

Operation Manual

EST124





EP EQUIPMENT CO.,LTD. is one of the world's leading companies manufacture, which design material handling equipment and provide related service. With over 100,000 square metres plant it produces over 100,000 trucks per year, and provides professional, effective and optimized material handling solutions worldwide, until now it has developed three major kinds of business:

- Material handling equipment: Focus on electric forklift and warehouse equipment
- OEM parts: Global parts supply
- Imow industry,online: One-stop industrial products supply

Guided by our customer-oriented concept, EP has developed service centers in more than 30 countries around the world, from which customers are able to receive timely local service. Moreover, 95% of warranty parts can be shipped out within 24 hours after been ordered. Through our online after-sales service system, customers can process their warranty claims, order spare parts and consult the operation manuals, maintenance materials and spare parts catalogs.

With business all over the world, EP has thousands of employees and hundreds of agents worldwide to provide our global customers with prompt local service.

Based on the concept of sharing economy, EP also offer rental service for various logistics equipment. Adhering to the idea "Making the leasing of logistic equipment more simple", EP is devoted to providing customized one-stop leasing solutions for our customers with our high quality, reasonable price and prompt rental service.

EP's mission&vision is " Let more people apply the electrical material handling equipment to relieve the intensity of labour" and "Let's grow together".

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Preface ►

Thank you for buying our products.

The manual will show you the way of correctly using the truck as well as relevant preventive maintenance and safety operation. The truck should be operated only by well-trained professionals and by no means by non-working personnel. Operators are supposed to read through the manual before actually operating the truck.

● Explanations on the manual

With the continuous upgradation and improvement of our company's products, you may find a slight difference existing between your carrier and some introductions in the manual.

All the information, specifications and illustrations in the manual are effective in times of printing and our company maintains the right to modify the specification (s) or design (s) of our products at any time without any beforehand notification.

● Safety signs and corresponding explanations



DANGER

Indicates an extremely hazardous situation. Failure to comply with this instruction will result in severe irreparable injury and even death.



WARNING

Please strictly adhere to these safety instructions to avoid personal injury or major damage to equipment.



CAUTION

Please pay attention to the important safety instructions.



NOTE

Pay attention to Instruction.

Internet address and QR code of Parts manual

By entering the address <http://www.ep-care.com> in a web browser or by scanning the QR code, Login after registration, Select "Parts purchase" function and input part number or model name to find the truck.



Fig0000-00017OM

Note: After registration, please send email to info@ep-care.com to activate your account

Intended use ►

The lift truck is designed for transporting and stacking the loads stated in the load capacity diagram.

In particular we refer to:

- the safety rules of your trade association.
- the special measures required for driving on public roads in accordance with the StVZO (Road Traffic Licensing Regulations).
- other local regulations.

The rules for the intended and approved use of industrial trucks must be followed under all circumstances by the responsible persons, especially by the operator and service personnel.

The user, and not EP, is responsible for any danger arising from applications not authorised by the manufacturer.

If you want to use the truck for applications not mentioned in this manual, please first contact your authorised dealer.

No changes, particularly no modifications and additions, may be made to the truck without the approval of the manufacturer.

● Obligations and responsibilities of equipment user

In the manual, “equipment user” refers to any natural person or legal person directly using or appointing or authorizing others to use the carrier. In such special situations as renting or sales, the “equipment user” represents the interested parties supposed to bear operation obligations as specified by the contractual terms concluded between equipment owner and corresponding users. Equipment users must ensure the use of the carrier only for purposes specified and timely eliminate all the dangers that may threaten the life and health of the users themselves or any other third party, in addition to which they must also strictly abide by accident prevention provisions, other safety technology provisions and equipment operation, maintenance and repair guidelines, and ensure that all the operators seriously read and completely understand the contents of the operation instruction.

Should any violation of the operation instruction occur, the quality guarantee of our company will be invalid automatically, and our company will assume none of the responsibilities for losses resulting from any nonstandard operation of the equipment implemented by any client, equipment user or any third party without the authorization of the client service department of our company.

● Series

EST124 is operating handle-type electric pallet stackers with pedestrian. They are suitable for lifting and handling goods on level surfaces. In addition to picking up roller trolleys, this type of stacker can pick up pallets that are outside the range of the load wheels. The pallet base can be either open- or closed-boarded.

● Design

The latest ergonomic and practical design, adaptable to all operators and working conditions. It features metal cover and strong chassis and greatly reduces stress and deformation caused by a heavy load.

● Tiller

The composite construction tiller head provides excellent impact resistance. The ergonomic control layout is suitable for left-handed and right-handed operators. The horn, lifting and lowering devices can be operated using one hand without changing grip. The emergency reverse switch integrated into the tiller head protects the operator if the truck recoils.

● Driving

- The electronic control unit ensures comfortable use and lower costs.
- Precise control of driving speed.
- Jolt-free starting and smooth acceleration to maximum speed.
- Simply release or turn the drive direction switch to brake.
- Booster circuit prevents the truck rolling back when starting on a gradient.

● Hydraulics

Gear pump driven by fully enclosed air-cooled motor. Safety valve and lowering brake protect the hydraulic system. This stacker covers all your light lifting and stacking tasks in warehouses especially for medium height rack system from 2.5m to 3.6m.

● Brake system

The electromagnetic brake with dust protection function can be used as a safety brake and parking brake. Braking is controlled by the drive controller, the brake's electromagnet acts on the motor shaft and automatic braking is activated when the tiller is in the horizontal or vertical position (end stop brake).

● Battery

EST124 comes with an 24V/10A integrated charger and a 24V/80Ah AGM battery, providing charging convenience and flexibility for daily usage.

● Mounting of attachments

Any installation or retrofitting of any additional device that may influence or enhance the functions of the carrier must be approved by our company in writing before hand.

● Modification

Unauthorized modification to the truck can result in injury or death.

Can not remove, disable or modify any safeguards or other safety devices.

Exception: 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 operation manual.
- 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.

● Wind loads

Wind forces can affect the stability of a truck when lifting, lowering and transporting loads with large surface areas .

Light loads must be especially secured when they are subjected to wind forces. This will prevent the load from sliding or falling.

Stop the truck in both cases.

Conformity marking

The manufacturer uses the conformity marking to document the conformity of the industrial truck with the relevant directives at the time of placing on the market:

- CE: in the European Union (EU)
- UKCA: in the United Kingdom (UK)

The conformity marking is applied to the nameplate. A declaration of conformity is issued for the EU and UK markets.

An unauthorised structural change or addition to the industrial truck can compromise safety, thus invalidating the declaration of conformity.



Legal requirements for marketing

Declaration

EP EQUIPMENT CO., LTD.

Address: No.1 Xiaquan Village, Lingfeng Street, Anji, Huzhou, Zhejiang

We declare that the machine

Industrial truck type: corresponding to these this operation manual

Model: corresponding to these this operation manual

Serial No.: corresponding to these this operation manual

Fulfills all the relevant provisions of Directives

- "Machinery Directive 2006/42/EC" ¹⁾
- "EU directive 2014/30/EU"¹⁾
- "Supply of Machinery Safety Regulations 2008(2008 No. 1597)" ²⁾
- "Electromagnetic Compatibility Regulations 2016 (SI 2016 No.1091)"²⁾

Personnel authorised to compile the technical documents:

See EC/EU Declaration of Conformity

EP EQUIPMENT CO., LTD.

1) For the markets of the European Union, the EU candidate countries, the EFTA States and Switzerland.

2) For the United Kingdom market.

The declaration shown explains the conformity with the provisions of the EC Machinery Directive 2006/42/EC and the Supply of Machinery Safety Regulation 2008, 2008 No. 1597. The declaration shown explains the conformity with the provisions of EU directive 2014/30/EU (Electromagnetic Compatibility - EMC) and Electromagnetic Compatibility Regulations 2016, SI 2016 No.1091.

An unauthorised structural change or addition to the industrial truck can compromise safety, thus invalidating the declaration of conformity.

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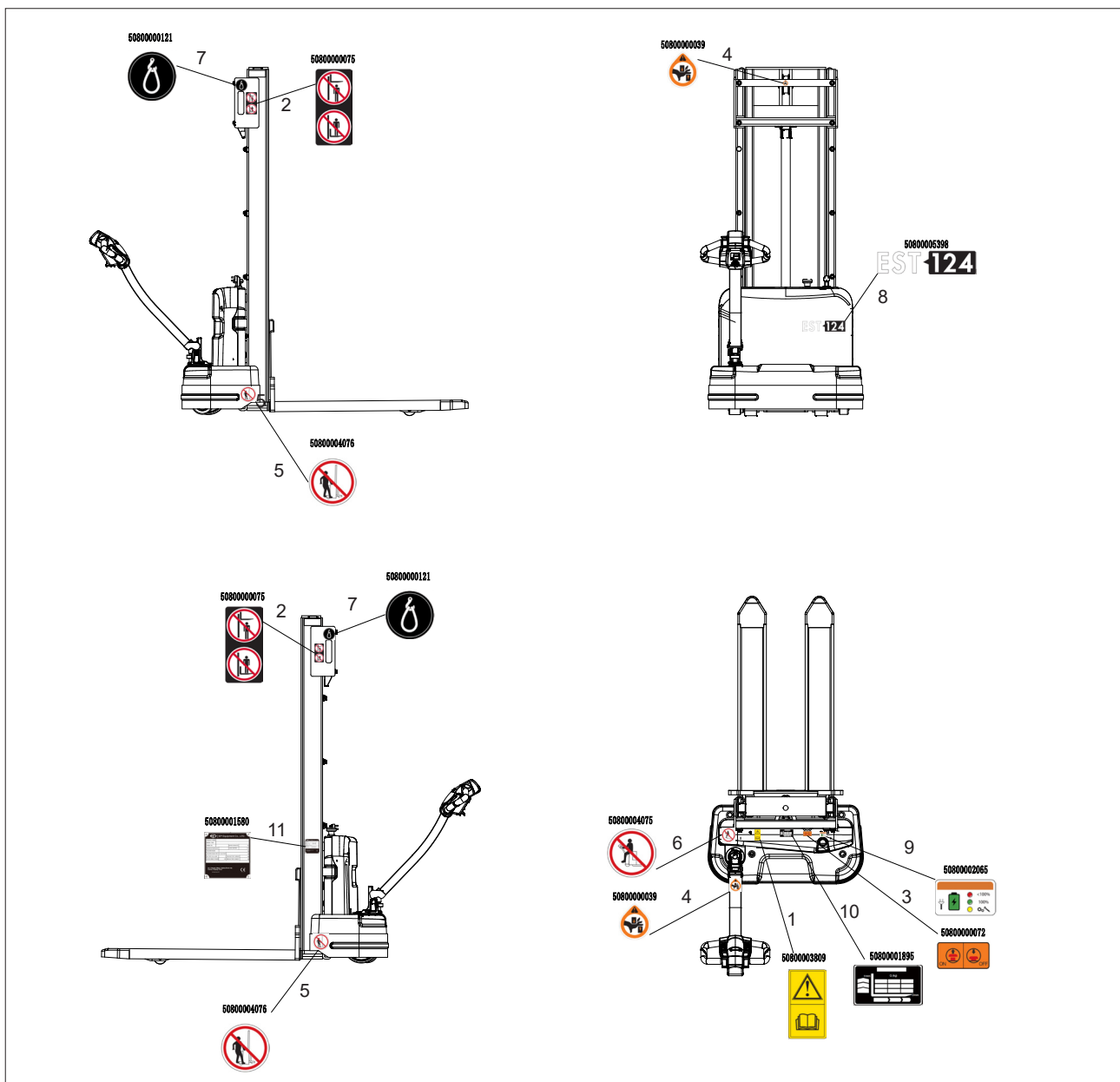
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A

Nameplates and alarming labels

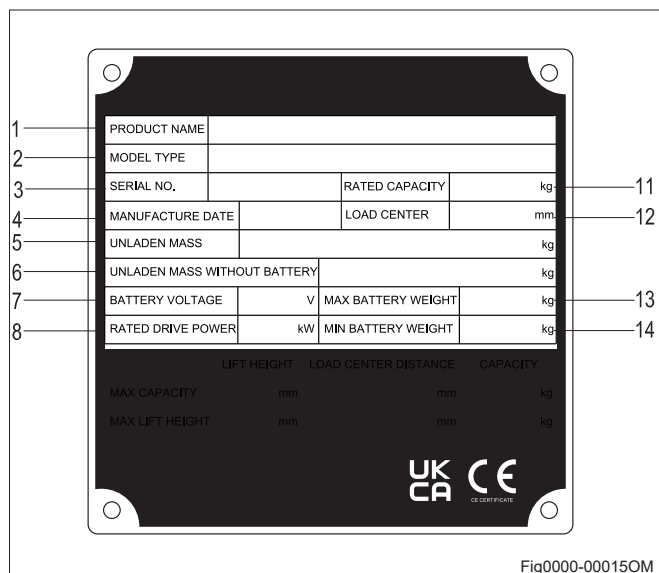
- Plates and labels, such as nameplate, load curve plate, warning labels must be legible, if identification is unclear, and must be replaced.
- The figure below shows the approximate location of the various identity resides. Before operating the truck, please understand the meaning of the various identities



Item	Description
1	Read the "Instruction handbook" before operation label
2	<ul style="list-style-type: none"> Never permit anyone to walk or stand under upraised forks or attachments. Do not allow anyone to stand on the forks.
3	Emergency stop switch label
4	Risk of serious injury or death due to entrapment. Never place your hands in between the inner and outer masts.
5	Anti-pinch foot label
6	Prohibition label: "No passengers"
7	Hoist label: Fixed point when using the crane to handle equipment.
8	Truck type label
9	Truck battery capacity indicator light
10	<p>The load capability plate</p> <p>The capacity plate gives the capacity (Q) of the truck in kg for a vertical mast. The maximum capacity is shown as a table with a given load centre of gravity D (in mm) and the required lift height H (in mm). The capacity plate of the truck indicates the truck's capacity with the forks as originally supplied.</p>
11	<p>Truck nameplate</p> <p>For queries regarding the truck or ordering spare parts please quote the truck serial number.</p>

➤ Truck nameplate

Item	Description
1	TRUCK NAME
2	MODEL TYPE
3	SERIES NO.
4	MANUFACTURE DATE
5	UNLADEN MASS
6	UNLADEN MASS WITHOUT BATTERY
7	BATTERY VOLTAGE
8	RATED DRIVE POWER
9	MAX CAPACITY
10	MAX LIFT HEIGHT
11	RATED CAPACITY
12	LOAD CENTER
13	MAX BATTERY WEIGHT
14	MIN BATTERY WEIGHT



B

Operation

1.1 Utilization safety specification

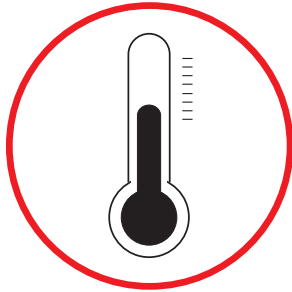


Fig0000-00016OM

- Average ambient temperature for continuous duty: $+ 25^{\circ}\text{C}$;
- Maximum ambient temperature, short term (up to 1h): $+ 40^{\circ}\text{C}$;
- Lowest ambient temperature for trucks intended for use in normal indoor conditions: $+ 5^{\circ}\text{C}$; Lowest ambient temperature for trucks intended for use in normal outdoor conditions: $- 20^{\circ}\text{C}$;
- Best operating temperature range: $15^{\circ}\text{C} \sim 35^{\circ}\text{C}$;

Don't use the truck in rainwater.

Don't use the truck in non-position.

i NOTE

When operate the truck in extreme environment like freezer, install special equipment and get the permission from the manufacturer. We recommend with special measures for the truck or buy the truck for cold store. If in doubt, contact the manufacturer's customer service department.

➤ Improper use

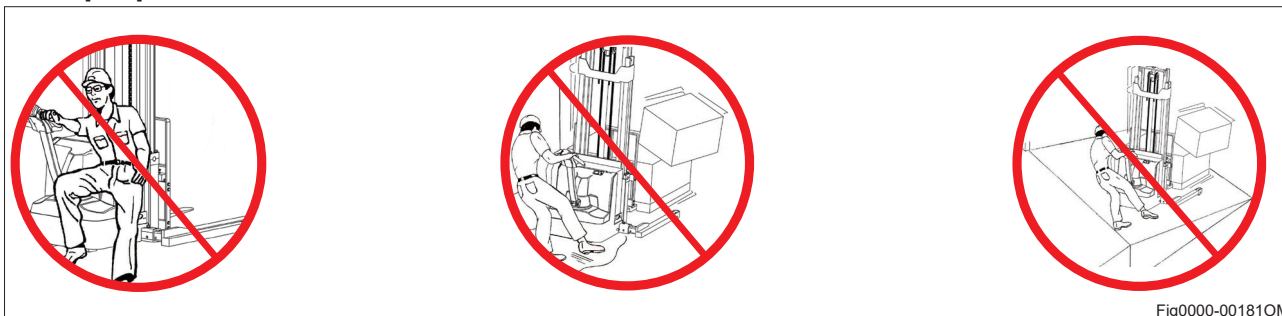


Fig0000-00181OM

- Avoid the use of the truck by non-working personnel.
 - Don't ride on the truck.
 - Don't carry or lift people by the truck.
- Don't use the truck on slippery road surfaces.
(such as road surfaces with oil stain or residual snow or those frozen ones)
- Don't carry goods on steep slope to prevent goods from sliding off.

i NOTE

Conditions of operation road surface: the truck should run on solid, flat, level and paved road surfaces (including both running and lifting)



WARNING

Operator must wear helmet, safety shoes and work(protective) clothes, whenever you operate and maintain the truck, handle the consumables etc.



CAUTION

When working environment is not enough light, please add extra lighting of the working area.



Fig0000-00182OM

Don't leave the truck before it is parked as regulated.

Don't use the truck when any non-working personnel is in the dangerous area.
Don't be distracted when using the truck.
Don't be distracted when using the truck.

Don't place any part of your body in any moving part of the truck to avoid being clamped.



1.1.1 EN standards

Continuous sound level: 74 dB(A)

according to EN 12053 as stipulated in ISO 4871

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.

Vibrations to which the hands and arms are exposed

The following value is valid for all truck models:

- $\bar{a}_w < 2.5 \text{ m/s}^2$

It is mandatory to specify the hand-arm vibrations, even where the values do not indicate any danger, as in this case.

The value expressed above can be used to compare forklift trucks of the same category. It cannot be used to determine the operator's daily exposure to vibrations during real operation of the truck; these vibrations depend on the conditions of use (floor conditions, method of use etc.) and therefore daily exposure must be calculated using data from the place of use.

Electromagnetic compatibility (EMC)

Electromagnetic compatibility (EMC) is a key quality feature of the truck.

EMC involves

- limiting the emission of electromagnetic interference to a level that ensures the trouble free operation of other equipment in the environment.
- ensuring sufficient resistance to external electromagnetic interference so as to guarantee proper operation at the planned usage location under the electromagnetic interference conditions to be expected there .

An EMC test thus firstly measures the electromagnetic interference emitted by the truck and secondly checks it for sufficient resistance to electromagnetic interference with reference to the planned usage location . A number of electrical measures are taken to ensure the electromagnetic compatibility of the truck .

1.1.2 Conditions for application



Working condition requirements:

- Operation only on secure, level surfaces with sufficient capacity.
- Indoor use and outdoor use
- The truck's maximum operation altitude is up to 2000m.
- Used in specified area as factory, tourist attraction and recreation place.
- Use in specified rated load.
- Trucks can only be operated in adequately illuminated working areas to avoid injuries. In case of insufficient light, an additional lighting equipment is needed to ensure that the driver can see properly.
- If you must travel on an incline, the gradients should be below A% at full load, or below B% without a load. (For the value of A and B, refer to the Gradability in technical data)



1.1.3 Stability

Stability is guaranteed if your truck is used properly in accordance with its intended purpose.

Common reasons for a loss of truck stability include:

- Emergency stops or sharp turns.
- Driving with a raised load or a load handling device.
- Turning the vehicle around on or driving across a slope.
- Driving up or down a slope with the load pointing downhill.
- Driving with a wide load.
- Carrying a swinging load.
- Driving near the edge of a ramp or up steps.
- Tilting the mast forward while carrying a raised load.
- Driving on uneven surfaces.
- Overloading the truck.
- Carrying bulky loads in strong winds.
- When carrying liquid, its centre of mass inside the container may shift due to inertial force (such as when pulling away, braking or turning).

1.2 Display and manipulation

1.2.1 Truck overview

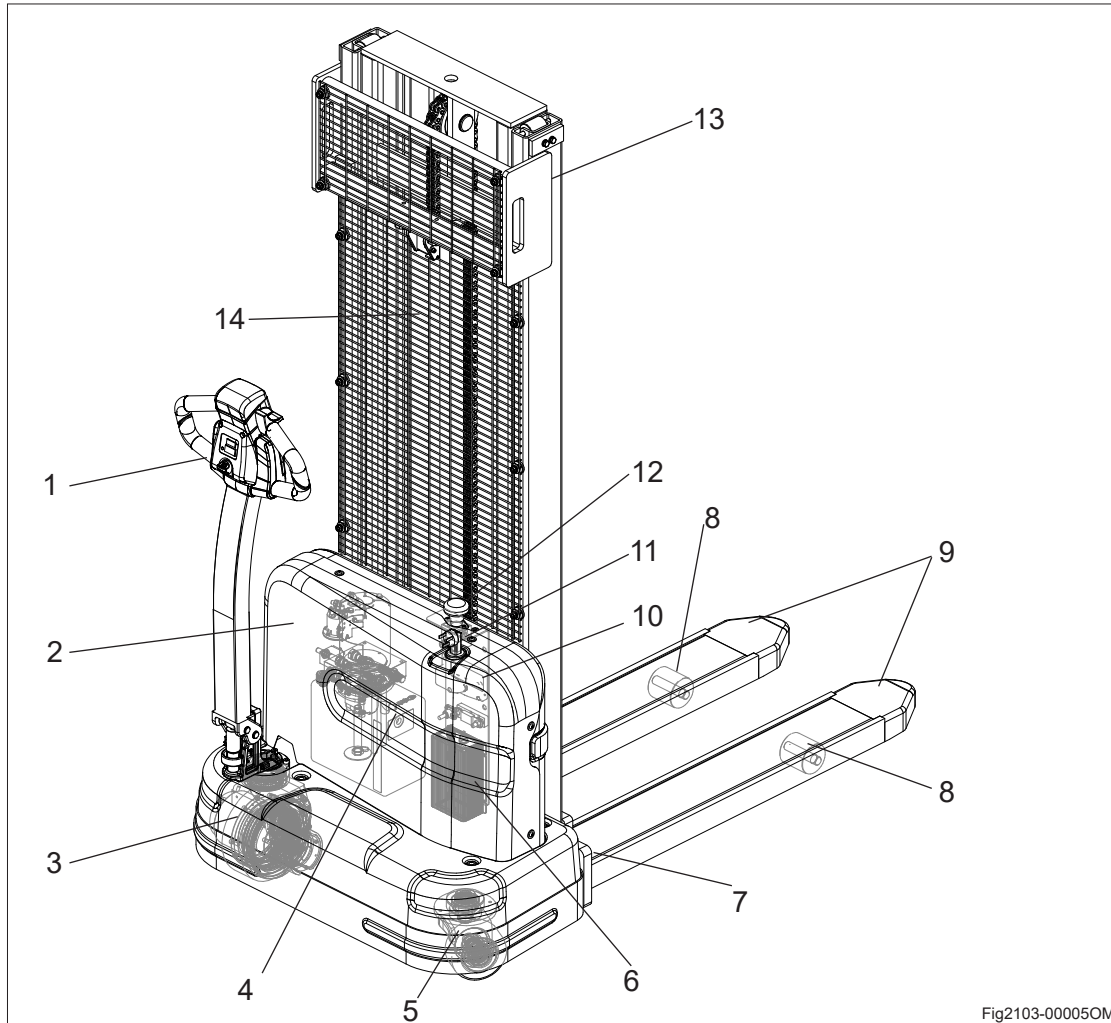


Fig2103-00005OM

1	Control handle	8	Load wheels
2	Cover	9	Forks
3	Driving wheel	10	Controller
4	Hydraulic unit	11	Charger plug
5	Caster	12	Emergency stop switch
6	Charger	13	Mast
7	Fork carriage	14	Cylinder

1.2.2 Control handle

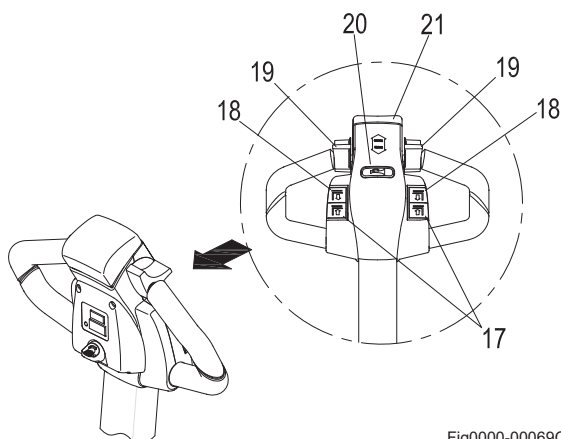


Fig0000-00069OM

17	Lowering button	Lower loading parts
18	Lifting button	Lift loading parts
19	Drive switch	Controls travel direction and speed
20	Horn button	Send out sound warning signals
21	Emergency reverse switch	Through touching the button, truck drives away from operator.

1.2.3 Key switch



Connect and interrupt control current.

When the key rotates to gear “OFF”, the control current of the truck will be interrupted;
When the key rotates to gear “ON”, the control current of the truck will be connected.

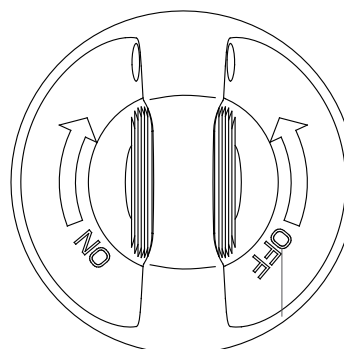


Fig0000-00070OM

1.2.4 Display instrument

LED (1) displays the remaining electric of the battery;

LCD (2) displays the total operation time of the truck;

LCD (3) is a fault indicating light.

DISPLAY	DESCRIPTION
Continuous red	Normal
Flashing	Truck failure.

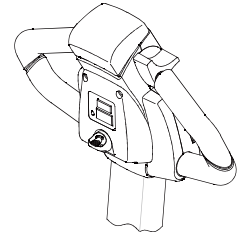
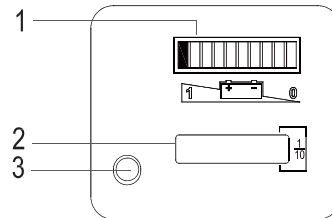


Fig2108-00018OM

Refer to relevant descriptions in “discharge indicator and hour meter” for the display functions of LED (1).



NOTE

Truck failure is in the service manual controller error message section.

The LCD display (2) show battery remaining charge.

When the truck has been released via the key switch, the battery charge status is displayed.

The color of the LCD (2) represent the following conditions:

LCD color	Remaining charge capacity (reference value)
Green	70-100%
Orange	30-60%
Flashing Red	0-20%

If remaining battery capacity is below 30%, A flashing red LCD shows warning.

If remaining battery capacity is below 20%, Two flashing red LCDS show warning, And lifting is now prohibited. The battery must be charged.

The battery discharge indicator has a memory function, it can remember the battery power after the power is turned off, and next time when it is turned on, it will show the power in it's memory.

If you want to reset battery discharge indicator, please turn on the key after properly charging.

1.3 Truck use and operation

1.3.1 Preparation for use



WARNING

The following are inspection and preparation operations that must be implemented before the truck is put into daily use.

Daily Check Items	O.K.(√)	Remark
Check for Fluid Leakage		
Check operation switch, display equipment and component functions.		
Check horn.		
Check forward and reverse functions.		
Check the function of the emergency brake by activating the emergency stop switch.		
Check lifting and lowering control functions.		
Check emergency reverser function.		
Check the battery installation, making sure not to damage the battery cables.		
Check the function of the steering system		
Check the battery charging connector.		
Check the drive wheels and casters for wear and damage.		
Check the hydraulic functions.		
Check brake function of electromagnetic brakes.		
Check whether optional functions are operating normally.		

Table 1: Table of Daily Inspections by Operators is only a sample table for the daily inspections of operators, and it can be adjusted according to specific requirements.



WARNING

The truck should be regularly maintained by qualified maintenance engineers or technicians that have passed the training of and also been authorized by the manufacturer.



1.3.2 Commissioning

The truck must only be operated on battery current!

To prepare the truck for operation after delivery or transportation, the following operations must be performed:

- Check the equipment for completeness.
- If necessary, install the battery. Make sure that the battery cable is not damaged.
- Fully charge the battery.
- Check for Fluid Leakage.
- Check the brake function.
- Check the lifting and lowering function.
- Check the driving function.
- Check the steering function.
- The truck can now be started, see 1.3.4 Truck starting



NOTE

If the truck is delivered in multiple parts, setup and commissioning must only be performed by trained, authorised personnel.



1.3.3 During running-in

After being put into use, the truck should operate under a low load at the initial stage and satisfy the following requirements, especially before its operation time reaches 100h:

- Prevent the new storage battery from discharging excessively during its initial use.
- Implement complete preventive maintenance as specified.
- Avoid emergency braking, starting or swerving during the use of the truck.
- Implement oil fluid replacement and lubrication before the time specified.
- Limit the loading weight at 70%-80% of the rated loading.



WARNING

Should it be necessary to repair the truck for any fault or the truck be found with any unsafe condition, please immediately report to designated competent department, and please don't use the truck before potential faults or hazards are eliminated. All the repairs or adjustments should be implemented under authorization, and all the services must be executed by qualified maintenance technicians.

1.3.4 Truck starting



1. Release the emergency stop switch(1);

2. Turn the key switch (2) to start the truck;

3. Test the horn button(3);

The truck is now operational. Put the tiller in the drive position(M) and use the drive switch to control direction and speed.



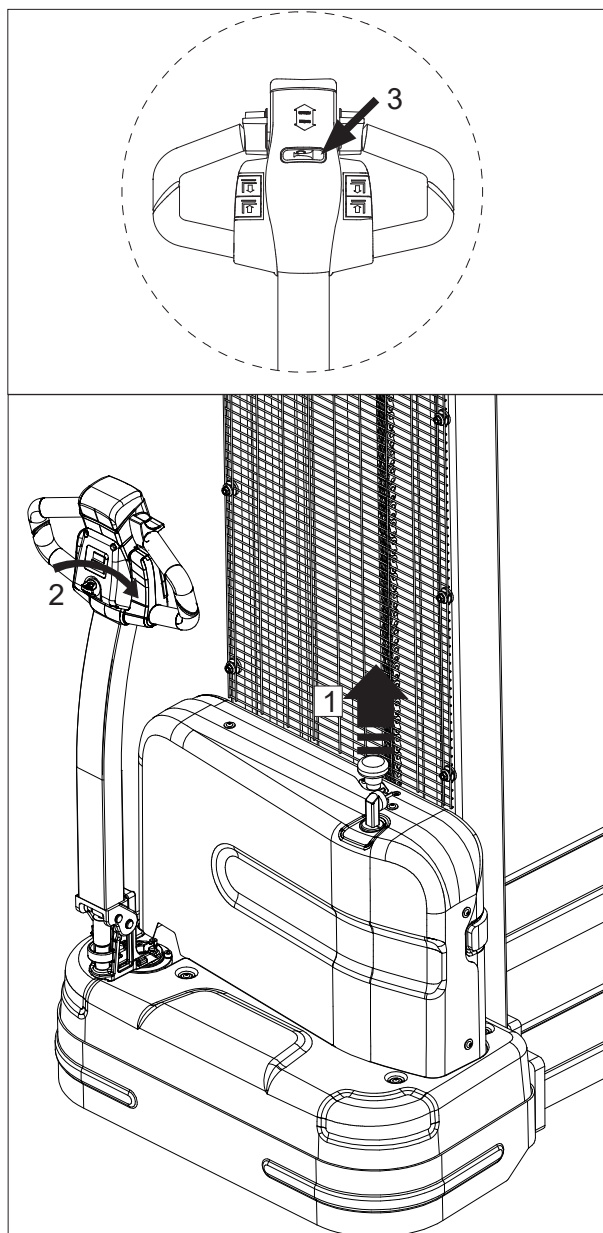
WARNING

Operator must wear protective boots.



NOTE

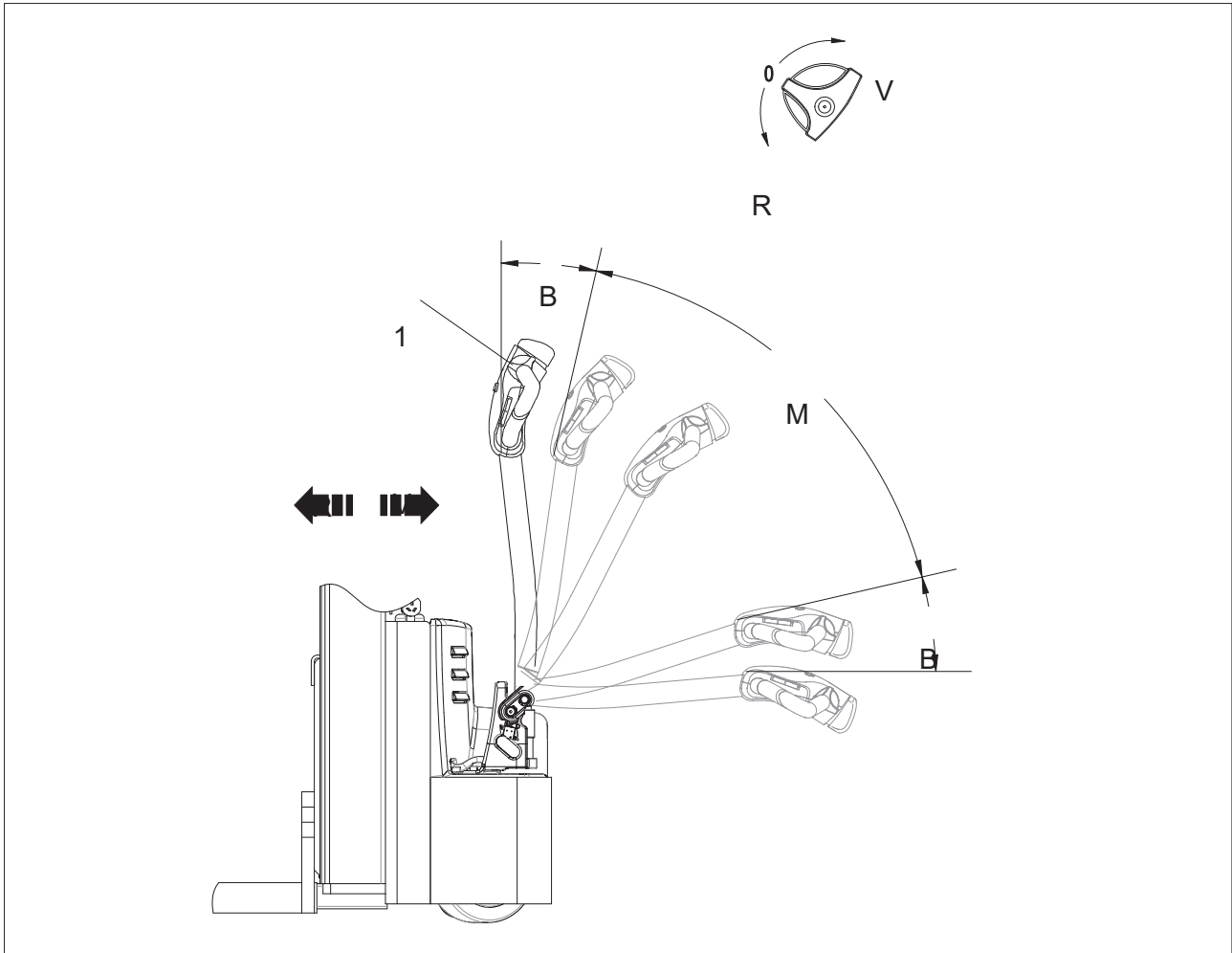
When the control is in the brake position(B), the electromagnetic brake is locked and the vehicle cannot be driven.



1.3.4 Running, Steering and braking



➤ Running



Tilt the control shaft into the running area (M) and control the running direction and speed of the using the drive switch(1). (the larger the turning angle, the faster corresponding speed)

i NOTE

When using the truck on a ramp or a uneven road, please lift the mast to prevent its bottom from colliding with the road surface.

i NOTE

V is forwards.

R is reverse.

B is brake.

M is running area.

➤ Forward travel/reverse travel

Forward travel

Use your thumb to press the drive switch, gently and gradually increasing the force in the (V) direction.

The vehicle will accelerate and move forwards according to the pressure applied to the drive switch.

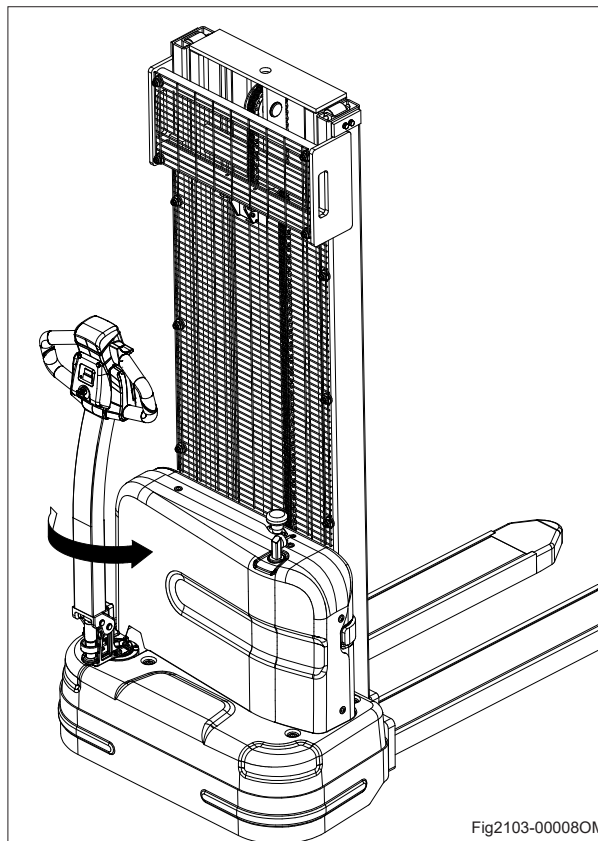
Reverse drive

Use your thumb to press the drive switch, gently and gradually increasing the force in the (R) direction.

The vehicle will accelerate and move backwards according to the pressure applied to the drive switch.

➤ Steering

Turn the tiller left or right according to the desired direction.



➤ Braking

Mechanical operating brake

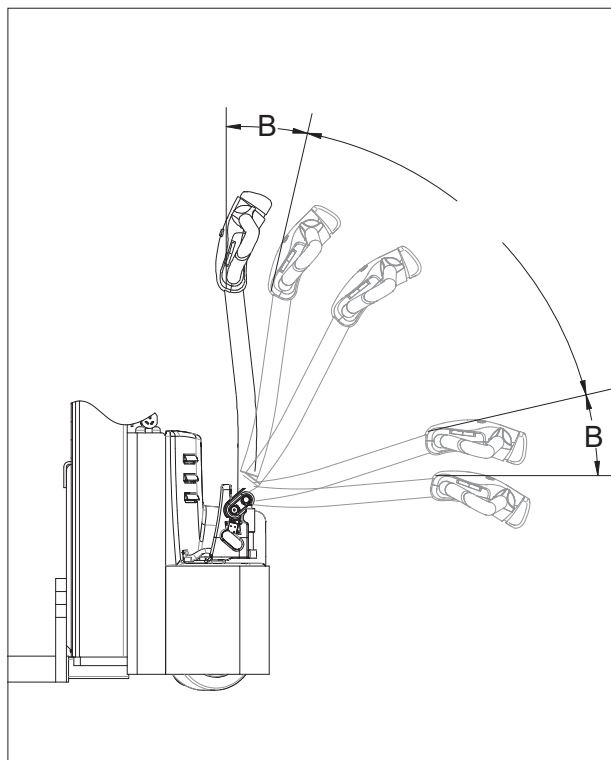
The truck is braked when the operating handle is released.

The mechanical brake engages when the tiller is positioned in Braking area **B**.



CAUTION

If the tiller moves slowly into the braking area, identify the cause and rectify the fault. If necessary, replace the gas spring!



➤ **Emergency stop switch**

Press the emergency stop switch(1), and then all the electrically propelled functions will be interrupted.

➤ **Regenerative braking**

Release the drive switch. The drive switch will automatically return to the initial position and the vehicle will begin to enter the regenerative braking state. When it decelerates to <1 km/h, the electromagnetic brake will bring the motor to a stop.



CAUTION

Open the drive switch; if the drive switch cannot quickly return to the initial position or resets very slowly, identify the cause and rectify the fault.

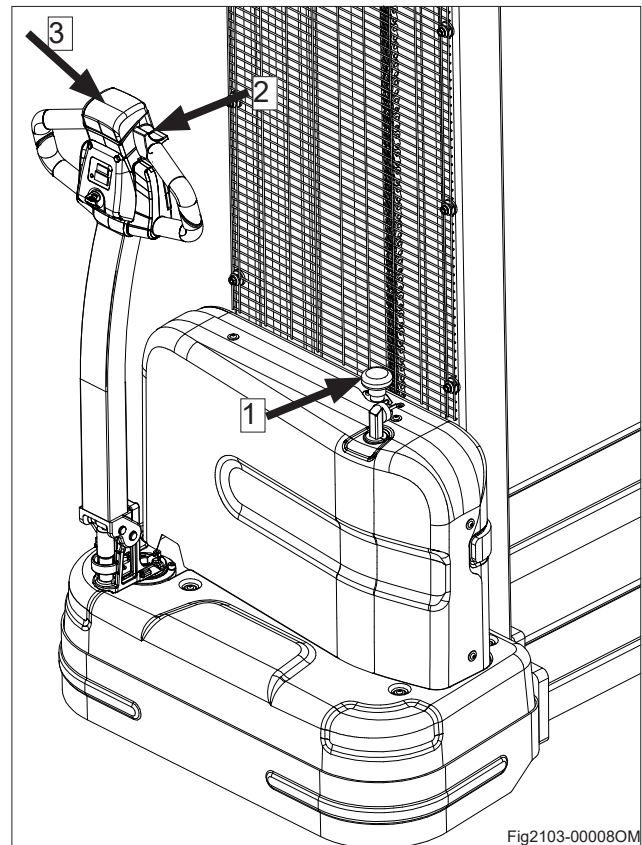
➤ **Reverse switch**

Braking can be accomplished by changing the direction of travel. Press the reverse switch (2) in the opposite direction until the truck comes to a stop, then release the drive switch.

➤ **Emergency reverse button**

To protect the driver from any risk of being trapped between an obstacle and the machine, the end of the tiller is fitted with a Emergency reverse button.

Once the Emergency reverse button (3) is activated, the machine stops immediately and slowly moves backwards in the direction of the forks.



1.3.5 Goods picking



1. Lifting

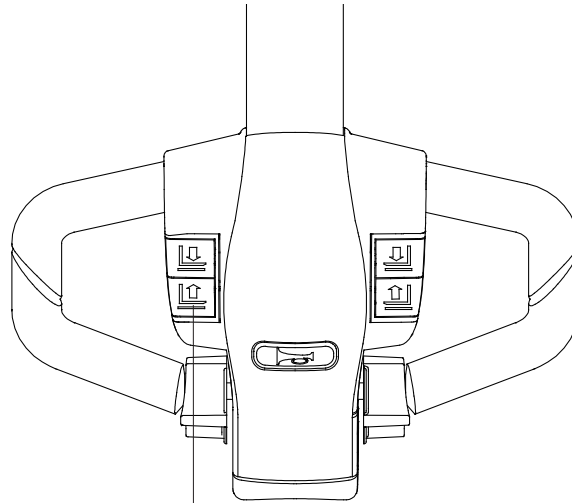


Fig2108-00024OM

Keep pressing the lifting button until reaching the required lifting height

2. Lowering

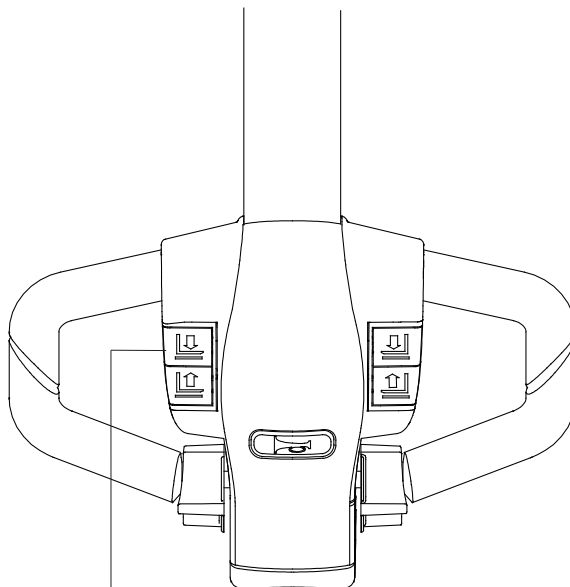


Fig2108-00025OM

Lower the truck to the bottom through pressing the lowering button.

Keep the handle in the vertical state, and press creep speed button (1) and drive switch(2) at the same time, then the vehicle will move at a low speed.



WARNING

Goods failing to be arranged and fixed may result in accidents.



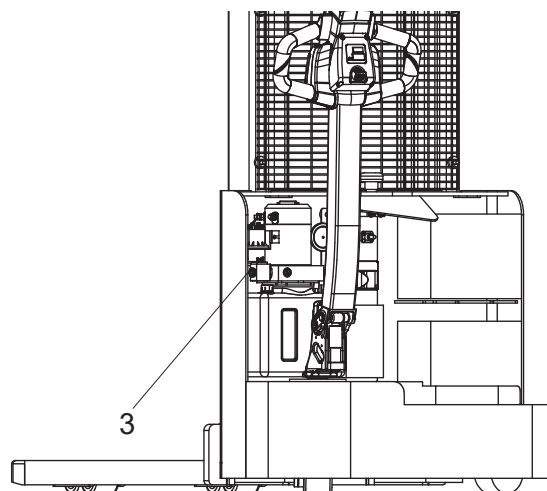
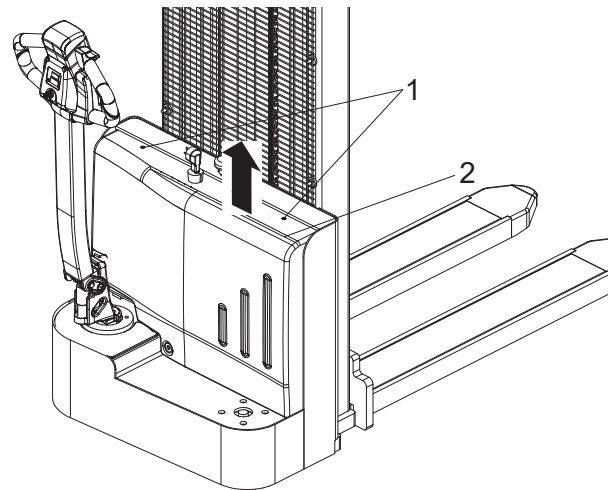
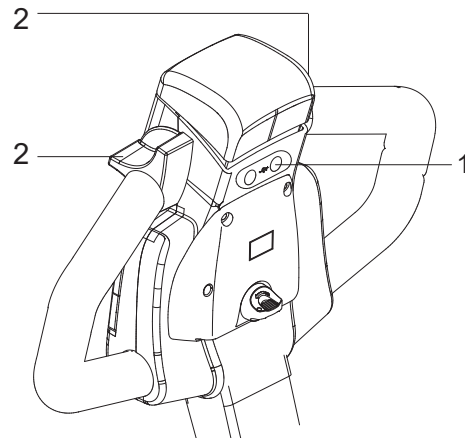
NOTE

To avoid shortening the service life of the oil cylinder, try not to lift the stacker mast to the highest state for every lifting operation.

Do not stand in the vicinity of the forks when the fork arms are being lowered.
Always keep your hands on the screw during lowering, so you can stop the lowering operation at any time.

Unscrew the two large screws(1) and pull out the cover(2).

The emergency lowering screw is located on the solenoid valve(3).



1.3.6 Parking the truck securely



➤ Lower the mast to the bottom;

➤ Turn off the key switch;



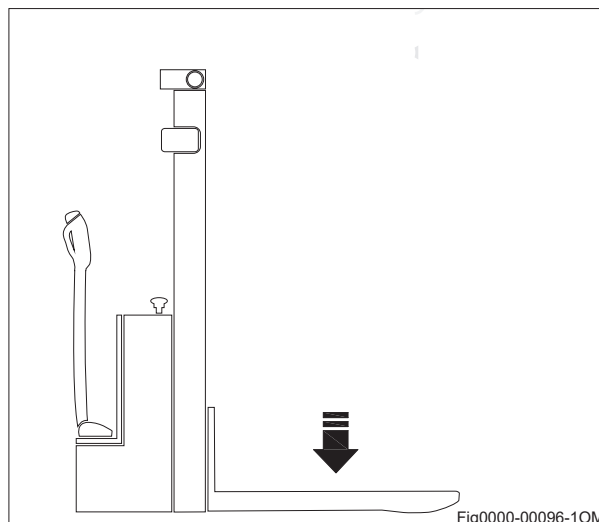
CAUTION

Park the truck on a level surface. In special cases the truck may need to be secured with wedges.



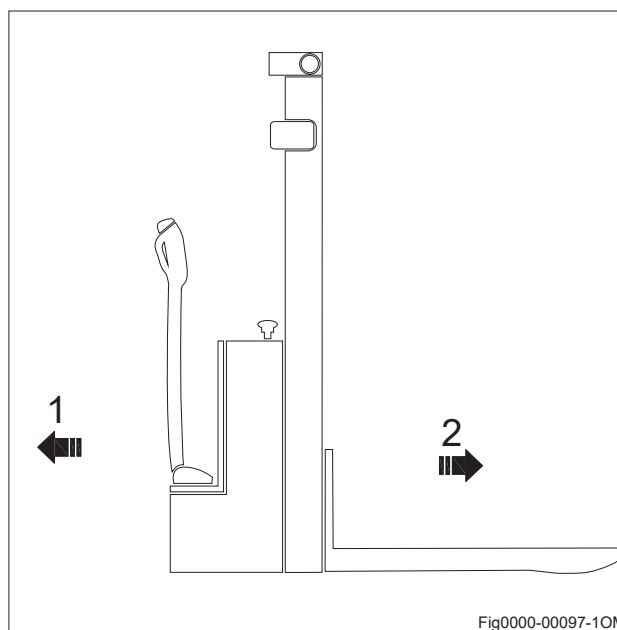
WARNING

Parking the truck on an incline, without the brakes applied or with a raised load or mast is dangerous and is strictly prohibited.



1.3.7 Drive directions

The drive directions of the truck are forward (2) and reverse (1).





1.3.8 Loading

Before lifting a load, ensure that its weight does not exceed the truck's maximum load capacity.

- Refer to the rated load capacity specified on the truck's nameplate.
- Ensure that the load is stable and uniform to prevent any partial spillage.
- Check that the width of the load is compatible with the width of the forks.



CAUTION

Safety footwear must be worn.



CAUTION

Do not touch nearby loads or loads positioned at the side or in front of the load being handled.

Arrange the loads with a small space between them to prevent them coming into contact with one another.

➤ **Picking up a load from the ground**

- Approach goods carefully when driving the vehicle.
- Lower the forks so that they can easily be inserted into the pallet.
- Insert the forks below the pallet.
- If the goods are shorter than the forks, move the goods a few centimetres from the end of the forks so as not to scratch the goods in front.
- Lift the goods a few centimetres.

➤ Carrying a load



DANGER

Personnel must not stand under or near the mast when the load is in the raised position.



DANGER

Never transport a load with the forks in the raised position as the equipment may become unstable.

- Always drive forwards for optimum visibility.
- When carrying a load on a slope, always climb and descend with the load up-hill.
- Never travel diagonally across the slope or make a U-turn.
- Reverse gear must only be used for depositing a load. Since visibility in this direction is restricted, you should only travel at very low speed.
- Never drive with an unstable load.
- If visibility is poor, let someone guide you.
- Be careful of low passageways, low doorways, scaffolding, pipes etc.
- To facilitate movement over obstacles, increase the ground clearance.
- Check that the width of the load is compatible with the width of the aisle.

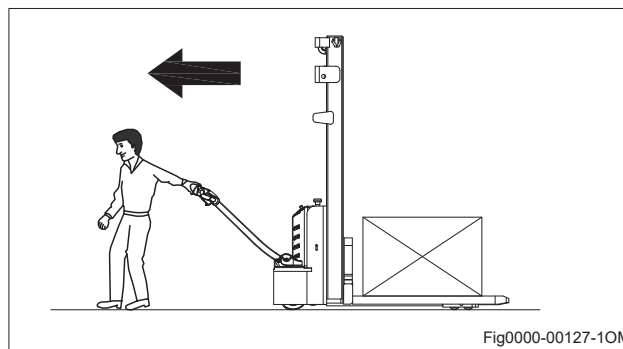


Fig0000-00127-10M

➤ Setting a load down on the ground

Carefully move the load into the deposit area.
Lower the load until the fork arms are free.
Move the forks straight back.
Lift the forks a few centimeter again.



CAUTION

Be careful not to touch nearby loads or those behind the equipment.



CAUTION

Do not touch nearby loads or loads positioned behind the equipment.



CAUTION

Before you remove the load, ensure that there are no people in the vicinity.

➤ Stacking a load

Carefully drive the machine to the required location.

Raise the forks clearly above the level where the load is to be placed.

Drive the truck backward into the racking.

Lower the load until the fork arms are free.

Move the forks straight back.

Lower the forks again until they are a few centimeters away from the ground.



DANGER

Personnel must not stand under or near the truck when the load is in the raised position.

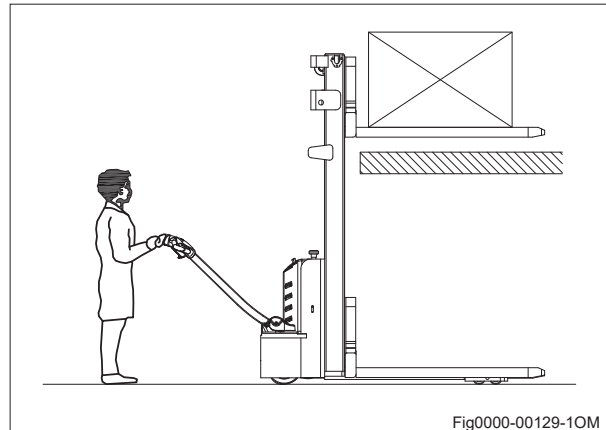


Fig0000-00129-1OM

➤ Picking up a load at height

Carefully drive the machine to the required location.

Raise the forks to the height of the pallet.

Carefully move the forks forward under the pallet.

Lift the forks until the pallet moves away from the racking.

Reverse the truck to free the pallet.

Lower the goods again until they are a few centimeters away from the ground.

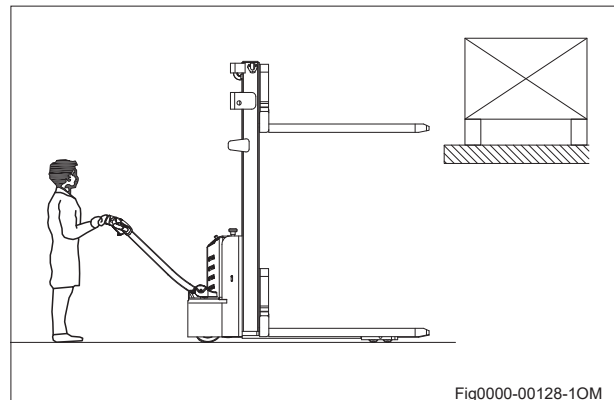


Fig0000-00128-1OM



CAUTION

If the equipment has an initial lift control, separate the goods from the racking. To maintain maximum stability, never use the initial lift control, to avoid overloading the equipment.

1.3.9 Using the truck on a slope

i NOTE

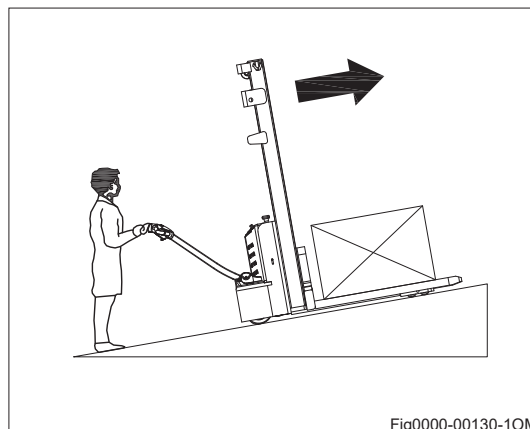
Incorrect use of the truck on slopes places stress on the traction motor, brakes and battery.

Be particularly careful near slopes:

- Never attempt a slope with a gradient greater than that specified in the truck's data sheet.
- Make sure that the ground is dry with a nonslip surface and that the route is clear.

➤ Ascending slopes

Travel up slopes must always be forward, with the load uphill. Without a load, we recommend that you ascend slopes forwards.



➤ Descending slopes

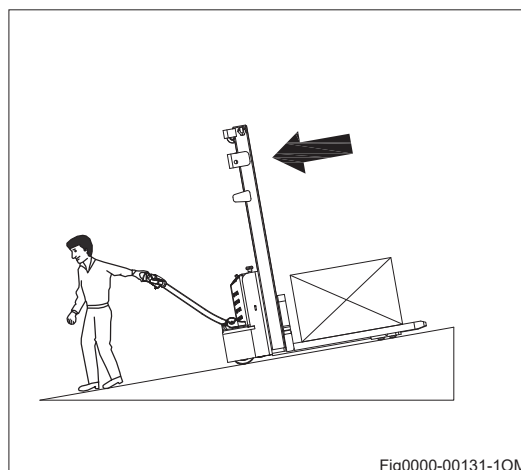
Travel down slopes must always backwards, with the load uphill.

Without a load, it is recommended that slopes are descended forwards. In all cases, travel at a very low speed and brake very gradually.



DANGER

- In all cases, you must travel at a very low speed and brake very gradually. Risk to life and/or risk of major equipment damage.
- Never park the truck on a slope.
- Never make a U-turn or take shortcuts on a slope. The driver must drive very slowly on slopes.



➤ Starting on a slope

If you have to stop and then start on slope, proceed as follows:

- Stop on the slope by pressing the accelerator in the opposite direction until the machine comes to a standstill.
- Return the accelerator to the neutral position, then release the accelerator control button to apply the parking brake.
- To restart, press the accelerator button for the desired direction.
- The truck will move.

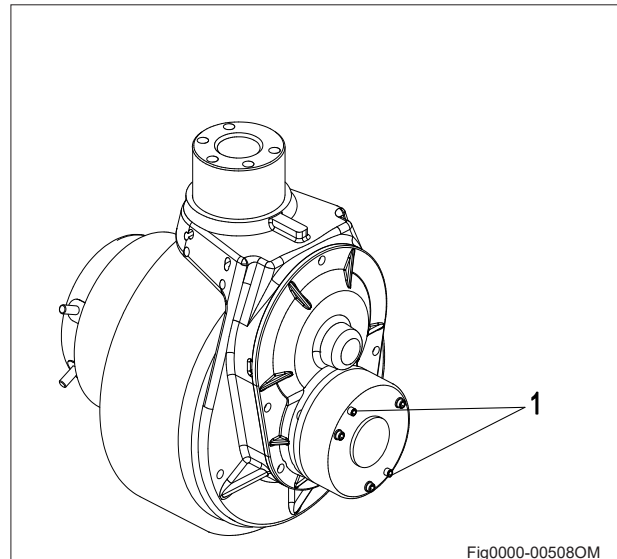
1.3.10 Operating the truck without its own drive system

If the truck has to be moved after a failure has rendered it immobile, proceed as follows:

- Set the emergency stop switch "OFF".
- Set the key switch "OFF" and remove the key.
- Prevent the truck from rolling away.
- Remove the cover.
- Screw in two screws(1), M4*30mm)until the truck can be moved (no braking action).
- Set the emergency stop switch "ON".
- Set the key switch "ON", which the truck powered all the time.

After setting down the truck at the destination, unscrew two screws(1).

Braking action is restored.



i NOTE

Inoperative trucks movement after brake release must ensure that the power of the truck is on or risk damaging the truck controller.



WARNING

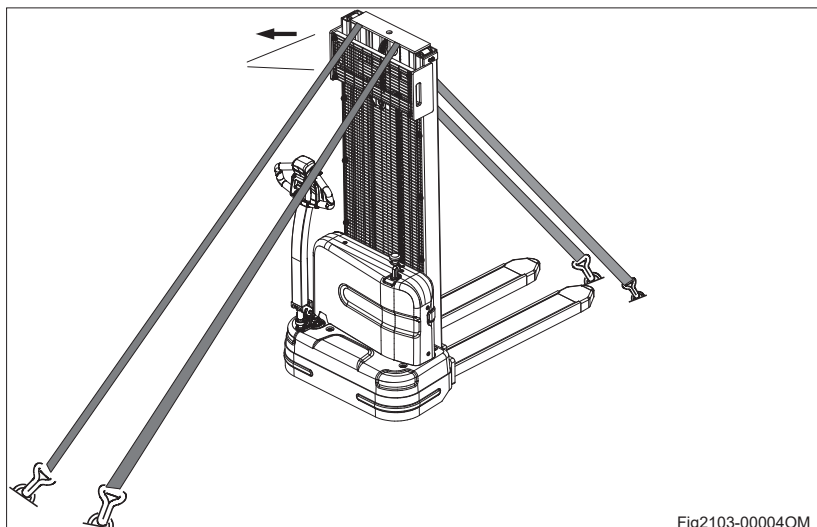
This operating mode is not permitted when negotiating inclines and gradients.

1.3.11 Transporting the truck

Correctly fix the forklift truck to avoid move when using truck or trailer.

➤ Tie points and position

- Park the truck securely.
- Use wooden chocks (1) to secure the front and rear of the vehicle.
- Pass the tensioner through the inner and outer masts and secure the masts to the upper fixing points of the vehicle, as indicated by position .Tighten by pulling in the direction of the arrow.



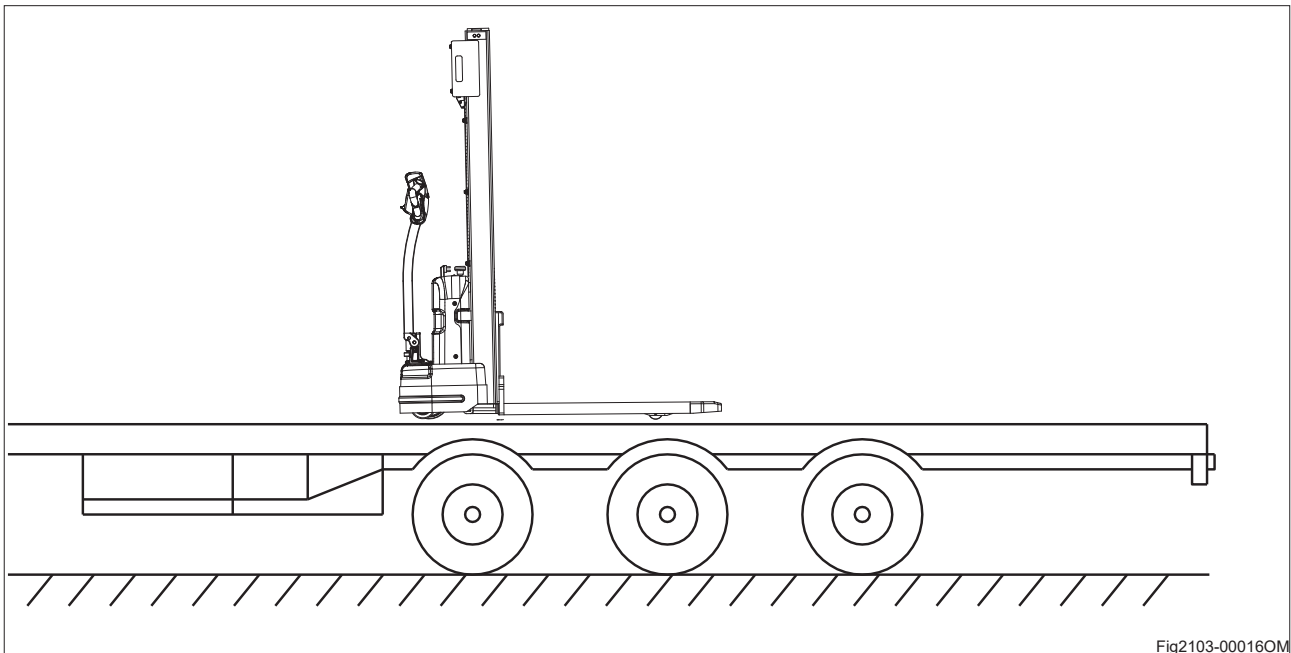


Fig2103-00016OM

i **NOTE**

The stacker should be loaded and unloaded by specially trained personnel. Effective measures must be taken based on the specific situation to ensure the correctness and safety of measurement and loading/unloading operations.



1.3.12 Hoisting

- Park the truck securely.
- Secure the lifting slings to the strap point, and prevent them from slipping. Crane slings should be fastened in such a way that they do not come into contact with any attachments
- Load the truck and park it securely at its destination.



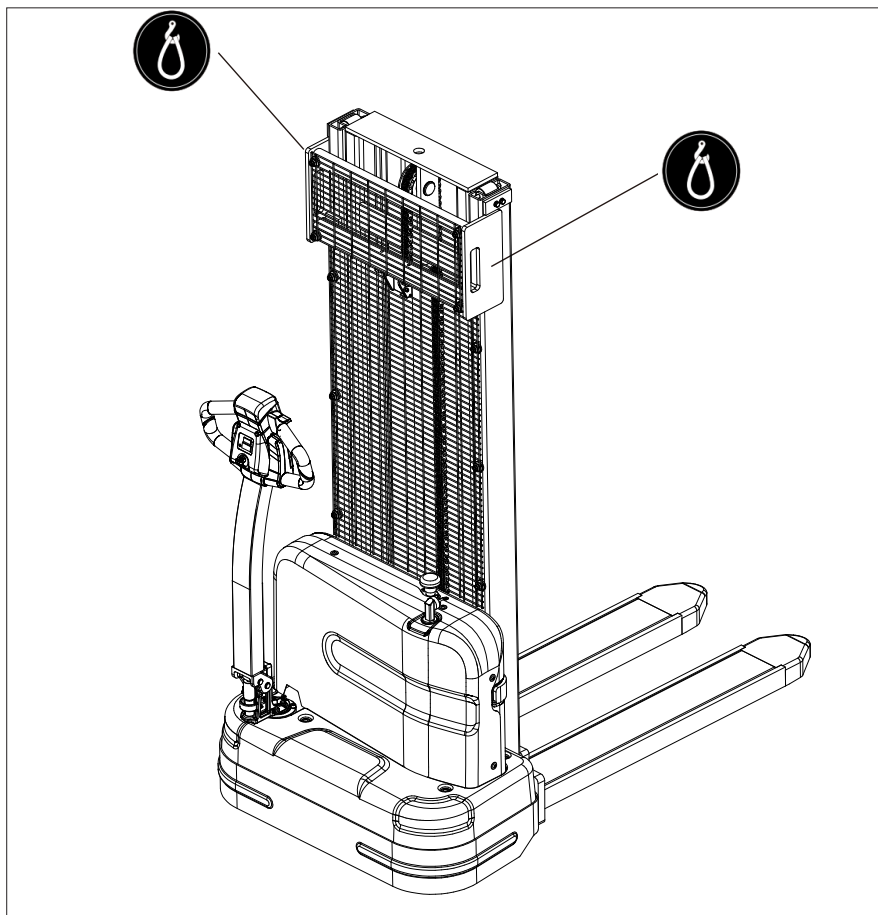
DANGER

- Personnel must not stand below or near the truck when the stacker is being lifted.
- When hoisting or laying down, it should be stable and slow to avoid collision or accident.



CAUTION

- After hanging the sling on the lifting hook, the safety lock must be fastened.
- Only use lifting gear with sufficient capacity (Weight lifted = net weight + battery weight; see truck nameplate).





Battery use and maintenance

1.1 Safety and warning

1.1.1 Safety regulations for handling maintenance-free batteries

The truck must be parked and rendered safe before any operations on batteries are under taken. These trucks are equipped with maintenance-free batteries. No distilled water can be added to this battery type. The cell covers are fixed tight and must not be opened. Opening the covers will damage the battery.

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.

Refilling batteries with an electrolyte solution is prohibited if they are a type that does not require maintenance.

Battery maintenance or charging can only be performed by qualified personnel in accordance with these instructions and the battery manufacturer's instructions.

Batteries are recycled in accordance with national regulations; please comply with the relevant regulations.



1.1.2 Safety and warning



- Abide by the operation manual!
- All the operations related to the storage battery must be implemented under the instruction of professionals!



- Explosion or fire disaster is likely to occur; avoid short circuit!



- Always wear protective clothing (e.g. safety goggles and safety gloves) when working on cells and batteries.



- Don't knock over the storage battery!
- Using lifting and delivery devices as specified. Prevent the storage battery cell, interface and connection cable from being damaged by the lifting hook!



- No smoke and fire!
- Avoid the existence of open fire, fiery metal wire or sparks around the storage battery, otherwise explosion or fire disaster may occur!



- Dangerous voltage!
- Avoid hot plugging!
- Notice: the metal part of the storage battery cell is electrified, so don't place any external object or tool on the battery cell!





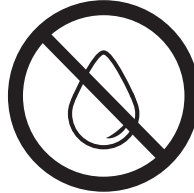
•Don't trample on the storage battery to prevent it from fierce shaking or shacking!



Keep the battery away from all fire sources, heat sources and flammable or explosive materials.



Do not place the battery on top of conductive objects.



Avoid the battery becoming corroded by water or corrosive liquid.

➤ Accidental contact, "first aid"

Acid and alkaline electrolytes create burns in eyes and on the skin.

A source of clean water, from tap or a dedicated sterile reservoir, shall be provided in the vicinity of the battery under charging or maintenance for removing electrolyte splashed onto body parts.



WARNING

In the event of accidental contact with electrolyte, the eyes shall be immediately flooded with large quantities of water for an extended period of time. In all cases immediate medical attention shall be obtaine

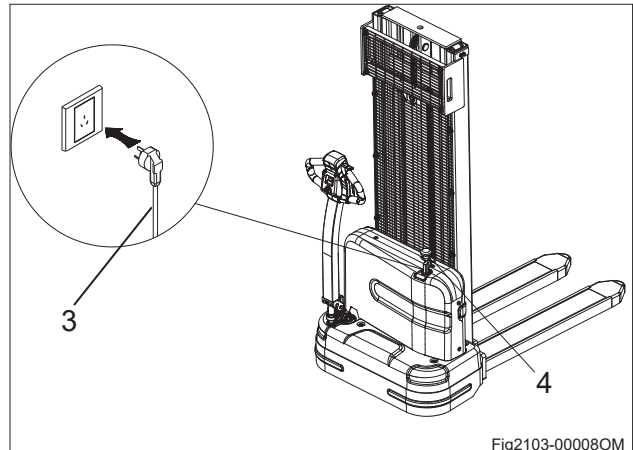
In the event of accidental skin contact with electrolyte, the affected parts shall be washed with large quantities of water or with adequate neutralizing solutions. If irritation of skin persists medical attention shall be obtaine.

1.2 Handling the battery

1.2.1 Battery charging

➤ Precautions

- The vehicle must be parked in a well ventilated place.
- There must be no metal parts on the surface of the battery.
- Before charging, check all cables and plug connections for visible damage.
- Before and after charging, make sure power is turned OFF.
- It is essential to follow the safety regulations of the battery charging provided by their manufacturers.
- Charging in non-charging area is prohibited;
- No modification of vehicles;
- Do not use irregular charging sockets;
- The net height of the charging area shall be higher than 5m, and the safe distance from other areas shall be greater than 5m.



➤ Charging the battery with on-board charger

Park the truck in the designated charging area. Pull the charger cord (3) from the truck and examine it for damage. If undamaged, plug the charger into voltage range 100-240V, 50/60Hz wall outlet.

As long as the built-in charger is connected to the outlet ,the truck should not be moved.



WARNING

*Charger maximum input power 333W.
Please strictly implement the above data to prevent equipment damage and accidental risks such as fire.*

The flashing LED indicates(4) the charge status or a fault.

Charging indicator(4)

NO.	LED status	Phenomenon	Cause	Remedy	Description
1	Red light is on		Trouble free	/	Charging
2	Green light is on		Trouble free	/	End of charging
3	No indicator light	Current/ voltage changes	Indicator failure	Return to factory maintenance	Charger failure
4		No change in current/voltage	The power input line is in good contact with the socket and the charger	Charger failure,return to factory maintenance	Charger failure
5	Red light flashes		The power input cable is not in good contact with the socket	Check if the input power line is in good contact	
6	Yellow light is on		Storage battery fails. (battery reverse connection)	Eliminate battery failure	
7			Storage battery fails.(battery is not connected)	Eliminate battery failure	
8	Yellow light flashes		Ambient temperature is too high	Ambient temperature drops to normal	
9			Storage battery voltage exceeds 32.5V	Eliminate battery failure	
10			Charger failure	Return to factory maintenance	



WARNING

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

1.2.2 Battery type & dimensions & Charging time



Battery types & dimensions are as follows:

Tuck type	voltage/ rated capacity	Dimension	Charger	Charging time
EST124	24/80	215*260*169	10A	8h

1.3 Battery removal and installation

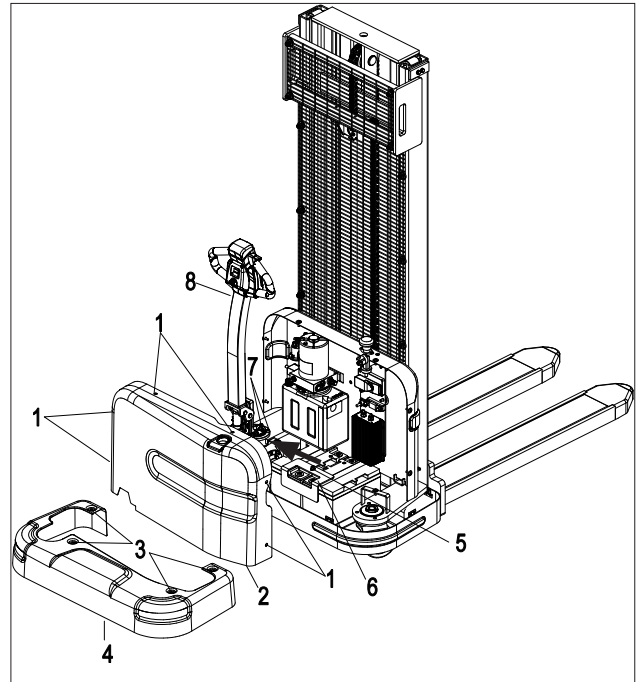
Removing and installing from the top

Park the truck securely as described in section 1.3.6 of chapter B and turn off the power before removal and installation of the battery.

Battery removal and installation steps:

- Undo six screws(1) on the front cover with a wrench;
- Remove the front cover(2) and expose the battery.
- Undo four screws(3) on the bottom cover with a wrench, Undo two screws(3) and turn the tiller 180°, Take out the bottom cover(4);
- Unscrew the nut(5) and remove the plate(6);
- Disconnect the harness and cable between the battery and electrical system;
- Remove the batteries carefully in the direction of the arrow.

Installation is in the reverse order of operations.



WARNING

The lifting gear must exert a vertical pull so that the battery container is not compressed. The hooks must be attached to the eyes.



WARNING

To prevent short circuits, batteries with exposed terminals or connectors must be covered with a rubber mat.

D

Maintenance

1.1 Truck maintenance

Only through regularly implementing truck maintenance work can the sustainable and reliable use of the forklift be ensured.

Only those receiving professional training and approved as qualified can be competent in various equipment care maintenance operations. If you intend to independently implement maintenance, you are recommended to have your maintenance personnel receive on-site training from the service representative of the equipment supplier.

1.1.1 Safety announcement

- It is improper to clean the truck using inflammable liquid.
- Ensure that the power supply has been completely disconnected before actual maintenance operation.
- Use only approved spare parts.

1.1.2 Decommissioning the industrial truck

- If required to be parked for over one month, the truck must be placed in a dry and frost-free environment.
- Raise and chock the truck: the wheels must not touch the ground in order to prevent irreversible deformation of the tyres.
- Recharge the battery every 2 months.

If the truck is to be out of service for more than 6 months, further measures must be taken in consultation with the manufacturer's service department.

1.1.3 Prior to decommissioning

- Thoroughly clean the truck.
 - Check the brakes.
 - Check the hydraulic oil level and add as necessary (See chapter D section 1.3.3).
 - Apply a thin layer of oil or grease to any non-painted mechanical components.
 - Lubricate the truck in accordance with the maintenance label (See chapter D section 1.1.9).
 - Charge the battery (See chapter C section 1.2.1).
 - Disconnect the battery, clean it and apply grease to the terminals.
- In addition, follow the battery manufacturer's instructions.
- Spray all exposed electrical contacts with a suitable contact spray.



1.1.4 Restoring the truck to operation

Thoroughly clean the truck.

Clean the battery. Grease the pole screws using pole grease and reconnect the battery.

Recharge the battery.

Check if the hydraulic oil contains condensed water and change if necessary.

Follow the daily checklist, see Chapter B section 1.3.2.



1.1.5 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 Technical data 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).



1.1.6 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.



1.1.7 Cleaning operations

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.



1.1.8 Maintenance operations that do not require special training

Simple maintenance operations such as checking the hydraulic fluid level or checking the battery electrolyte level (if necessary) can be carried out by persons with no special training. A specific qualification is not necessary.

Complicated maintenance operations such as replacing the battery, replacing the wheels and so on should be carried out by the authorised service centre.

Refer to the maintenance section of this manual for further information.

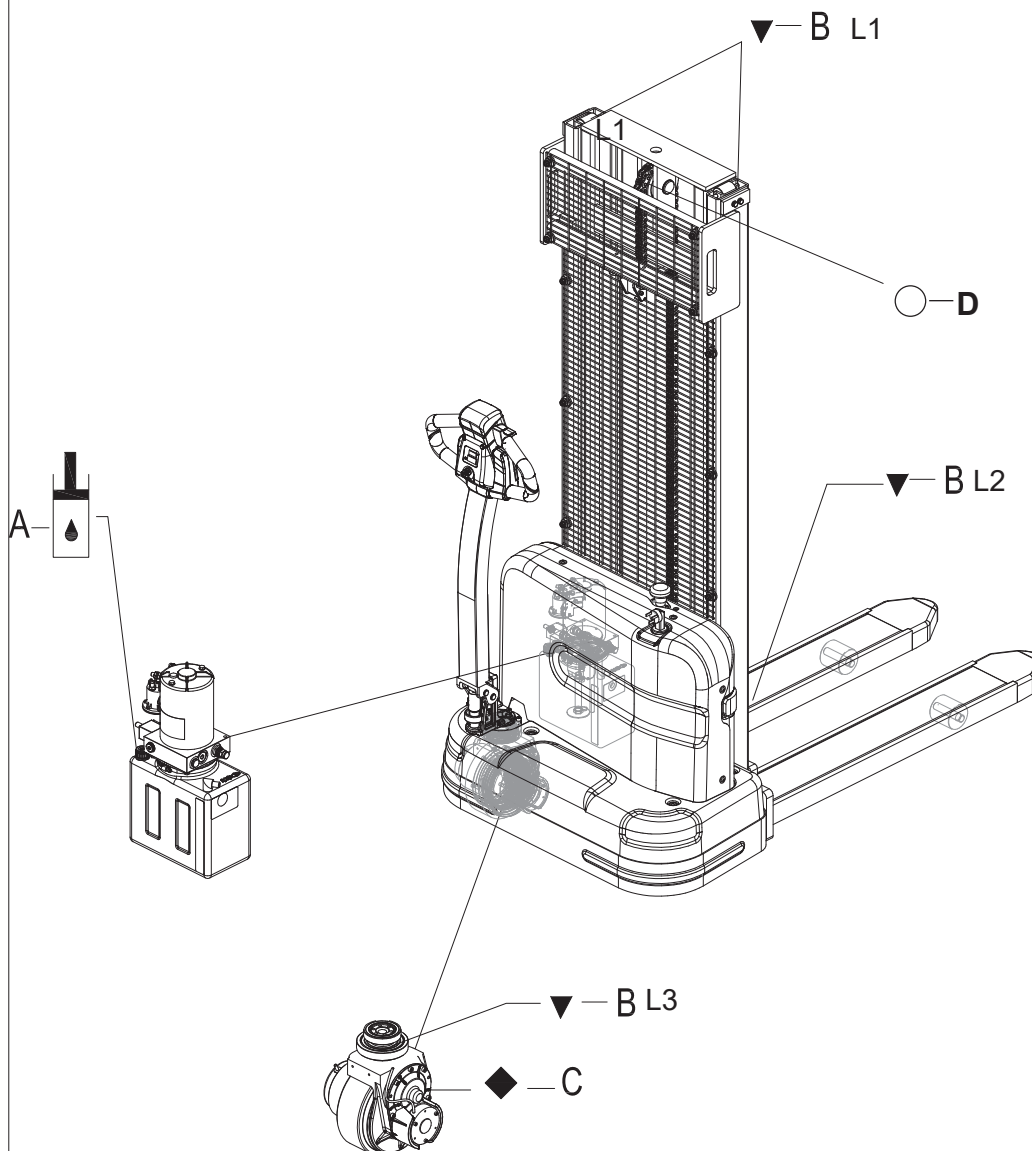


1.1.9 Maintenance table

50-hour/7-Day maintenance	
Check the functions of the operation switches and display	
Check alarm system functions	
Check the brake system functions	
Check steering system functions	
Check the drive wheel and load wheel for worn or damage	
Check the functions of hydraulic system	
250-hour/2-month maintenance	
After operating for 250 hours in total, the truck should also be maintained according to the following procedures in addition to the 50-hour maintenance mentioned above	
8	Inspect where there is any damage in the cables and whether the terminals are reliable
9	Inspect whether there is any screw losing or slipping out
10	Inspect whether there is any abrasion or damage in the oil pipes
11	Inspect where is any leakage in the hydraulic oil
500-hour/3-month maintenance	
After operating for 500 hours in total, the truck should also be maintained according to the following procedures in addition to the 50-hour maintenance, 250-hour maintenance mentioned above	
12L	Inspect and lubricate using the lithium-based lubrication grease the lubrication mouths in moving parts
13	Inspect and lubricate using Multi-purpose grease on Contact surface
14L	Inspect or add the grease oil
1000-hour/6-month maintenance	
After operating for 1000 hours in total, the truck should also be maintained according to the following procedures in addition to the 50-hour maintenance, 250-hour maintenance and 500-hour maintenance mentioned above	
15	Inspect and fasten the controller and other electrical apparatus elements
16	Inspect whether there is any abnormal sound or disclosure of the gear box
17	Inspect the abrasion situations of the driving wheel/bearing wheel/caster and please timely replace seriously abraded ones
18	Inspect whether all the oil pipes, pipelines and joints are reliably connected and whether all the sealing elements are reliable
21	Check that the oil tank is fixed and check it for leaks.

After operating for 1000 hours in total, the truck should also be maintained according to the following procedures in addition to the 50-hour maintenance, 250-hour maintenance and 500-hour maintenance mentioned above	
22	Inspect the running, lifting and lowering speed, braking distance and other operation performances of the truck Inspect and add gearbox lubrication grease
24	Inspect where there is any damage in the oil cylinders and whether corresponding installations are reliable
25	Check hoses, pipes and interfaces for damage and ensure their tightness and sealing.
27	Inspect whether the bearing capacity reaches the rated load and implement corresponding adjustment through the flood valve adopted in the hydraulic station
28	Inspect whether all the labels are clear and intact
2000-hour/12-month maintenance	
After operating for 2000 hours in total, the truck should also be maintained according to the following procedures in addition to the 50-hour maintenance, 250-hour maintenance, 500-hour maintenance, 500-hour maintenance and 1000-hour maintenance mentioned above	
29	Inspect and replace the hydraulic filter
30	Check the condition and tightness of the mast and chains
31	Adjust the length of the mast chains
32	Clean and lubricate the chains
33	Clean the oil tank and replace the hydraulic oil
34	Lubricate the Contact Surface
35	Adjust the lifting chains length and lubricate with Chain spray.

1.2 Lubrication Points



Hydraulic oil injection nozzle



Gear oil injection nozzle



Contact surface



Mast chain

Lubricants				
Code	Type	Specification	Amount	Position
A	Anti-wear hydraulic oil	L-HM32	See Table 1	(See Table 1)
	Low temperature anti-wear hydraulic oil (cold storage)	L-HV32		
B	Multi-purpose grease	Polylub GA352P	Appropriate amount	Contact surface (See Table 2)
C	Grease (MoS ₂)	-	100 grams	Gearbox
D	Chain spray or Engine oil	/	Appropriate amount	Chains

(Table 1)		
Mast	Lifting Height (mm)	Quantity (L)
Duplex	2500	3.7
	2700	4.0
	3000	4.2
	3300	4.5
	3600	4.75

B Contact Surface Lubrication Table	
Code	Position
L1	Mast Steel channel and rollers
L2	Fork carriage
L3	Drive wheel gear

1.3 Maintenance Instructions

1.3.1 Prepare the truck for maintenance and repairs

All necessary safety measures must be taken to avoid accidents when carrying out maintenance and repairs. The following preparations must be made:

- Park the truck securely (see Chapter B Section 1.3.6).
- Disconnect the battery connector to prevent the truck from accidentally starting.



WARNING

When working under a raised lift truck, secure it to prevent it from tipping or sliding away. When raising the truck also refer to the instructions in the “Transport and Commissioning” section.

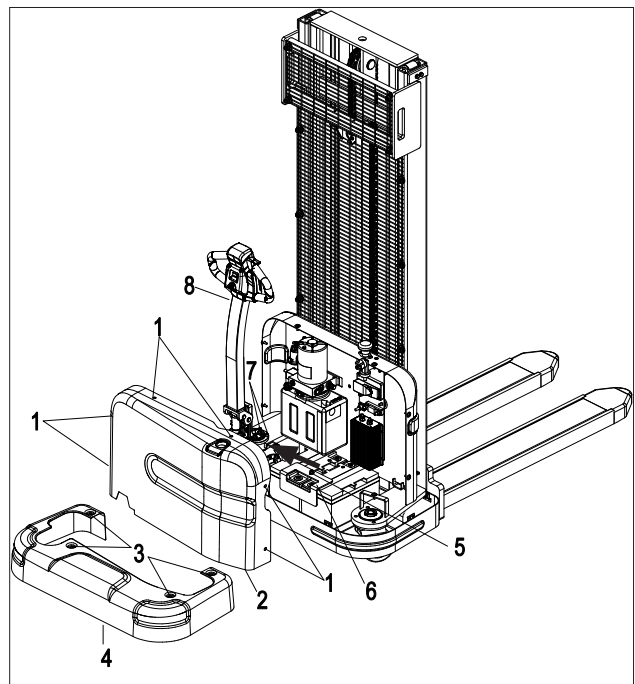
1.3.2 Remove the cover

➤ Removing the front cover

- Undo six screws(1) on the front cover with a wrench;
- Remove the front cover(2) .

➤ Removing the bottom cover

- Undo four screws(3) on the bottom cover with a wrench, Undo ftwo screws(3)and turn the tiller 180° ,Take out the bottom cover(4);



1.3.3 Checking the grease oil

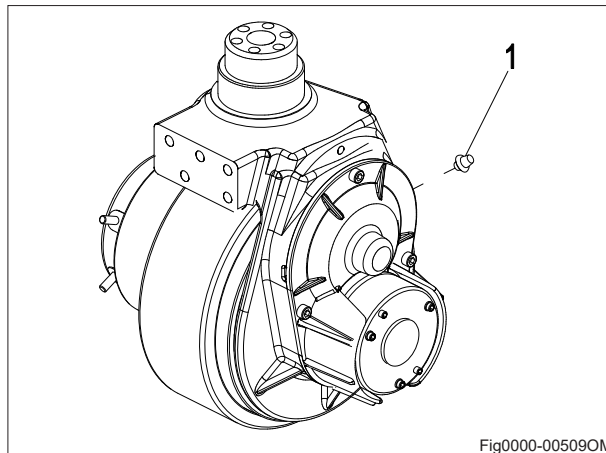
- Prepare the truck for maintenance and repairs (See Maintenance Instructions).
- Park the truck securely
- Remove the front panel.
- Add grease of the correct grade (See Lubrication point).
- Add transmission oil every 500 operating hours or at least annually.

Install following the above steps in reverse order.



WARNING

Don't not add gear oil that contains impurities.



1.3.4 Checking the hydraulic oil level

- Prepare the truck for maintenance and repairs (see section 1.3.1).
 - Remove the cover (see Chapter D section 1.3.2).
 - The hydraulic reservoir (2) has markings . The hydraulic oil level should be above the marking when the load handler is fully lowered.
- Add hydraulic oil if necessary:
- After topping up, lift the forks. The oil level is fully topped up when you no longer hear popping noises; continue to add oil if you still hear popping noises.
 - Turn the lid (1) anti-clockwise from the hydraulic reservoir (2).
 - Add hydraulic oil of the correct grade until the oil level lies above the markings
 - Turn the lid (1) clockwise on the hydraulic reservoir (2).
 - Install the front panel.
 - To restore the industrial truck to service after maintenance or repair work.



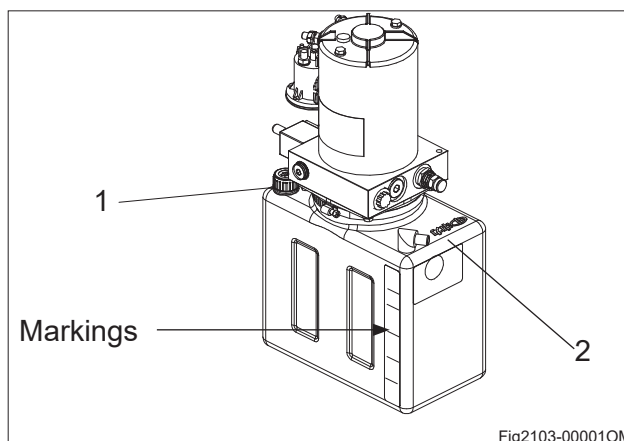
WARNING

Re-tighten oil add plug(1), and clean the residual oil on the reduction box surface.



CAUTION

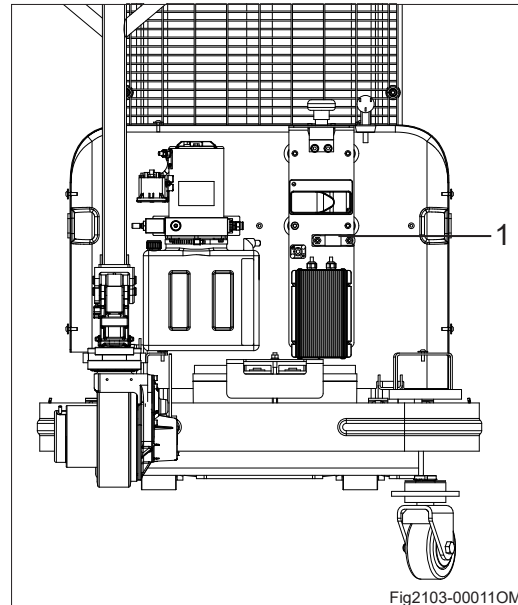
Do not add hydraulic oil that contains impurities.



1.3.5 Checking fuses

- Prepare the truck for maintenance and repairs (see section 1.3.1).
- Remove the cover (see Chapter D section 1.3.2).
- Check that all fuses are in working order.
- If necessary, replace them with fuses that match the parameters specified in the table below.

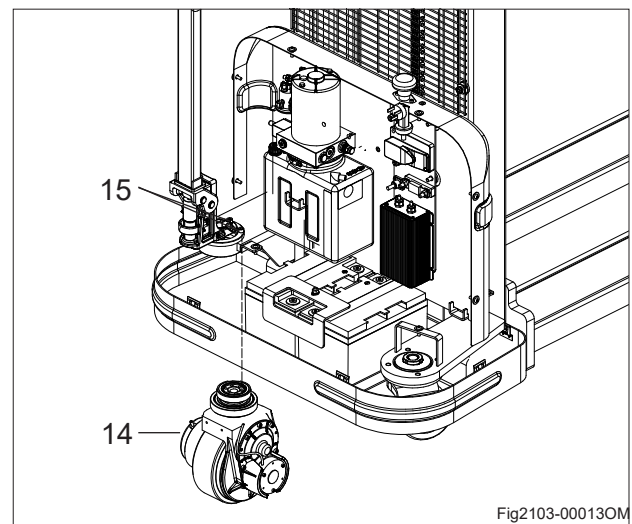
No.	Checking fuses for the following functions or components	Value
1	Traction / Lift motor fuse	200A



1.3.6 Drive Wheel-Removal and Installation

Removal

- Prepare the truck for maintenance and repairs (see section 1.3.1).
- Remove the cover (see Chapter D section 1.3.2).
- Undo four screws(15) and remove the drive assembly(14).
- Dismantle the motor cable mounting base(1), and remove the motor cables(2);
- Loosen the eight screws(3) with a wrench, and remove the gearbox cover(4) and gear set(5);
- Unscrew the five screws(6) and knock out the assembly from the gearbox(7);
- Knock out the drive motor(13), and remove the oil seal(8);
- Loosen the six screws(9) with a wrench, and dismantle the large ring gear(10), bearing(11) and drive wheel(12) by order.



Installation

Install according to the reverse order of removal.

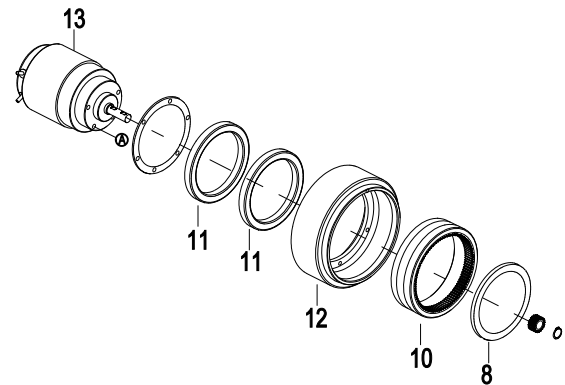
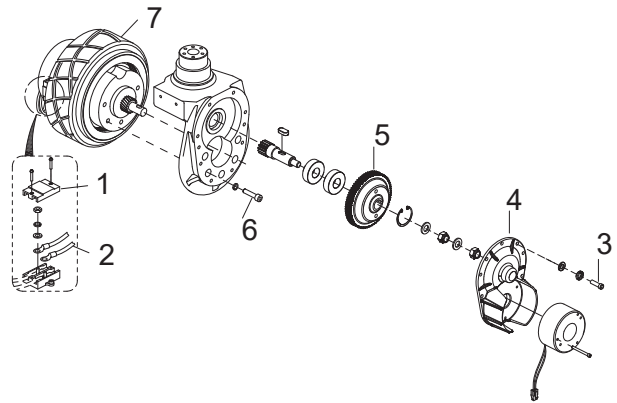


CAUTION

Tyre wear can affect the stability of the truck, adjust the caster with minor wear on a regular basis, or replace the caster with heavy wear. Quality of tyres directly affects the stability and driving performance of the device. If you need to replace the factory-fitted tyres, please use original spare parts provided by the equipment manufacturer to reach the original design performance of the truck.

Faults and Causes

1	Fault	Drive wheel slipping or jumping
	Cause	Wear
2	Fault	Drive wheel cracking or degumming
	Cause	Improper use
3	Fault	Vehicle sways while running
	Cause	Drive wheel lock nut loosening



1.3.7 Load Wheels-Removal and Installation

Removal

Lift the vehicle carefully with lifting equipment through the lifting holes at back;



CAUTION

Make sure the lifting equipment is solid and secure, and the load capacity should be greater than the total weight of the vehicle.

Place a wooden wedge under the chassis near load wheel, make the load wheel off the ground.



CAUTION

When replacing wheels, be sure that the truck won't tilt.

Remove the coiled elastic cylindrical pin(1) within the wheel bridge with an ejector pin of 4mm in diameter;

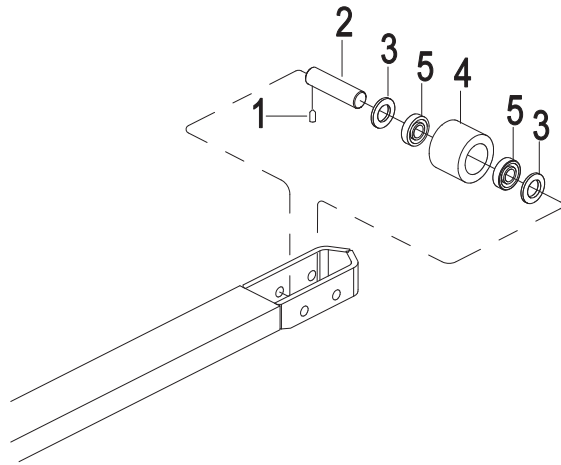
Turn the wheel bridge to vertical direction, knock out the wheel pin shaft(2) from side, and remove the load wheel and bearing assembly;

Remove the bearing(5) of load wheel(4) with hammer and jacking equipment.

Loosen the set screw (1) in the fork leg with a wrench;

Knock out the wheel pin shaft (2) from side, and remove washers(3), load wheel and bearing assembly;

Remove the bearing (5) of load wheel (4) with hammer and jacking equipment.



Installation and Commissioning

Install according to the reverse order of removal;

Run the truck to see if the load wheel is functioning properly. If there is blocking or noise, please install again.



CAUTION

When installing, please apply appropriate amount of grease on the axle first.

1.3.8 Caster - Removal and Installation

Removal

Remove the cover (see Chapter D section 1.3.2). Lift the truck carefully with lifting equipment through the lifting holes at front and back. Unscrew four screws(1), then remove the caster(3) and dust shim(if necessary).

Installation

Install according to the reverse order of removal.



WARNING

Make sure the lifting equipment is solid and secure, and the load capacity should be greater than the total weight of the vehicle. Lifting height of not more than 300mm, to prevent the hazards to the maintenance personnel working under the vehicle for caster removal and installation.

Installation

Install according to the reverse order of removal.

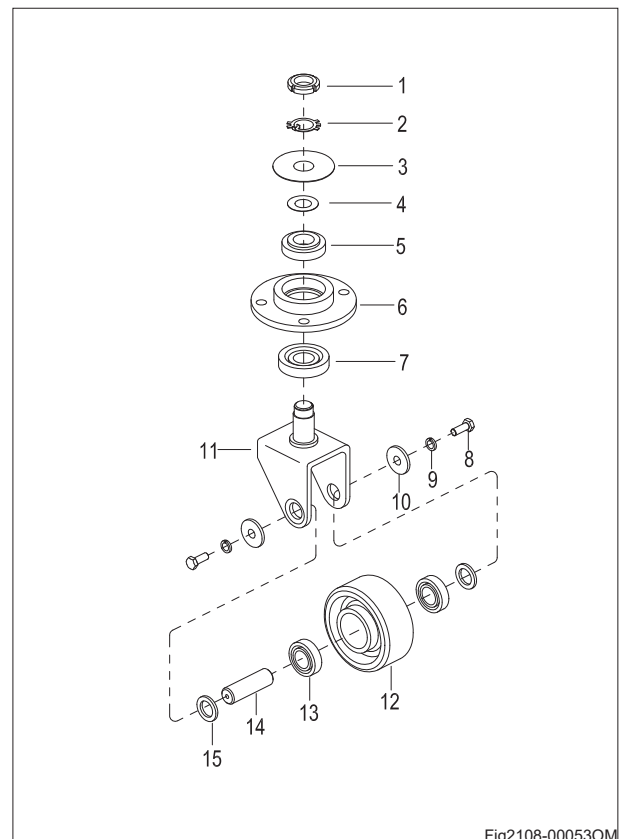
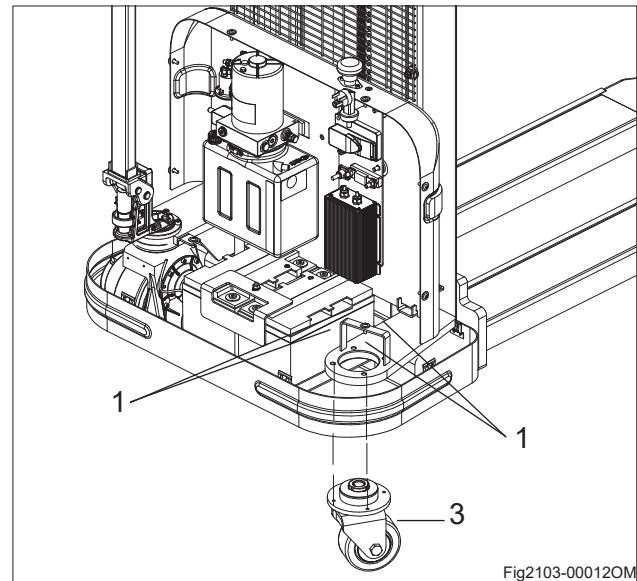
➤ Adjustment

Park the truck with replacement completed on level ground to see if the casters and drive wheel can both be in contact with the ground;

When the truck is running, check if the caster is functioning properly.

After long time of use, the drive wheel will wear and tear to certain level, at this time, adjust the height of caster(3) through increasing or decreasing the number of adjustment shims(4) to make the two casters and drive wheel to be in close contact with the ground.

Upon maintenance or replacement for parts of the caster, please refer to two figures as below:





1.4 Troubleshooting

If the fault cannot be rectified after carrying out the remedial procedure, notify the Manufacturer's service department, as any further troubleshooting can only be performed by specially trained and qualified service personnel.

Fault	Probable Cause	Action
Truck does not start.	<ul style="list-style-type: none"> –Battery cables not plugged in –Key switch in “0” position –Battery charge too low –Faulty fuse –Truck in charge mode 	<ul style="list-style-type: none"> –Check the battery cables and connect if necessary. –Set key switch to “I” –Check battery charge, charge battery if necessary –Check fuses. –Interrupt charging
Load cannot be lifted	<ul style="list-style-type: none"> –Charging capacity too low –Truck not operational –Hydraulic oil level too low 	<ul style="list-style-type: none"> –Charging the battery –Carry out all measures listed under “Truck does not start” –Check the hydraulic oil level



1.5 Final decommissioning, disposal

The final scrap treatment of the forklift must be implemented according to the current laws and regulations of China, especially the provisions related to such aspects as storage battery, consumables, fuel oil and electric equipment.



Technical data

Standard Version Specifications

Technical specification details in accordance with VDI 2198. Technical modifications and additions reserved.

Performance data for standard trucks

Distinguishing mark				
1.2	Model designation			EST124
1.3	Drive unit			Electrics
1.4	Operator type			Pedestrian
1.5	rated capacity	Q	kg	1200
1.6	Load center distance	c	mm	600
1.8	Load distance	x	mm	800
1.9	Wheelbase	y	mm	1195
Weight				
2.1	Service weight (include battery)		kg	470
2.2	Axle loading, laden driving side/loading side		kg	520/1150
2.3	Axle loading, unladen driving side/loading side		kg	345/125
Types, Chassis				
3.1	"Tyre type driving wheels/loading wheels"			PU

3.2.1	Tyre size, driving wheels(diameter×width)		mm	Ø210×70
3.3.1	Tyre size, loading wheels(diameter×width)		mm	Ø74×72
3.4	Tyre size, caster wheels(diameter×width)		mm	Ø130×55
3.5	Wheels, number driving, caster/loading (x=drive wheels)		mm	1x ,1/2
3.6.1	Track width, front,driving side	b10	mm	645
3.7.1	Track width,rear,loading side	b11	mm	418
Dimensions				
4.0	MAX.Lift Height	H	mm	-
4.2	Height, mast lowered	h1	mm	2067
4.3	Free lift	h2	mm	—
4.4	Lift height	h3	mm	2930
4.5	Height, mast extended	h4	mm	3532
4.9	Height drawbar in driving position min./max.	h14	mm	760/1140
4.15	Lowered height	h13	mm	90
4.19	Overall length	l1	mm	1706
4.20	Length to face of forks	l2	mm	556
4.21	Overall width	b1/ b2	mm	925
4.22	Fork dimensions	s/ e/ l	mm	60×170×1150
4.24	Fork carriage width	b3	mm	680
4.25	Distance between fork-arms	b5	mm	570
4.32	Ground clearance, center of wheelbase	m2	mm	23
4.34.1	Aisle width for pallets 1000 × 1200 lengthways	Ast	mm	2246
4.34.2	Aisle width for pallets 800 × 1200 lengthways	Ast	mm	2180
4.35	Turning radius	Wa	mm	1415

Performance data				
5.1	Travel speed, laden/ unladen	km/ h	km/h	4.0/4.5
5.2	Lifting speed, laden/ unladen		m/ s	0.10/0.15
5.3	Lowering speed, laden/ unladen		m/ s	0.12/0.10
5.8	Max. gradeability, laden/ unladen		%	3/10
5.10	Service brake type			Electromagnetic
Electric-engine				
6.1	Drive motor rating S2 60 min	hp	kW	0.75
6.2	Lift motor rating at S3 15%	hp	kW	2.2
6.4	Battery voltage/nominal capacity K5	V/ Ah		24V/80Ah
6.5	Battery weight	lb.	kg	38
Addition data				
8.1	Type of drive control			DC
10.5	Steering type			Machanical Steering
10.7	Sound pressure level at the driver's ear		dB (A)	74

a=200mm

Dimensions

