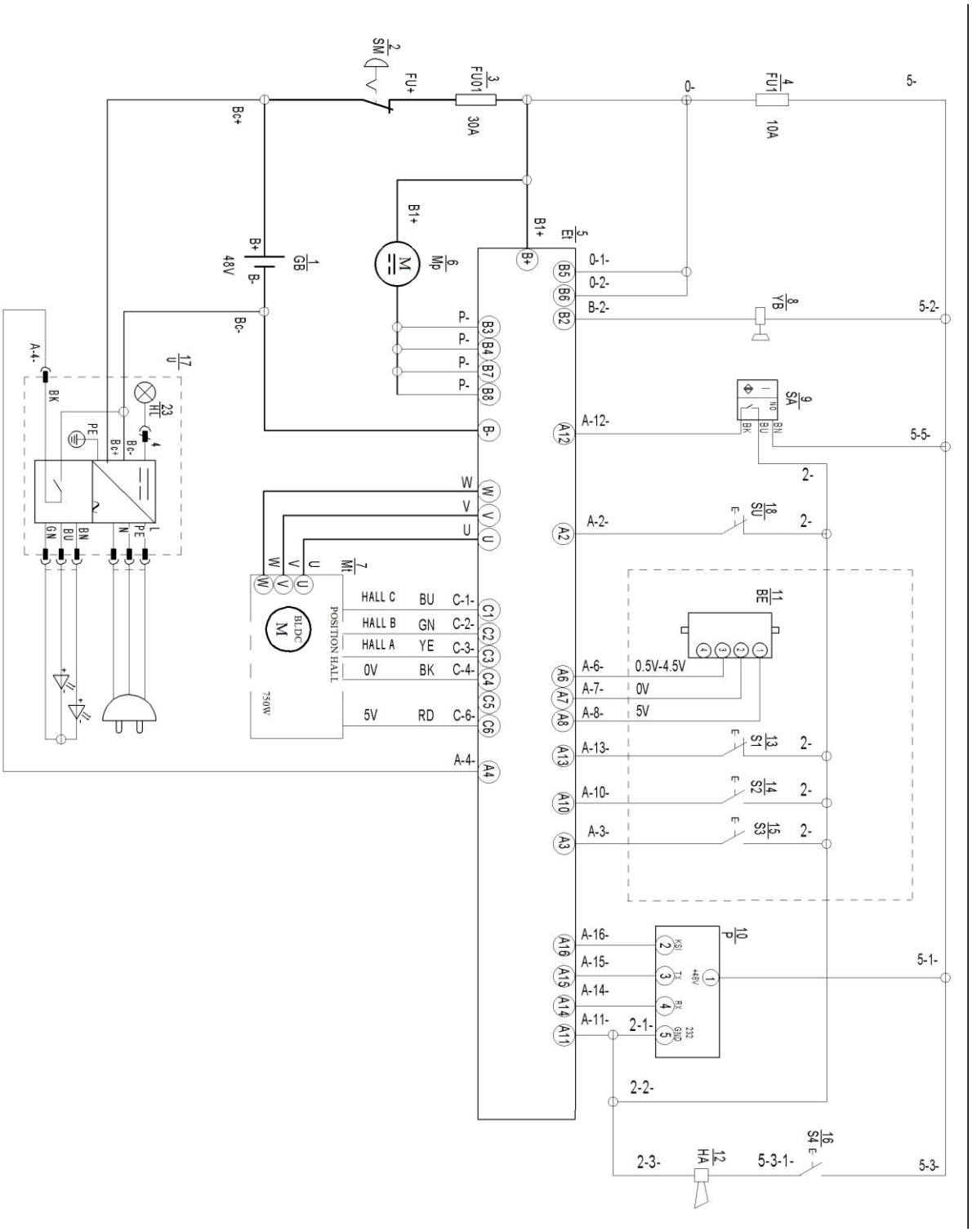


Fig.16: Electric diagram

FU 1 :10A
FU 01 : 30A

Table 10: Description of electrical diagram

Code	Item	Code	Item
GB	Battery	P	Electricity meter
SM	DC power switch	BE	Accelerator
FU01	30A fuse	HA	Horn
FU1	10A fuse	S1	Emergency reverse switch
Et	Controller	S2	Lifting switch
Mp	Pump motor	S3	Turtle speed switch
Mt	Traction motor	S4	Horn button
YB	Electromagnetic brake	U	Charger
SA	Interlock switch	SU	Micro switch

SPTE15-C Manual lifting

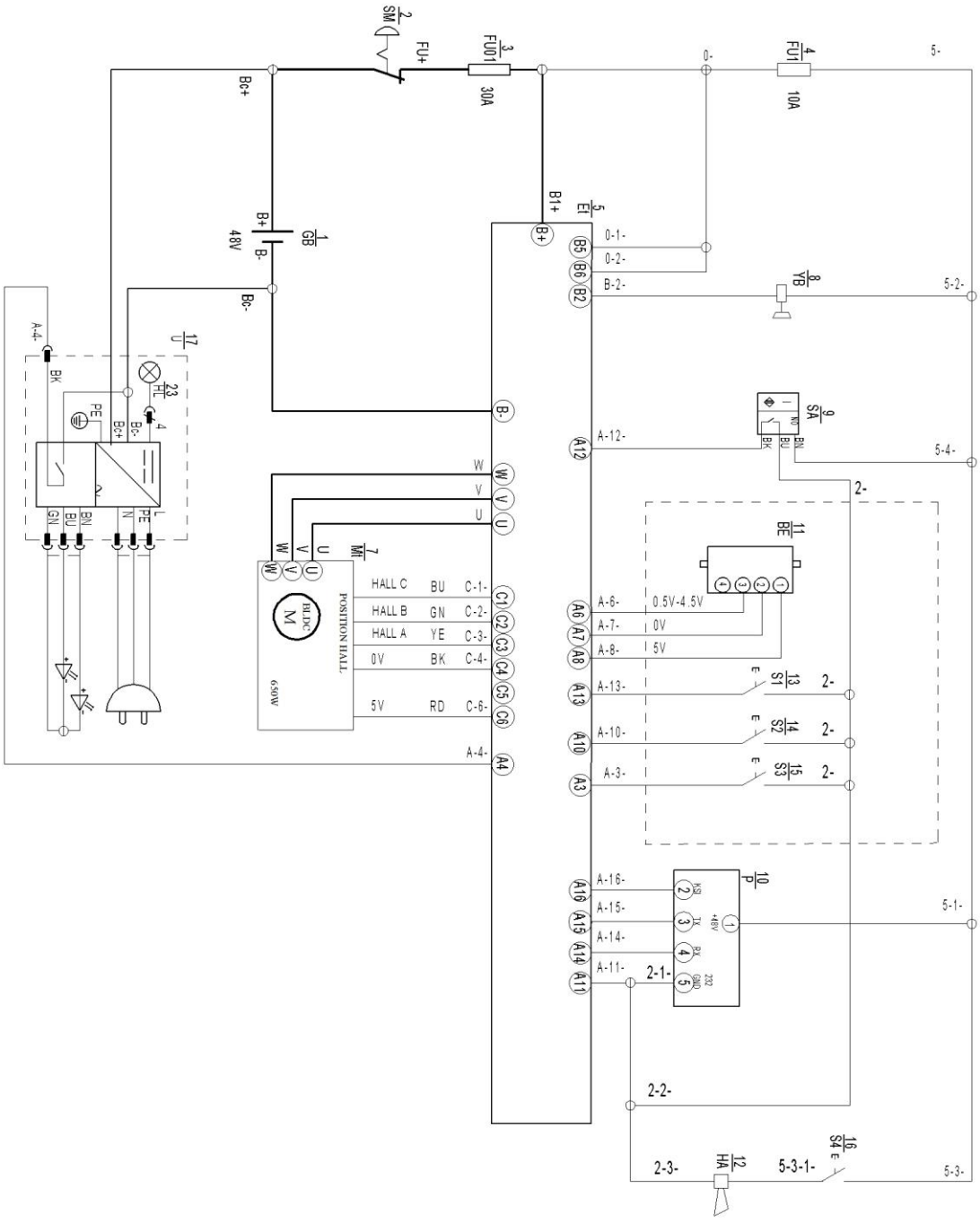


Fig.17: Electric diagram

FU1 :10A
FU01 : 30A

Table 11: Description of electrical diagram

Code	Item	Code	Item
GB	Battery	SA	Interlock switch
SM	DC power switch	P	Electricity meter
FU01	30A fuse	BE	Accelerator
FU1	10A fuse	HA	Horn
Et	Controller	S1	Emergency reverse switch
Mp	Pump motor	S3	Turtle speed switch
Mt	Traction motor	S4	Horn button
YB	Electromagnetic brake	U	Charger

b. Hydraulic circuit

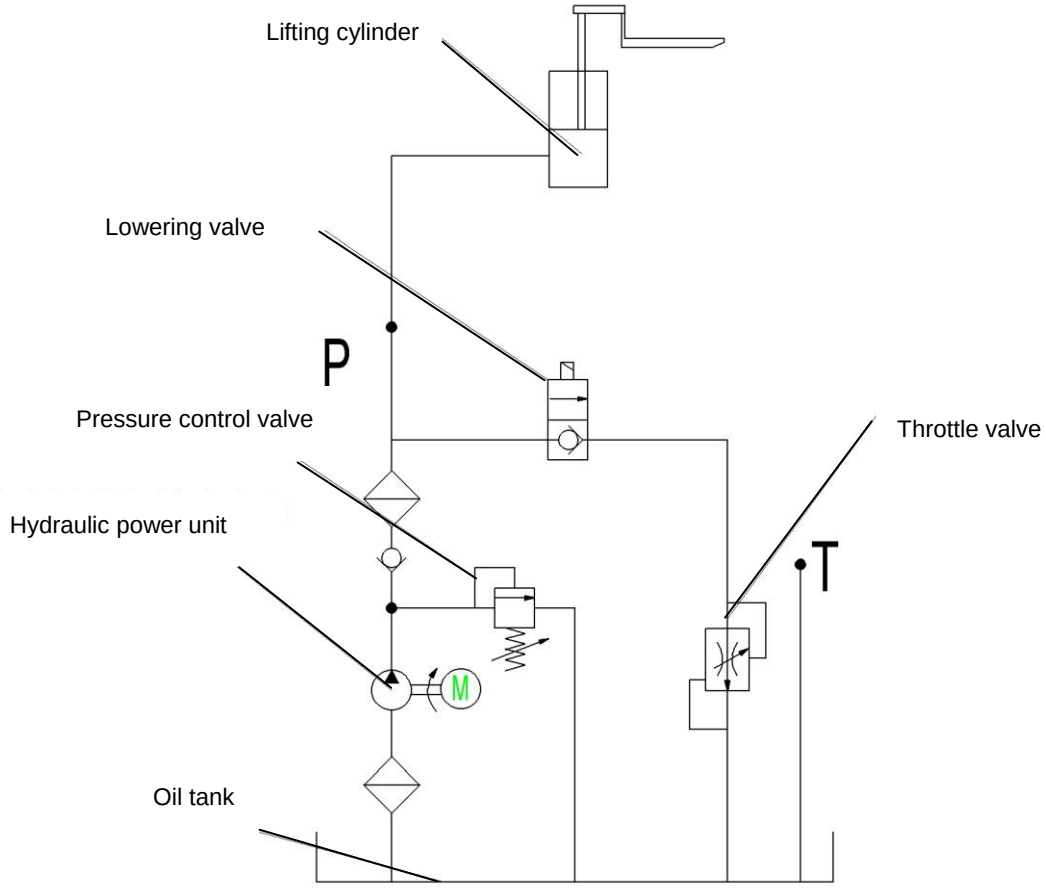


Fig. 18: Hydraulic circuit