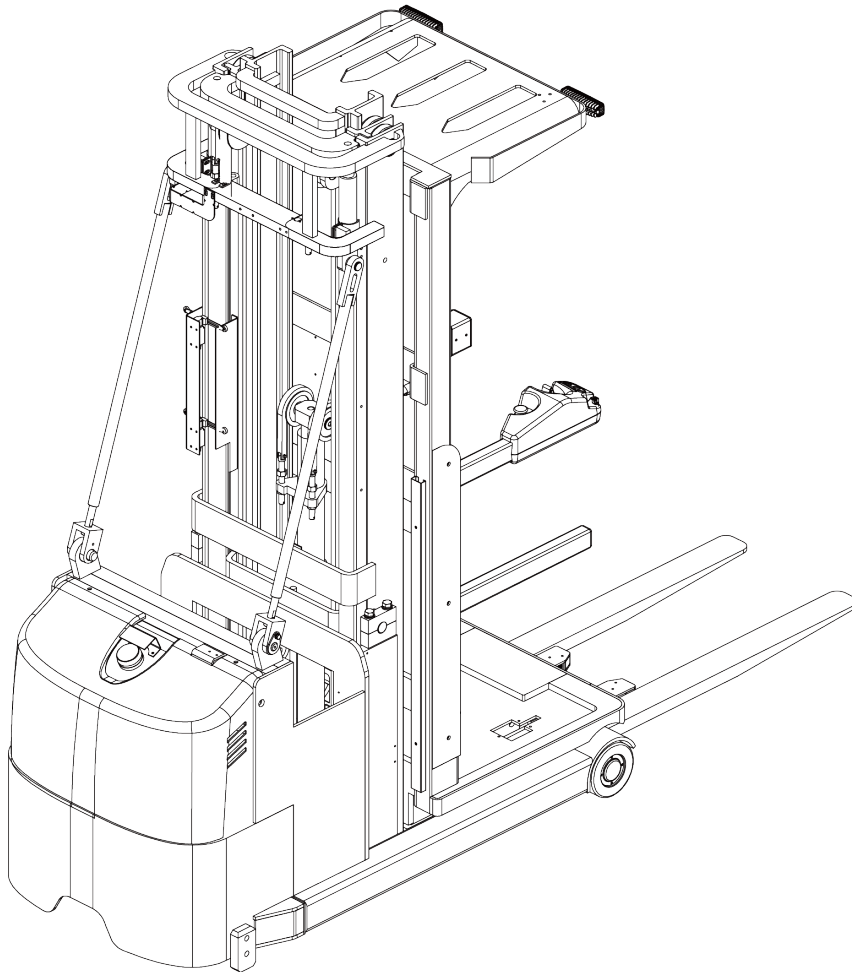




Big Lift LLC



J2 Joey Series

126 ◊ 144 ◊ 192

Operator's Manual

ORDER PICKER



Big Joe Forklifts (Big Lift LLC)

2777 Finley Rd., Suite 16
Downers Grove, IL 60515
(630)916-2600

For Parts and Technical Support

www.bigjoesupport.com

Big Lift LLC

WARNING

- ▲ Do not operate this truck unless you have been authorized and trained to do so and have read all warnings and instructions in this Operator's Manual and on this truck. Read, understand, and comply with the information on the truck's nameplate at all times.
- ▲ Do not operate this truck until you have performed the daily operation's check list. Inspect tires, horn, battery, controller, lift and hydraulic systems, brakes, steering mechanism, and guards. Verify that all emergency controls, personal protection, and safety devices are in place and functioning correctly and ensure the truck is free of fluid leaks and has no loose or missing parts. Report any problems to the designated authority and do not use the truck until they are corrected by a qualified mechanic.
- ▲ This truck must not be modified without the manufacturer's consent. Components critical to the vehicles' stability such as batteries shall not be replaced with lighter weight components.
- ▲ Operate truck only from designated platform operating position. Use this vehicle indoors on level surfaces only. Never operate on ramps and slopes or uneven floors. This vehicle is not for use on mezzanines or balcony areas. Before operating, inspect the floor area it will be used on and be certain it will support the vehicle at full capacity and lift height. Identify and avoid holes, drop-offs, bumps, and obstructions.
- ▲ Before and during all truck operations ensure that adequate clearance is maintained from overhead obstructions and energized electrical conductors and parts.
- ▲ Before elevating the platform be sure guardrail access gates are in place and lowered. Always keep feet on platform floor while using truck, never climb onto guard rails or platform shelf. Do not use ladders, planks, or other devices to achieve additional height on platform.
- ▲ When transferring loads to platform or platform shelf, do not exceed capacity ratings on truck nameplate. Ensure loads are centered and do not contact any obstructions in the vehicle's vicinity. Do not stabilize the platform by contact with adjacent objects such as racks or shelving. Do not use the platform as a crane.
- ▲ Take care to prevent electrical cords, hoses, or other equipment from getting entangled in the platform. Ensure the area surrounding the vehicle is free of personnel and equipment before lowering platform.

- ▲ Maintain a clear view of the ground while traveling and a safe distance from obstacles in the truck or platform's path. Ensure personnel in the vicinity are aware of the truck's movement. Travel at a safe speed for the conditions the truck is operating in.
- ▲ Observe applicable traffic regulations. Yield right of way to pedestrians. Slow down and sound horn at cross aisles and wherever vision is obstructed. Avoid hazardous locations.
- ▲ Enter and exit platform only through raised access gates and with the platform fully lowered and truck stopped. When leaving the truck unattended, remove the key to prevent unauthorized use.
- ▲ If there is a fault code on the BDI/display, do not continue to use. Recycle the key and see if the code displays again. If the code does display, do not operate the truck. Investigate the fault code and check with a service technician.

Safety Notices and Text Mark-Ups

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



DANGER

Means that failure to comply can cause risk to life and/or major damage to property.



WARNING

Strictly adhere to safety instructions to avoid personal injury or major damage to equipment.



CAUTION

Pay attention to the safety instructions.



NOTE

Pay attention to the instructions.

PROPOSITION 65



WARNING

In accordance to

California Health & Safety Code Sections 25249.5 et. seq.

this warning is to let you know that this product can expose you to chemicals known to the state of California to cause cancer, birth defects and other reproductive harm.

For more information visit: www.p65warnings.ca.gov

Table of Contents

CORRECT USE AND APPLICATION	1
TRUCK DESCRIPTION	2
SPECIFICATIONS	3
SAFETY EQUIPMENT	4
TRUCK DATA PLATE	5
TRUCK COMPONENTS	6
CONTROLS AND DISPLAYS	7
INSTRUMENTS AND CONTROLS.....	8
DISPLAY UNIT.....	9
OPERATOR CHECKS	11
SAFETY REGULATIONS FOR THE OPERATION OF TRUCKS	12
TRUCK OPERATION	13
USING THE TRUCK FOR THE FIRST TIME	13
BREAK-IN PERIOD	13
PREPARING THE TRUCK FOR DAILY OPERATION	14
DRIVING AND STEERING	14
DRIVING.....	15
DUAL CONTROLS.....	15
STEERING	16
BRAKING METHODS	16
LIFTING - LOWERING	17
EMERGENCY LOWERING PROCEDURES.....	17
LOADING A PALLET	18
UNLOADING A PALLET	18
PARKING SECURELY	19
BATTERY SAFETY AND MAINTENANCE	20
BATTERY SAFETY RULES	20
BATTERY TYPE	21
CLEANING THE BATTERY	21
CHECKING ELECTROLYTE LEVEL (FLOODED CELL ONLY)	21
CHECKING SPECIFIC GRAVITY (FLOODED CELL ONLY)	21
TEMPERATURE CORRECTION (FLOODED CELL ONLY)	22
CHARGING THE BATTERY.....	22

REMOVING BATTERY FROM THE CHARGER	23
BATTERY REMOVAL AND INSTALLATION	23
MAINTENANCE.....	24
CLEANING.....	24
ELECTRICAL SYSTEM.....	24
RETIREMENT/DISPOSAL	24
TROUBLESHOOTING	25

Correct Use and Application

The truck described in this operator manual is designed for lifting and transporting material loads. It must be used, operated, and serviced as specified in the following instructions. Any other type of use is beyond the scope of application and can result in damage to personnel, the truck or property. Avoid overloading the truck with loads which are too heavy or placed on one side. The data plate attached to the truck, or the load diagram are binding for the maximum load capacity. All nameplates and safety signs on the truck should be cleaned regularly to maintain visibility.

Proprietor responsibilities

For the purposes of the present operator manual the “proprietor” is defined as any person who either uses the truck himself, or on whose behalf it is used. In special cases (e.g., leasing or renting) the proprietor is considered the person who, in accordance with existing contractual agreements between the owner and user of the truck, is charged with operational duties.

The proprietor must ensure that the truck is used only for the purpose it is intended for and that danger to life and limb of the user and third parties are excluded.

Furthermore, accident prevention regulations, safety regulations and operating, servicing and repair guidelines must be followed. The proprietor must ensure that all truck users have read and understood this operator manual. The owner must also read and understand the safety guidelines/requirements as called out in the applicable ANSI/ITSDF B56 series of standards.

Failure to comply with the operator manual shall invalidate the warranty. The same applies if improper work is carried out on the truck by the customer or third parties without the permission of the manufacturer’s customer service department.

Modifications

The mounting or installation of additional equipment which affects or enhances the performance of the truck requires the written permission of the manufacturer. Local authority approval may also need to be obtained. Local authority approval does not constitute the manufacturer’s approval. If approval has been granted for capacity change, the nameplate and safety signs on the truck must also be changed.



Warning!

This truck can ONLY be used indoors on flat, level surfaces. NO INCLINES/SLOPES.

Truck Description

The J2 is an electric order picker. This truck is designed to transport and lift goods on level surfaces. Loads can be transported over long distances. Loads should be transported with the forks and operator's platform lowered for enhanced stability.

The capacity can be obtained from the data plate.

Safety Mechanisms: Pressing the emergency disconnect switch interrupts all electrical functions except steering in hazardous situations. Gates on either side of the cab interrupt all truck operations as soon as they are opened. When you start the truck the drive pedal must be pressed for movement to begin. Please use all safety equipment provided.

Drive: The entire drive unit is enclosed in the truck chassis. The electronic traction controller ensures the smooth rotation of the drive motor, resulting in smooth driving and powerful acceleration.

Brake System: The operator can pull back the travel switch on the control arm to slow it down prior to braking. The electromagnetic brake applies braking via spring pressure applied to friction discs that act on drive motor and serves as both a parking and handbrake.

Steering System: Steering is achieved via an independent steer motor. The steering wheel is integrated in the control panel. The position of the steer drive wheel is shown in the control panel display unit. The maximum steer angle is $\pm 90^\circ$.

Controls and Displays: The functions are activated via ergonomic finger movements for ease of operation. The dual controls allow the operator to drive with forks forward or forks trailing. The truck utilizes travel and hydraulic movements to position the goods. The driver's display unit shows all important driver information such as steering wheel position, overall lift, truck status reports (e.g., faults), battery capacity and time etc.

Hydraulic System: All hydraulic operations are controlled by a DC motor with a gear pump. Hydraulic control oil is distributed via electromagnetic valves.

Electrical System: The truck has standard electronic drive, lift and steering control system. The electronic drive control enables plugging when changing direction.

Specifications

Performance Data for Standard Trucks

Distinguishing Mark				
Model designation		J2-126	J2-144	J2-192
Drive		Electric	Electric	Electric
Operator type		Order-picker	Order-picker	Order-picker
Load capacity	lbs	2,000	2,000	2,200
Load center distance	in	23.62	23.62	23.62
Load distance, center of drive axle to fork	in	4.5	4.5	4.5
Wheelbase	in	56	56	56
Service Weight				
Service weight	lbs	5,578	5,578	5,578
Axle loading, laden front/rear	lbs	5401/2380	5401/2380	5401/2380
Axle loading, unladen front/rear	lbs	2161/3417	2161/3417	2161/3417
Tires/Chassis				
Tire type		Polyurethane	Polyurethane	Polyurethane
Tire size, front	mm	6.5" x 4.7"	6.5" x 4.7"	6.5" x 4.7"
Tire size, rear	mm	10" x 4"	10 x 4"	10.25" x 5"
Additional wheels (castor wheels)	mm	3" x 2"	3" x 2"	3" x 2"
Wheels, number front/rear (x=drive wheels)	mm	1x,2/2	1x,2/2	1x,2/2
Dimensions				
Retracted mast height	in	89.5	94	95.5
Free lift	in	7.87	7.87	7.87
Lift height	in	126	144	192
Height, mast extended	in	223	235	295
Height of overhead guard(cabin)	in	87	87	87
Seat height/standing height	in	9.6	9.6	9.6
Stand height, elevated	in	220	220	220
Lowered height of forks	in	2.5	2.5	2.5
Overall length	in	116.3	116.3	116.3
Length to face of forks	in	69	69	69
Overall width	in	36	36	36
Fork dimensions	in	1.57/3.9/42.1	1.57/3.9/42.1	1.57/3.9/42.1
Distance between fork-arms	in	21.26	21.26	21.26
Ground clearance, center of wheelbase	in	1.96	1.96	1.96
Aisle width for pallets 1000×1200 crossways	ft	10	10	10
Aisle width for pallets 800×1200 lengthways	in	127	127	127
Turning radius	in	65	65	65
Performance Data				

Travel speed, laden/unladen	mph	4.97/4.97	4.97/4.97	4.97/4.97
Lifting speed, laden/unladen	m/s	0.13/0.16	0.13/0.16	0.13/0.16
Lowering speed, laden/unladen	m/s	0.22/0.20	0.22/0.20	0.22/0.20
Max-gradeability, laden/unladen	%	5/8	5/8	5/8
Service brake		Electromagnetic	Electromagnetic	Electromagnetic
Electric-Engine				
Drive motor rating S2 60 min	kW	3.3	3.3	3.3
Lift motor rating at S3 15%	kW	4	4	4
Battery voltage/nominal capacity	V/Ah	224AH-360AH (optional)	224AH-360AH (optional)	224AH-360AH (optional)
Battery weight	lbs	727.5 (optional)	727.5 (optional)	727.5 (optional)
Additional Data				
Type of drive control		AC	AC	AC
Steering design		Electronic	Electronic	Electronic
Sound pressure level at the driver's ear	dB(A)	75	75	75

Safety Equipment

J2 series standard safety equipment:

- Rear flashing lights
- Horn
- Guard rails
- Tether and safety harness
- Pallet clamp
- Plexiglass mast guard
- Emergency stop switch
- Operator presence switch

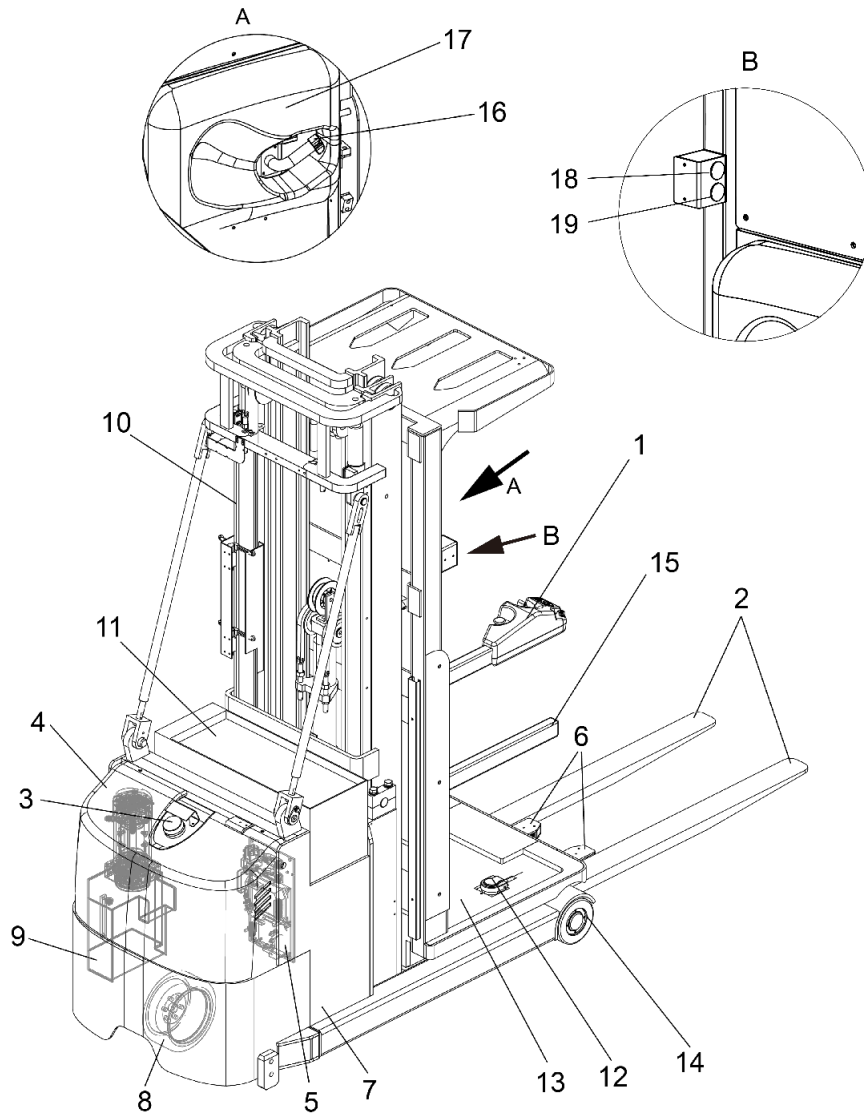
Truck Data Plate

MODEL NO.		SERIAL NO.			
MAX CAP LB / KG	A IN / MM	B IN / MM	C LIFT HGT IN / MM		
ALT CAP LB / KG	A IN / MM	B IN / MM	C LIFT HGT IN / MM		
TRUCK WT LESS BATTERY LB / KG	BATTERY MIN WT LB / KG	TRUCK TYPE	BATTERY TYPE		
TRUCK WT WITH BATTERY LB / KG	BATTERY MAX WT LB / KG	CERTIFIED	VOLTAGE	COMPLIES WITH THE APPLICABLE REQUIREMENTS OF ANSI / ITSDF B56.1 STANDARDS.	
OEM TYPE ATTACHMENT		COMB SERVICE WT LESS BATT LB / KG		ATTACHMENT SERIAL NO.	
MAX CAP LB / KG	LOAD CTR IN / MM	LIFT HGT IN/MM	 BIG LIFT LLC LOMBARD, IL60148 USA www.bigjoeforklifts.com		

Data plates are required on the truck, if lost, stolen, or damaged they must be replaced per OSHA standards.

For queries regarding the truck or ordering spare parts always provide the serial number.

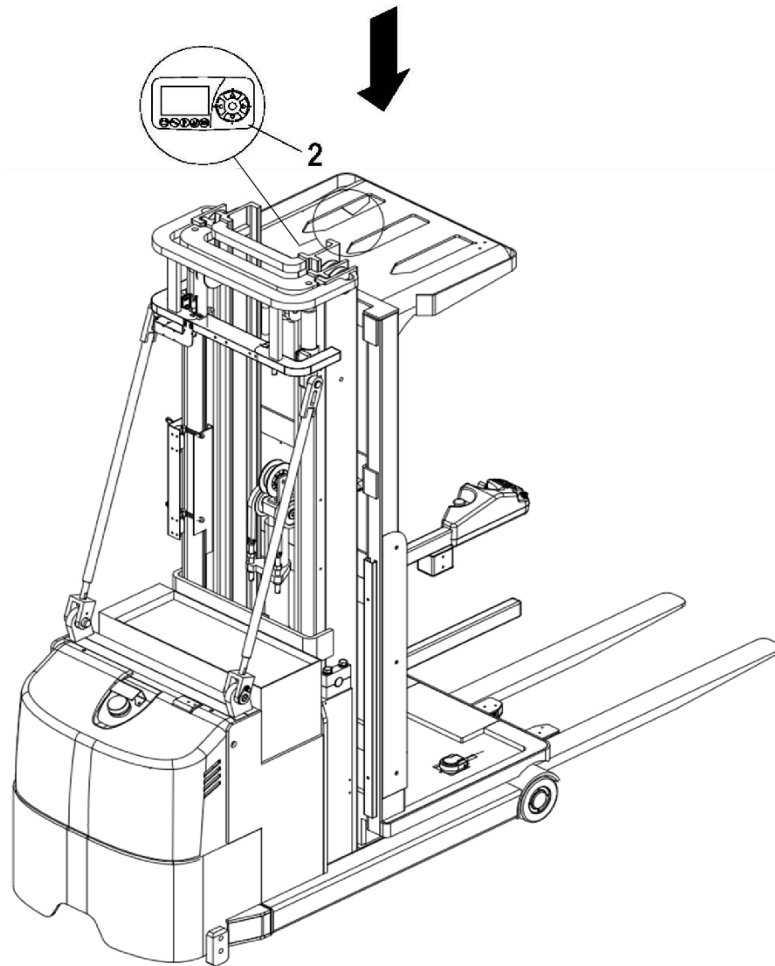
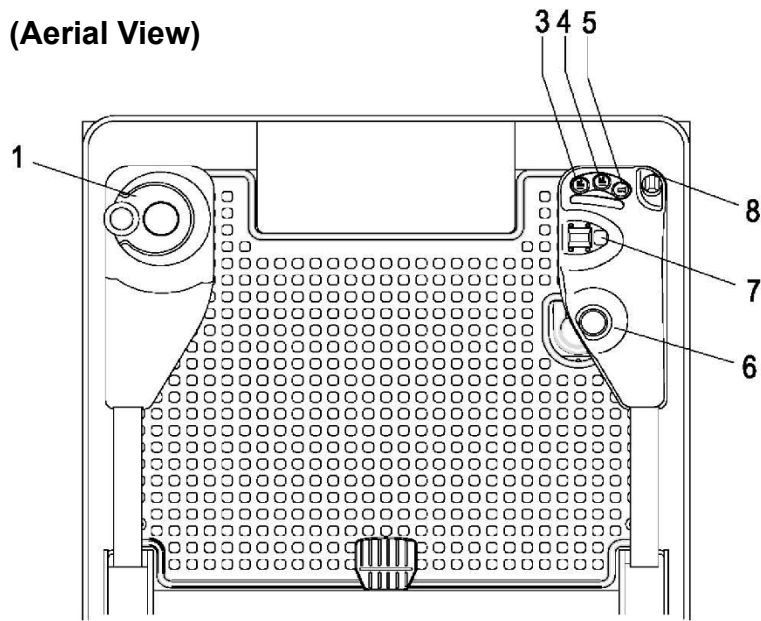
Truck Components



Item	Component	Item	Component
1	Control arms	11	Battery
2	Fork	12	Drive pedal/Operator presence switch
3	Warning lamp	13	Height-adjustable operator platform
4	Cover	14	Load wheel
5	Controller	15	Gates
6	Fixture	16	Travel switch / Horn
7	Frame	17	Cushion
8	Drive wheel	18	12V socket
9	Hydraulic pump	19	12V socket
10	Mast		

Controls and Displays

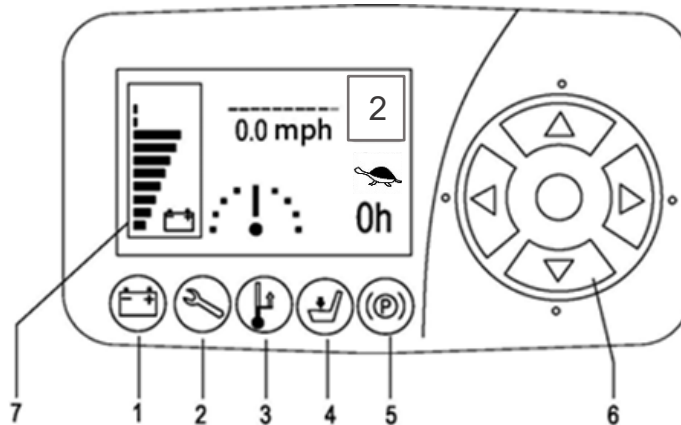
Control Panel (Aerial View)



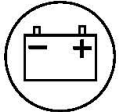
Instruments and Controls

- (1) Steering Wheel:** Controls the direction of travel.
- (2) Display Unit:** Operating information and warning message display.
- (3) Lifting Pushbutton:** Lifts the operator's platform from the raised position.
- (4) Lowering Pushbutton:** Lowers the operator's platform from the raised position.
- (5) Horn Pushbutton:** Sounds the horn.
- (6) Emergency Stop Switch:** Disconnects the supply current, deactivates all electrical functions, causing the truck to automatically brake and stop.
- (7) Travel Switch:** Controls the direction and speed of the truck.
- (8) Key Switch:** Prevents unauthorized personnel from operating the lift truck.

Display Unit



(1) Low Battery Alarm LED



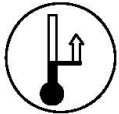
The battery LED illuminates when the measured battery voltage is equal to or less than 40% normal battery voltage.

(2) Fault Alarm LED



The wrench LED illuminates when a fault is detected. The display (7) will show the warning and fault indication. Report alarm to the designated authority and do not use the vehicle until corrected by a qualified mechanic.

(3) Temperature Alarm LED



The temperature LED illuminates when the temperature of the motor controller exceeds allowable range (too high or too low). If the temperature is too high, stop operation until the temperature drops and notify an authorized technician.

(4) Operator Presence Switch Alarm LED



When the operator presence pedal is released, this LED will illuminate.

(5) Brake LED



The parking brake LED illuminates when the brake is applied.

(6) Function Keys



Use the left arrow button to adjust the speed mode. Use the down arrow button to switch the driving mode. Use the center button to code in new values.

(7) LCD Display



Battery Indicator

The state of charge is displayed by ten cells. Each cell represents 10% of the batteries charge. For example, the illustration shows 80% charge.

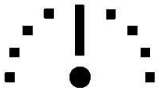
Information Display

Displays the warnings and faults. Stop using the truck until corrected by a qualified mechanic.

0.0 mph

Speed Display

Displays vehicle speed. Unit: mph.



Steering Display Area

One of nine notches will indicate the steering angle of the drive wheel.



Driving Mode Display

The vehicle can be operated in two driving modes, high speed or crawl speed. Use the 'down' function key to switch the driving mode. The crawl speed will automatically come on when the operator platform reaches approximately 12" of lift height. When you are in crawl speed, a 'turtle' will appear on the display.

0h

Hour Meter

Displays the number of hours that the vehicle has been operated.

Speed Mode Display

0

There are four speed ranges available in both high and crawl speed driving modes. Use the left function key to select the desired mode. '1' Indicates slowest speed while '4' indicates highest speed.

Low Voltage Protection

The truck has a low-voltage protection function. When battery state of charge is below 10% the truck drive speed will slow and prevent the ability to lift the platform. The battery will need to be charged.

Operator Checks

Date _____ Truck No. _____ Department _____

Runtime _____ Meter Reading _____

Operator ___ No. _____

ITEM	PROCEDURE	OK (√)	REMARK
Transmission and Hydraulic Systems.	Check for signs of fluid leakage.		
Forks	Check for cracks and damage and that they are properly secured.		
Chains, Cables, and Hoses	Check that they are in place, secured correctly, functioning properly and free of binding or damage.		
Guards	Check that safety guards are in place, properly secured and not damaged.		
Safety Signs	Check that warning labels, nameplate, etc., are in good condition and legible.		
Horn	Check that horn sounds when operated.		
Steering	Check for binding or looseness in steering arm when steering.		
Travel Controls	Check that speed controls on control head operate in all speed ranges in forward and reverse and that belly button switch functions.		
Wheels	Check the drive wheel for cracks or damage. Move truck to check load for freedom of rotation.		
Hydraulic Controls	Check operation of lift and lower to their maximum positions.		
Brakes	Check that brakes actuate when steering arm is raised to upright position, and when lowered to horizontal position.		
Operator Presence Switch	Check whether the truck starts when operator presence switch is released.		
Emergency Stop Switch	Check that emergency stop switch can be disengaged and reengaged.		
Battery	Check battery charge and condition.		
High Speed Limit Switch	Allow for enough space to operate truck at high speeds. Elevate forks approximately two feet, then attempt to drive truck at a high speed to ensure the limit switch is operational.		
Platform Mast Assembly	Check for proper roller adjustment so there is not excessive play, mast deflection, leaning, or binding in the operator platform.		
Hardware	Check that all hardware (nuts/bolts) are secure and free of damage.		

NOTE: This is a sample of daily inspections for operators. The table can be adjusted according to specific requirements.

Safety Regulations for the Operation of Trucks

Driver Authorization: The truck may only be used by trained personnel, who have demonstrated that they can drive, handle loads, and are authorized to operate the truck.

Driver's Rights, Obligations and Responsibilities: The driver must be informed of his duties and responsibilities and be instructed in the operation of the truck and shall be familiar with the operator manual.

Unauthorized Use of Truck: The driver is responsible for the truck during the time it is in use. They should prevent unauthorized persons from driving or operating the truck. Do not carry passengers or lift personnel.

Damage and Faults: The supervisor must be immediately informed of any damage or faults to the truck. If the truck is not safe for operation (e.g., wheel or brake problems) it must not be used until it has been repaired.

Repairs: The driver must not perform any repairs or alterations to the truck. Repairs must only be done by an authorized, trained technician. The driver must never disable or adjust safety mechanisms or switches.

Hazardous Area: A hazardous area is defined as the area in which a person is at risk due to truck movement, lifting operations, the load handler (e.g., forks or attachments) or the load itself. This also includes areas which can be reached by falling loads or lowering operating equipment.

- Unauthorized persons must be kept away from the hazardous area.
- When there is danger to personnel, a warning (horn) must be sounded with sufficient notice.
- If unauthorized personnel are still within the hazardous area the truck shall be brought to a halt immediately.
- This unit is intended to be driven in clean, dry, flat surfaces in non-freezer or refrigerated environments.

Safety Devices and Warning Signs: Safety devices, warning signs, and warning instructions shall be strictly observed.

Travel routes and work areas: Only use lanes and routes specifically designated for truck traffic. Unauthorized parties must stay away from work areas. Loads must only be stored in places specially designated for this purpose.

Driving conduct: The driver must adapt the travel speed to workplace conditions. The truck must

be driven at slow speed when negotiating bends or narrow passageways, when passing through swing doors and at blind spots. The driver must always observe an adequate braking distance in front of the forklift truck. The driver must be in control of the truck at all times. Abrupt stopping (except in emergencies), rapid U turns and passing at blind spots are not permitted. It is forbidden to lean out of the truck or reach beyond the working and operating area.

Nature of loads to be carried: The operator must make sure that the load is in a satisfactory condition. Only carry loads that are positioned safely and securely. Use suitable precautions to prevent parts of the load from tipping.

Truck Operation



Warning!

Before operation ensure that no one is within the proximity of the truck.

Using the Truck for the First Time

Only operate the truck with battery power.

Preparing the truck for operation after delivery or transport:

- Ensure a post-delivery inspection of the entire truck is performed by qualified personnel.
- Check the hydraulic oil level.
- Install the battery, if necessary (where required), do not damage the battery cable.
- Fully charge the battery.
- Check platform mast assembly for proper roller adjustment so that there isn't excessive play, mast deflection, leaning, or binding in the operator platform. Consult with manufacturer for training.
- When the truck is parked the surface of the tires will flatten. The flattening will disappear after a short period of operation.

Break-In Period

Operate the machine under light load conditions for the first stage of operation to get the most from it. The requirements below should be observed while the machine is in the first 100 hours of operation (break-in period).

- Prevent the new battery from over discharging. Do not allow it to go below 20% state of charge.
- Perform specified preventive maintenance services carefully and completely.
- Avoid sudden stops, starts, or turns.
- Limit load to 70~80% of the rated load.



CAUTION!

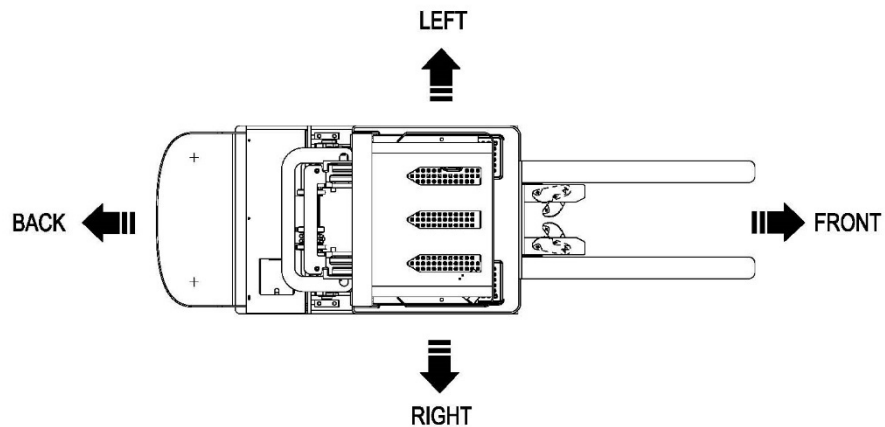
Only operate on level, flat surfaces indoors.

Preparing the Truck for Daily Operation

- Close the safety gates.
- Insert the key in the key switch and turn it to the 'ON' position.
- Turn the emergency disconnect switch $\frac{1}{4}$ turn clockwise until it pops up to activate.
- Test the horn.
- Check brake operation.

Driving and Steering

The following definitions apply to travel direction specifications.



Driving

- Close the safety gates.
- Insert the key in the key switch (5) and turn it to the “ON” position.
- Turn emergency brake switch counterclockwise until pops up (4).
- Step on the operator presence switch (2).
- Use the dual control travel switches (3) or (6) to operate
Forward facing/fork facing direction = FWD

OR

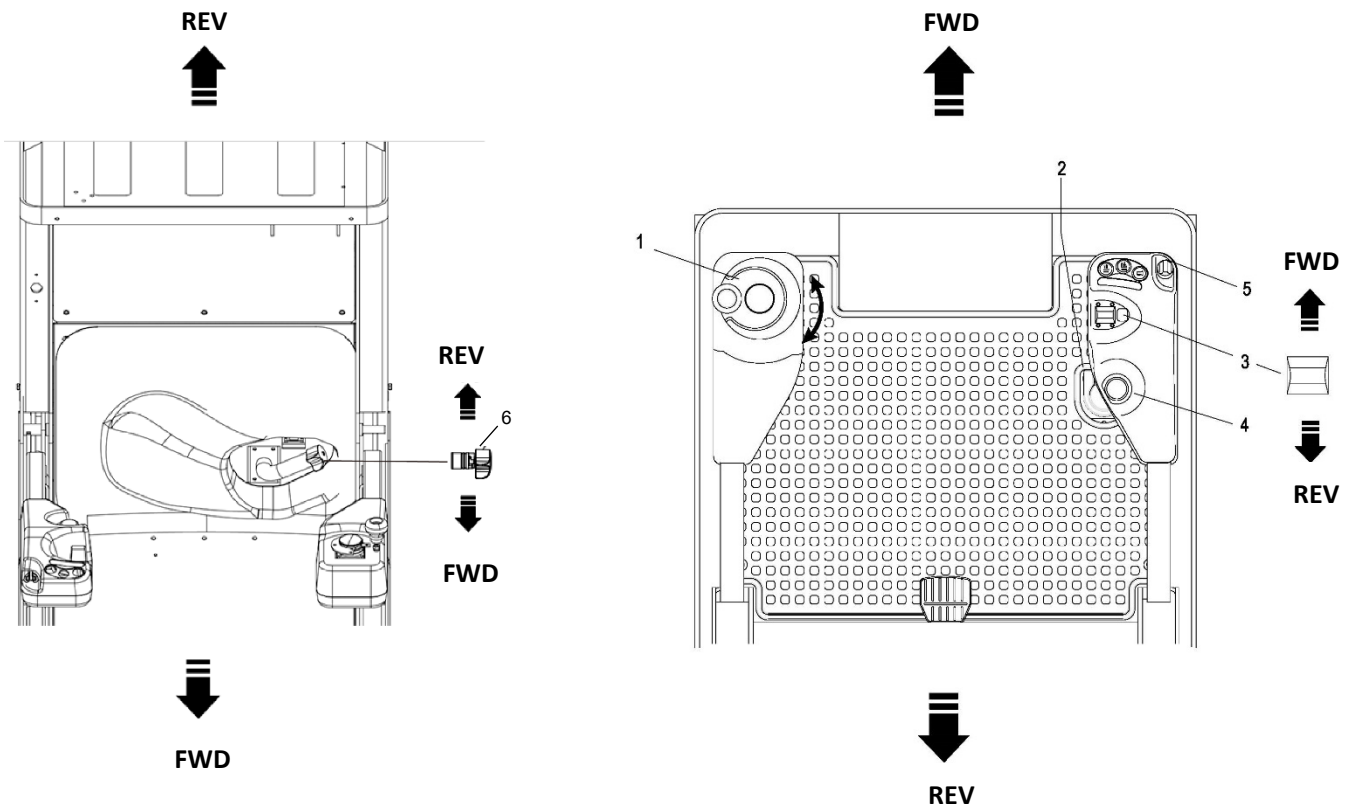
Reverse facing/ fork trailing direction = REV.

- The travel speed is governed by the speed mode.
- Use steering wheel (1) to steer the truck in the required direction.



Warning!

When the power is switched on, the truck will run a self-test. Make sure the lamps on the display unit stop flashing before operation.

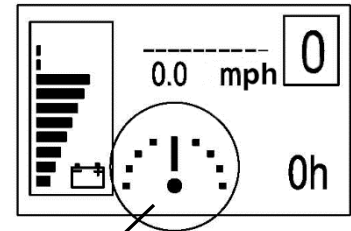


Dual Controls

When the driver changes their orientation and grabs the dual control handle, a sensor will detect their hand automatically allowing the truck to travel in either direction (e.g., forks forward or forks trailing).

Steering

Use steering wheel (1) to steer the truck in the required direction.
The drive wheel position is indicated in the driver's display.



Drive Wheel Position

Braking Methods

The truck can brake in three different ways:

- **Reverse Braking Method**

To stop faster, slowly move the travel switch to the opposite direction, this is also referred to as 'plugging'.

- **Coast Braking Method**

Release the drive pedal and allow the truck to coast to a stop.

- **Emergency Braking Method**

To stop rapidly when an emergency exists, press the emergency power disconnect switch.



Warning!

The emergency brake switch (4) must only be used in an emergency.

Warning!



- Do not climb out of the operation platform while elevated.
- The lift mast cannot be safely climbed.
- An elevated operator position has a high center of gravity and can be tipped easily.
- Standing on or leaning out from the outside of a platform rail may cause the lift truck to tip over.
- Tipping the lift truck over can cause severe injury or death and equipment damage.
- Do not rock, shake, or induce any other external lateral load on to the truck by pushing/pulling a rack from the operator platform position.

Lifting - Lowering

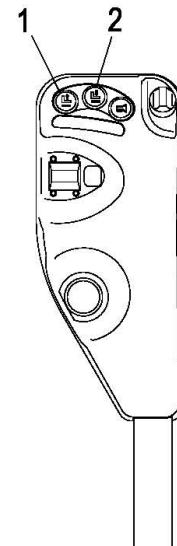
Ensure there are no people standing underneath the raised load or the operator's platform. Instruct other people to move out of the hazardous area.

Lifting

Press the "Lifting" button (1) until you reach the desired lift height.

Lowering

Press the "Lowering" button (2) until you reach the desired height.

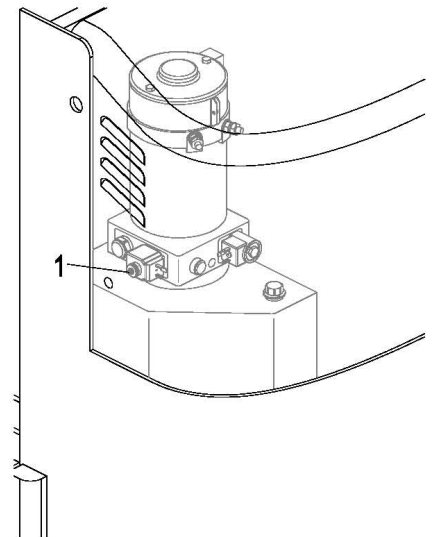


NOTE

When lowering, the vehicle sounds an intermittent alarm.

Emergency Lowering Procedures

If you lose power while elevated in the cage, instruct someone on ground to press the emergency lowering valve (1), which lowers the platform.

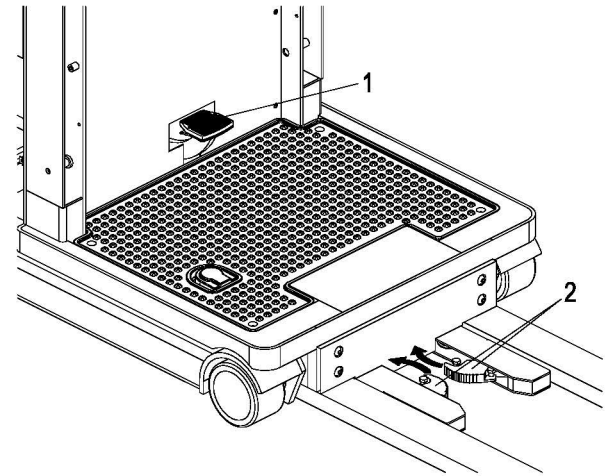


Loading a Pallet

When loading a pallet, press on pedal (1), and then the jaws (2) will release allowing pallet to be secured. Releasing the pedal switch (1) after picking will secure the pallet in place.

Unloading a Pallet

When unloading a pallet, press pedal (1), and then the jaws (2) open. When the jaws are in an open state, the pallet can be detached; release the pedal (1) after unloading pallet.



CAUTION!

Fixture must clamp pallet before transporting.

Parking Securely

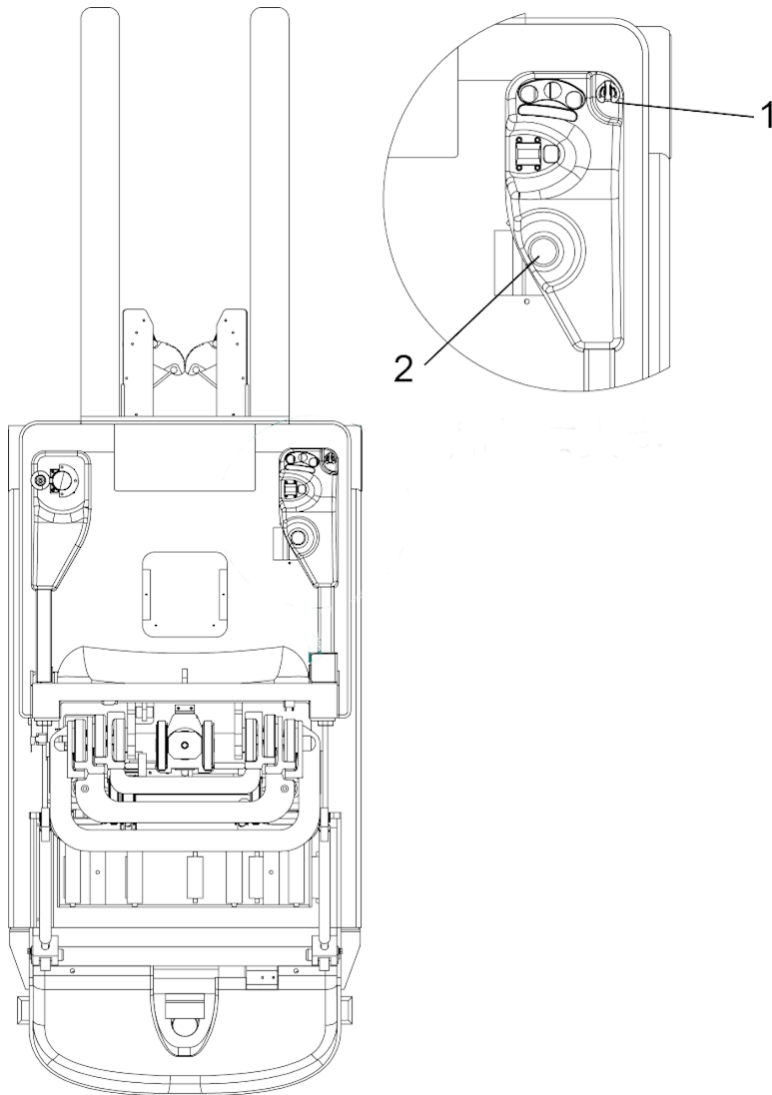
When you leave the truck, it must be securely parked even if you only leave it for a short time.

- Lower the platform completely.
- Depress the emergency disconnect switch (2).
- Turn off the key switch and remove the key (1).



Warning!

Do not operate or park the truck on a slope. The load must always be lowered to the ground.



Battery Safety and Maintenance



CAUTION

Only qualified and experienced personnel should perform maintenance and repair on batteries.



WARNING

- Wear protective clothing, such as, rubber apron, gloves, boots, and goggles when performing any maintenance on batteries.
- Gases produced by a battery can be explosive. Do not smoke, use an open flame, create an arc or sparks in the vicinity of the battery. Ventilate area well when servicing and when charging.
- Batteries contain sulfuric acid which may cause severe burns.
- Avoid contact with eyes, skin, or clothing.

In case of contact, flush immediately and thoroughly with large amounts of clean water.

Remove contaminated clothing. Obtain medical attention. In case of spills, dilute spill cautiously with five to six volumes of water and gradually neutralize with lime, soda ash or baking soda. For waste disposal consult Federal, State and Local Regulations.

Battery Safety Rules

- Wear protective clothing, such as, rubber apron, gloves, boots and goggles when performing any maintenance on batteries.
- Do not allow electrolyte to come in contact with eyes, skin, clothing, or floor. If electrolyte comes in contact with eyes, or skin flush thoroughly with large amounts of clean water, remove contaminated clothing and obtain medical help immediately.
- Keep vent plugs firmly in place at all times except when adding water or taking hydrometer readings.
- Do not bring any type of flame, spark, etc., near the battery. Gas formed while the battery is charging is highly explosive. This gas remains in the cells long after charging has stopped.
- Do not lay metallic or conductive objects on battery. Arcing may result.
- Do not allow dirt, cleaning solution, or other foreign material to enter cells. Impurities in electrolytes have a neutralizing effect reducing available charge.

Battery Type

The battery (or batteries) in the lift truck fit into two basic categories, flooded cell and maintenance free.

- Flooded cell batteries have vent plugs for access to the electrolyte inside the battery.
- Maintenance free batteries do not have removable vent caps and should never be opened or the battery will be permanently damaged or destroyed.

Cleaning the Battery

Always keep vent plugs tightly in place when cleaning the battery. When the water level and charge are correct, the battery will remain clean and dry. All that is necessary is to brush or blow off any dust or dirt which may accumulate on the battery.

However, if electrolyte is spilled or overflows from the cell, dilute spill cautiously with five to six volumes of water and gradually neutralize with lime, soda ash or baking soda. To do this, remove battery from truck and clean with the solution of soda and water, brushing the soda solution to get the solution beneath the connectors and removing grime from the covers. Then rinse the battery with cool water from a low-pressure supply to remove the soda and the loosened dirt. If batteries stay wet consistently, they may be either overcharged or overfilled. This condition should be investigated and corrected.

Checking Electrolyte Level (flooded cell only)

Battery electrolyte level should be checked before each charge of the battery. If the plates are exposed, only add enough water to cover the plates before charging. The level should be maintained at one-half inch above plates or just below the lower lip of the filler hole after the battery is fully charged. If low, add distilled water or approved local supply (at the end of a charge cycle). (Do not overfill).

Checking Specific Gravity (flooded cell only)

For maximum battery life, specific gravity readings should be taken weekly on a pilot cell and recorded. A different pilot cell should be selected monthly with readings taken on all cells at semi-annual intervals. Do not take specific gravity readings immediately after adding water. Water and electrolyte must be thoroughly mixed by charging before a reliable reading can be taken. Normal full charge specific gravity should be taken. Normal full charge specific gravity should be between 1.265 and 1.285 corrected to 80°F (26.7°C).

Some variances exist between manufacturers. Consult battery manufacturers guide to confirm the level for your specific battery.

Do not assume a battery will not take a charge because you have been charging it for a while and the hydrometer float will not rise. The battery may have been fully discharged and will require considerable charging before reaching the minimum specific gravity of the hydrometer float. The lower the float sinks in the electrolyte, the lower its specific gravity.

Temperature Correction (flooded cell only)

Hydrometer floats are calibrated to give a true reading at one fixed temperature only. A correction factor must be applied for any specific gravity reading made when the electrolyte temperature is different from the hydrometer float calibration.

A correction factor of 4 "points of gravity" (0.004 specific gravity) is used for each 10°F (5.5°C) change in temperature. 4 "points of gravity" (0.004) are added to the indicated reading for each 10°F (5.5°C) increment above hydrometer calibration. 4 "points of gravity" are subtracted for each 10°F (5.5°C) increment below hydrometer calibration.

Charging the Battery

Before charging, check all cables and plug connections for visible signs of damage.

It is essential to follow the safety regulations of the battery and charger.

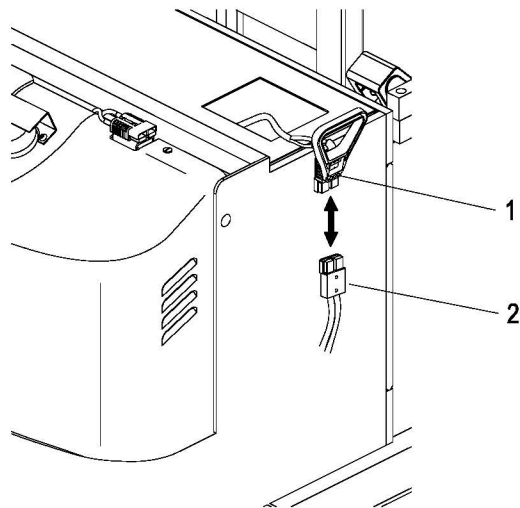
- 1.) Park the vehicle at the charging station with platform lowered and the key switch 'OFF'.
- 2.) Apply the emergency parking brake
- 3.) Disconnect plug from the vehicle and connect to the charger's plug
- 4.) Connect cord and charge the battery.



Warning!

Maximum input power is 1.8kW .

Follow the information above to prevent equipment damage and accidental risks such as fire.



Do not overuse battery:

- When the low battery LED illuminates it is time to charge the battery.

Removing Battery From the Charger

1. When working with flooded cell batteries, put on protective clothing such as rubber apron, gloves, boots, and goggles. Remove vent cap and add water as needed.
2. Some fully automatic chargers may stay charging until battery is disconnected. When ammeter reads near 0, charger cycle is complete. The ammeter needle may cycle momentarily to a higher reading and fall back to near 0. The red charger light stays on until the charger is unplugged from AC outlet. If your charger is equipped with a timer, be sure timer is turned OFF.
3. If your trucks battery is equipped with a connector unplug connector using both hands with a straight pulling motion.
4. Disconnect AC plug, wind up or hang up (as needed) the AC plug and charger cables to prevent any damage.

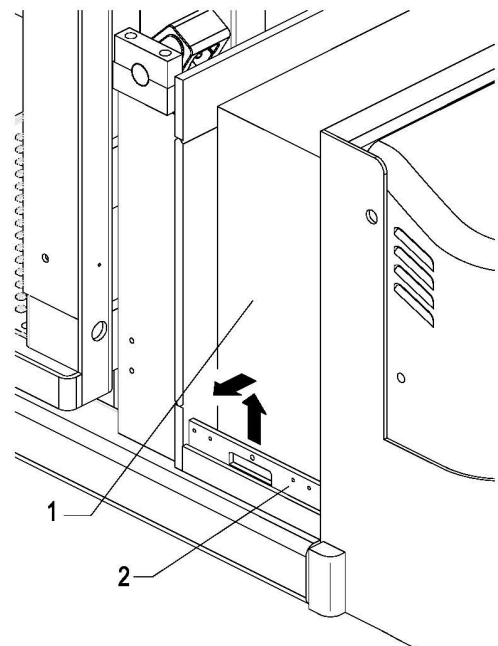
Battery Removal and Installation

- Park the truck securely.
- Place the battery plug or the battery cable where it will not get caught on the truck when the battery (1) is removed.
- Remove battery baffle (2). Pull the battery out from the side.
- Install in the reverse order of operations.



CAUTION!

The truck must be parked on level ground. When transporting batteries using a crane, ensure that the crane is of adequate capacity. The lifting gear must exert a vertical pull so that the battery container is not compressed.



Maintenance

- Trucks must only be serviced and maintained by trained personnel.
- Regular maintenance is important to ensure stable and reliable operation of the truck. Neglecting regular maintenance could easily lead to truck malfunction and failure, and potential threats to staff and operational safety. Therefore, there must be adequate maintenance equipment, professional maintenance personnel and a comprehensive maintenance plan in place.
- Regular checks and maintenance should be conducted to braking, steering, mast assembly, control, warning, and safety devices to keep them in good condition.
- Any modification to the truck's safety mechanisms is prohibited. The operational speeds of the truck must not be changed under any circumstances.
- To ensure safe and reliable operation of the order picker, use only the manufacturer's spare parts.
- Used parts, oils, and fuels must be disposed of in accordance with the relevant environmental protection regulations. For oil changes refer to the Service Manual.

Cleaning

- Do not use liquids to clean the truck.
- Prior to cleaning, all safety measures must be observed to prevent sparking (e.g., through short circuits). For battery-operated trucks, the battery connector must be removed.
- Only light suction, compressed air, or non-conductive antistatic brushes may be used for cleaning electric or electronic assemblies.
- Do not clean with pressurized water.

Electrical System

Only suitably trained personnel may perform maintenance on the truck's electrical system. Refer to the Service Manual for additional information.

Retirement/Disposal

Proper disposal of the truck must be performed in accordance with the regulations of the country of application. Regulations governing the disposal of batteries, fuels and electronic and electrical systems must be observed.

Troubleshooting

Use this guide to identify and resolve basic faults. For further assistance refer to a qualified service technician.

Fault	Possible cause	Action
Truck does not start	<ul style="list-style-type: none"> • Battery is not connected. • Key switch in 'OFF' position • Safety gates are open • Emergency disconnect switch is pressed. • Foot switch not pressed • Battery charge too low • Faulty fuse • Truck is in charge mode 	<ul style="list-style-type: none"> • Check the battery connector and connect if necessary. • Set key switch to 'ON' • Close the safety gates • Unlatch emergency disconnect switch • Press foot switch • Check battery charge and charge if necessary • Test fuses • Interrupt charging
Load cannot be lifted	<ul style="list-style-type: none"> • Hydraulic oil level too low • Excessive load • Fuse blown 	<ul style="list-style-type: none"> • Check the hydraulic oil level • Note maximum capacity (see data plate) • Check fuses

To provide targeted and rapid response to faults, provide the following details to your local dealer:

- Truck serial number
- Display unit error number (if present)
- Error description
- Current location of truck.



Big Lift LLC