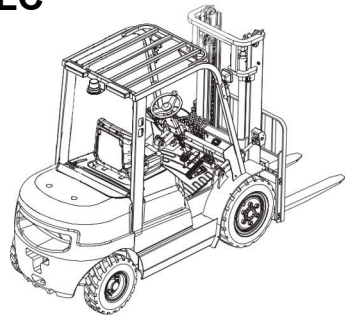
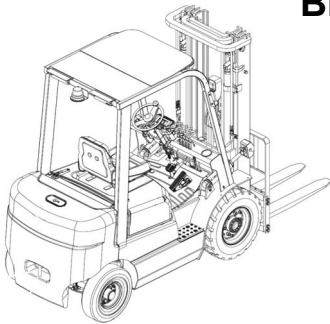


OPERATOR'S MANUAL



LPE50 / LPE60

FOUR WHEEL COUNTERBALANCED LIFT TRUCKS

WARNING

Do not operate this truck unless you have been authorized and trained to do so, and have read all warnings and instructions in Operator's Manual and on this truck.

Do not operate this truck until you have checked its condition. Give special attention to tires, horn, lights, battery, controller, lift and tilt systems (including forks or attachments, chains, cables and limit switches),

Operate truck only from designated operating position. **Keep hands, feet and all body parts inside the operator's compartment.** Never place any part of your body into the mast structure or between the mast and the truck. Do not carry passengers.

Observe applicable traffic regulations. Yield right of way to pedestrians. Slow down and sound horn at cross aisles and wherever vision is obstructed.

Start, stop, travel, steer and brake smoothly. Slow down for turns and on uneven or slippery surfaces that could cause the truck to slide or overturn. Use special care when traveling without load as the risk of overturn may be greater.

Travel with lifting mechanism as low as possible and tilted back. Always look in direction of travel. Keep a clear view, and when load interferes with visibility, travel with load trailing.

Use special care when operating on ramps or grades: Travel slowly, and do not angle or turn. Travel with lifting mechanism downgrade when unloaded and upgrade when loaded.

Do not overload truck. Check nameplate for capacity and load center information. Handle loads only with the designated load engaging means such as forks or an approved attachment. Do not transport loads in the operator's compartment or other non-designated areas.

When using forks, space forks as far apart as load will permit. Before lifting, be sure load is centered, forks are completely under load, and load is as far back as possible against load backrest.

Do not handle unstable or loosely stacked loads. Use special care when handling long, high or wide loads, to avoid losing the load, striking bystanders, or tipping the truck.

Do not handle loads which are higher than the load backrest or load backrest extension unless load is secured so that no part of it could fall backward.

Elevate forks or other lifting mechanism only to pick up or stack a load. Lift and lower with mast vertical or tilted slightly back - never forward. Watch out for obstructions, especially overhead.

Operate tilting mechanism slowly and smoothly. Do not tilt forward when elevated except to pick up or deposit a load. When stacking, use only enough backward tilt to stabilize load.

Do not drive up to anyone standing in front of an object. Before turning ensure no personnel are in rear swing area of truck. Do not allow anyone to stand or pass under load or lifting mechanism.

When leaving truck, neutralize travel control, fully lower lifting mechanism and set brake. When leaving truck unattended, also shut off power.

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

FOREWORD

As a lift truck operator, you are responsible for a machine that is useful, powerful, and can be hazardous if not operated as described. Your Big Lift LLC truck may weigh more than some cars, depending on the model. Observing and practicing the safety warnings in this manual cannot be overemphasized. Just knowing the warnings, however, is no substitute for common sense. Focusing on the task at hand will, in almost all cases, prevent accidents. Think of the truck as your own. In this way you will learn its capabilities and limitations.

This manual is intended to remain with the truck at all times as a handy reference guide to operation. Detailed maintenance procedures are found in the parts and service manual for the specific truck model, and are to be performed only by a qualified technician. For further information on obtaining a complete parts and service manual, see [page 56](#) of this manual.

The operator who knows this truck will learn to spot problems as they develop. This is accomplished by performing the Daily Checks and reporting any problems to the designated authority.

PLEASE NOTE: Graphics are for illustrative purposes only and may show options or features not included on your vehicle.

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GENERAL DESCRIPTION

The LPE50 and LPE60 trucks lift and transport payloads on adjustable forks. For capacity, see name plate.

The forward and reverse motion is controlled by a lever on the left side of the steering wheel. Stopping is controlled by the brake pedal. Levers to the right of the operator control the Lift, Lower, Tilt and Side Shift. Optional levers are available to control additional attachments. The battery powered lift truck is quiet and without exhaust fumes.

A front wheel mounted reversible motor propels the lift truck in forward or reverse direction throughout the available speed range from the accelerator pedal.

The LPE50 and LPE60 series lift trucks can be driven with forks raised or lowered.

The model number, serial number, lifting capacity and load center will be found on the name plate.

		SERIAL NO.
		MODEL NO.
		MAX OFFSET IN / MM
MAX CAP LB / KG	ALT CAP LB / KG	TRUCK TYPE
(A) IN / MM	(A) IN / MM	BATTERY TYPE
(B) IN / MM	(B) IN / MM	CERTIFIED
(C) LIFT HEIGHT IN / MM	(C) LIFT HEIGHT IN / MM	VOLTAGE
TRUCK WT LESS BATTERY LB / KG		BATTERY MIN WT LB / KG
TRUCK WT WITH BATTERY LB / KG		BATTERY MAX WT LB / KG
OEM TYPE ATTACHMENT		
COMB SERVICE WT LESS BATTERY LB / KG		ATTACHMENT SERIAL NO.
MAX CAP LB / KG	LOAD CTR IN / MM	LIFT HGT IN / MM
COMPLIES WITH THE APPLICABLE REQUIREMENTS OF ANSI / ITSDF B56.1 AND OSHA STANDARDS BIG LIFT LLC LOMBARD, IL 60148 USA www.bigjoeforklifts.com		
061354		

Name Plate



WARNING:

This truck is equipped with a Lithium-Ion battery. See section 2 in the service manual. Read and heed the warning decal located near the battery. An example is shown here:

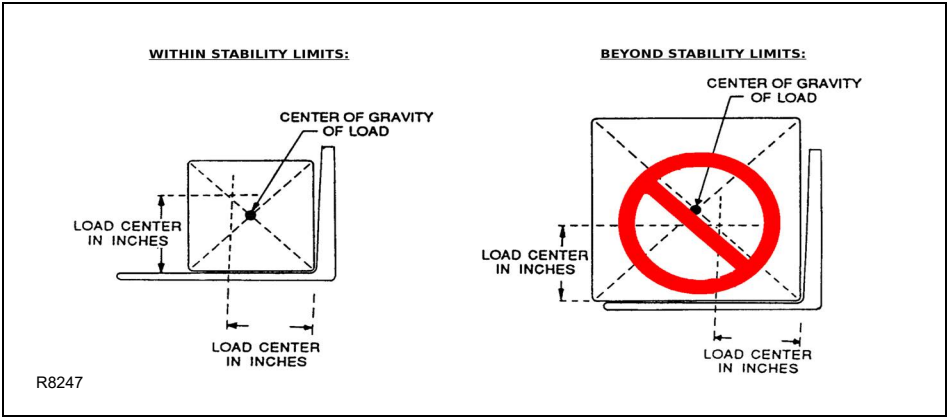
BATTERY HAZARD 	DANGER
EXPLOSIVE/POISON/CAUSTIC NO SPARKS, FLAMES, SMOKING BATTERY ACID can cause blindness and severe burns SHIELD EYES, AVOID SKIN CONTACT IF SPLASHED flush immediately with water, get medical help fast. Do not service battery while on charge. Do not connect or disconnect battery from charger while charger is on. Only qualified and experienced personnel should perform maintenance and repair on batteries. Use caution while servicing or removing battery. (Refer to Battery Safety Sheet).	

LOAD CAPACITY

Do not overload truck. Check name plate for load weight capacity and load center information.

The further the load center is from the backrest, the lower the load capacity. The load center must also be no higher than that specified above the lifting surface (top side of forks). For example, a load capacity of 3,700 pounds with a load center of 24 inches means that the truck can be

used to lift 3,700 pounds only when the load's center of gravity is no more than 24 inches from the face of the forks and no more than 24 inches above the top side of the forks. Note that a truck undergoing speed changes is less stable than a standing truck. If you are not sure that the truck can lift a certain load, consult your supervisor or the designated authority.



Load Center

BEFORE OPERATION

The tables on the following pages cover important inspection points on trucks which should be checked prior to operation. Depending on use, some trucks may require additional checks.

The illustration on the following page shows a sample format for an Operator Checklist, which can be modified as necessary to fit your operation.



WARNING:

Periodic maintenance of this truck by a QUALIFIED SERVICE TECHNICIAN is required.



WARNING:

A qualified service technician should check the truck monthly for

proper lubrication, proper fluid levels, brake maintenance, motor maintenance and other areas specified in the parts and service manual maintenance section.



WARNING:

If the truck is found to be unsafe and in need of repair, or contributes to an unsafe condition, report it immediately to the designated authority. Do not operate it until it has been restored to a safe operating condition. Do not make any unauthorized repairs or adjustments. All service must be performed by a qualified service technician.

Sample of Operator Check List



BIG LIFT LLC LIFT TRUCK SALES AND SERVICE

1060 North Garfield Street • Lombard, IL 60148 • 630-916-2600 • www.bigjoeforklifts.com

Electric Truck Daily Operator Checklist

Date: _____ Operator: _____

Truck No.: _____ Serial Number: _____

Department: _____ Shift: _____

Hour Meter Reading Drive: _____ Hour Meter Reading Lift: _____

Daily Check	O.K.	Repairs Needed
Load Wheels:	_____	_____
Drive Tire:	_____	_____
Mast:	_____	_____
Chains:	_____	_____
Forks:	_____	_____
Load Backrest:	_____	_____
Seatbelt:	_____	_____
Covers Secured:	_____	_____
Steering:	_____	_____
Hydraulic Leaks:	_____	_____
Transmission Leaks:	_____	_____
Cylinder Leaks:	_____	_____
Attachment:	_____	_____
Key Switch:	_____	_____
Horn:	_____	_____
Lights:	_____	_____
Brakes:	_____	_____
Emergency Stop Switch:	_____	_____
Lift/Lower:	_____	_____
Forward/Reverse:	_____	_____
Tilt Forward/Backward:	_____	_____
Battery Disconnect:	_____	_____
Battery Charger:	_____	_____
Safety Decals/Data Plate:	_____	_____

EXAMPLE ONLY

Operators Signature: _____

TO BE COMPLETED BY THE DESIGNATED OPERATOR AND FORWARDED TO THEIR SUPERVISOR PRIOR TO BEGINNING OF SHIFT

CAUTION: This is not a complete list of all items which may require attention. Operators are responsible for ensuring the truck is in proper working condition in accordance with the manufacturers' specifications.

DO NOT operate the truck if a problem is detected. Report all problems immediately to your supervisor. The truck should be tagged and taken out of service.

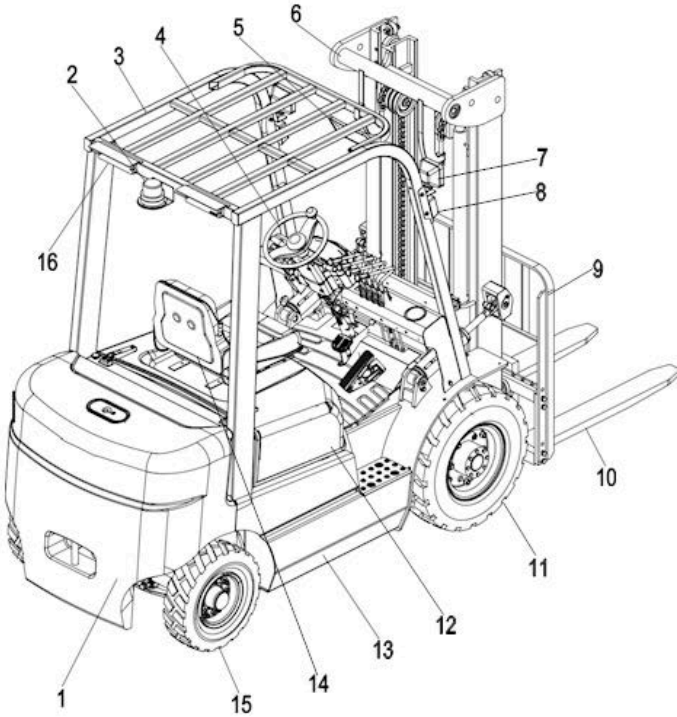
Operator Checks

ITEM	PROCEDURE
Transmission, hydraulic and cylinder 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 and load backrest	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 steering for binding or looseness.
Travel controls	Check that the accelerator operates in all speed ranges in forward and reverse.
Wheels	Check front drive wheel for cracks or damage. Move truck to check load wheel for freedom of rotation.
Hydraulic controls	When unloaded, check the operation of lift, tilt and side shift. Make sure the side shift can reach the maximum positions left and right.
Brakes	Check that the brake pedal engages and disengages the brakes.
Parking brake	Check that the parking brake button engages and disengages the brakes.
Emergency stop switch	Check that emergency stop switch can be disengaged and reengaged.
Battery charge	Check the instrument panel battery indicator.

OPERATION

Refer to the following illustrations for the location of the controls.

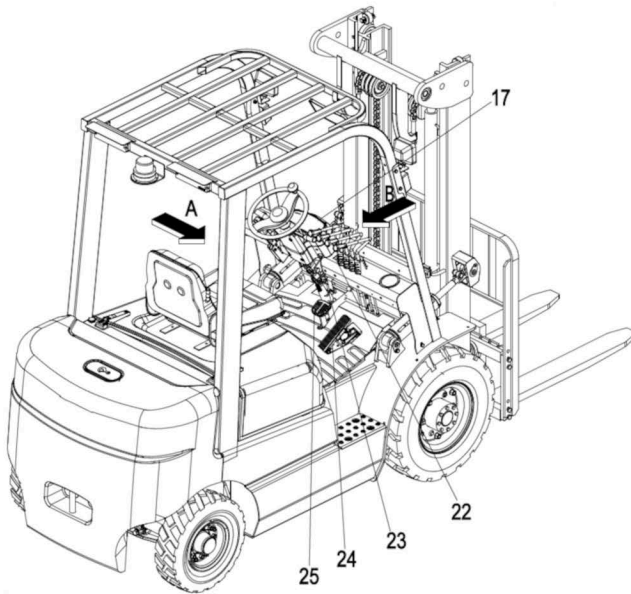
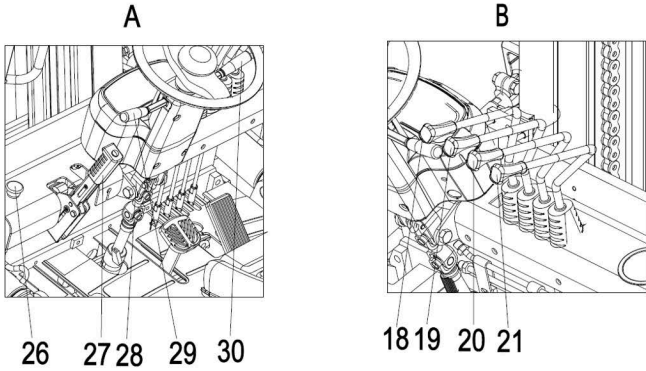
LPE50 Components



LPE50_0084

Item	Component	Item	Component
1	Counterweight	9	Load Backrest
2	Caution light	10	Forks
3	Overhead guard	11	Front Wheels (Drive Wheels)
4	Steering wheel	12	Battery Hood
5	Rear-view mirror	13	Chassis
6	Mast	14	Seat
7	Headlight	15	Rear Wheels (Steer Wheels)
8	Front Headlight	16	Rear Combination Lights

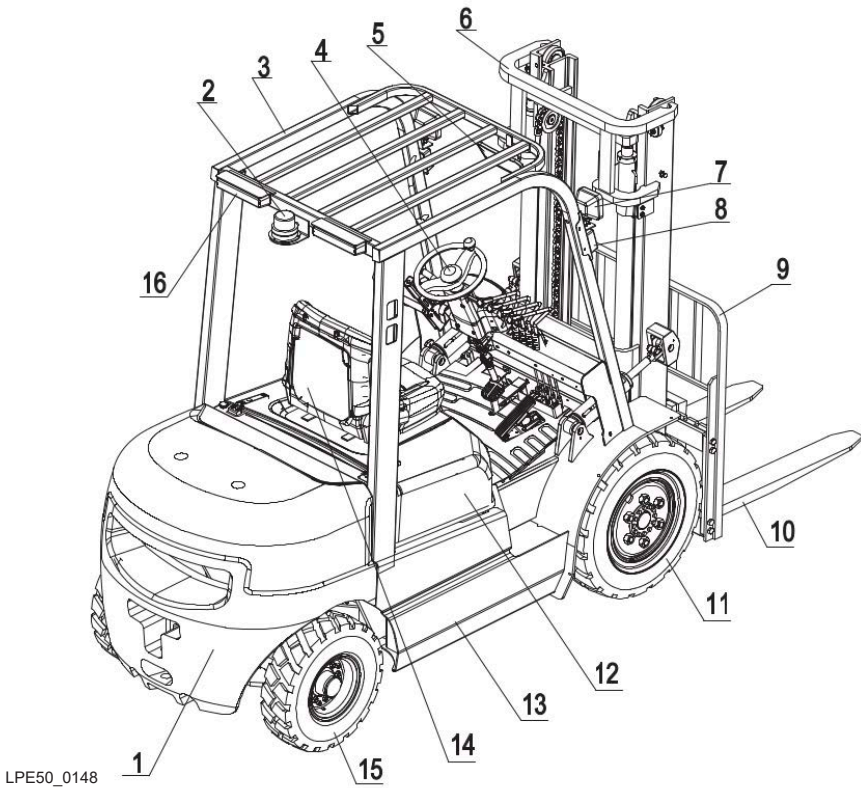
LPE50 Components Cont.



LPE50_0001

Item	Component	Item	Component
17	Display Unit	24	Accelerator Pedal
18	Lifting Lever	25	Brake Pedal
19	Tilting Lever	26	Emergency Stop Switch
20	Side Shift Lever	27	Hand Brake Lever
21	Attachment Lever	28	Steering Column Tilting Angle
22	Caution Light Switch	29	Travel Combination Switch
23	Key Switch	30	Combined Lamp Switch

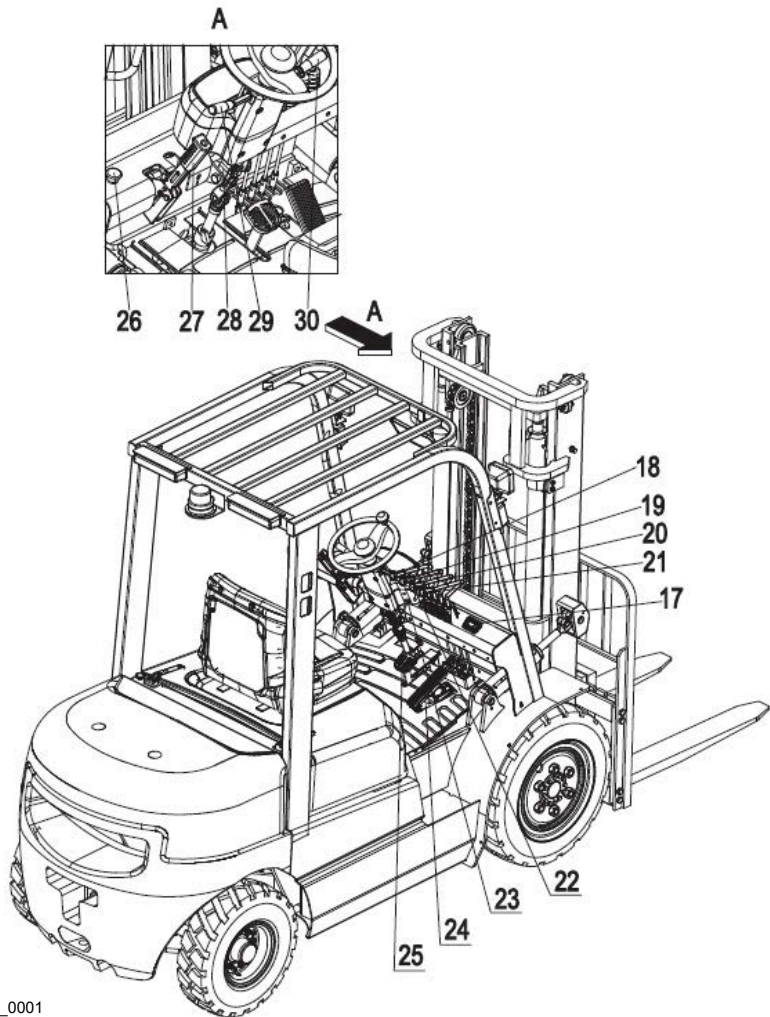
LPE60 Components



LPE50_0148

Item	Component	Item	Component
1	Counterweight	9	Load Backrest
2	Caution light	10	Forks
3	Overhead guard	11	Front Wheels (Drive Wheels)
4	Steering wheel	12	Battery Hood
5	Rear-view mirror	13	Chassis
6	Mast	14	Seat
7	Headlight	15	Rear Wheels (Steer Wheels)
8	Front Headlight	16	Rear Combination Lights

LPE60 Components Cont.



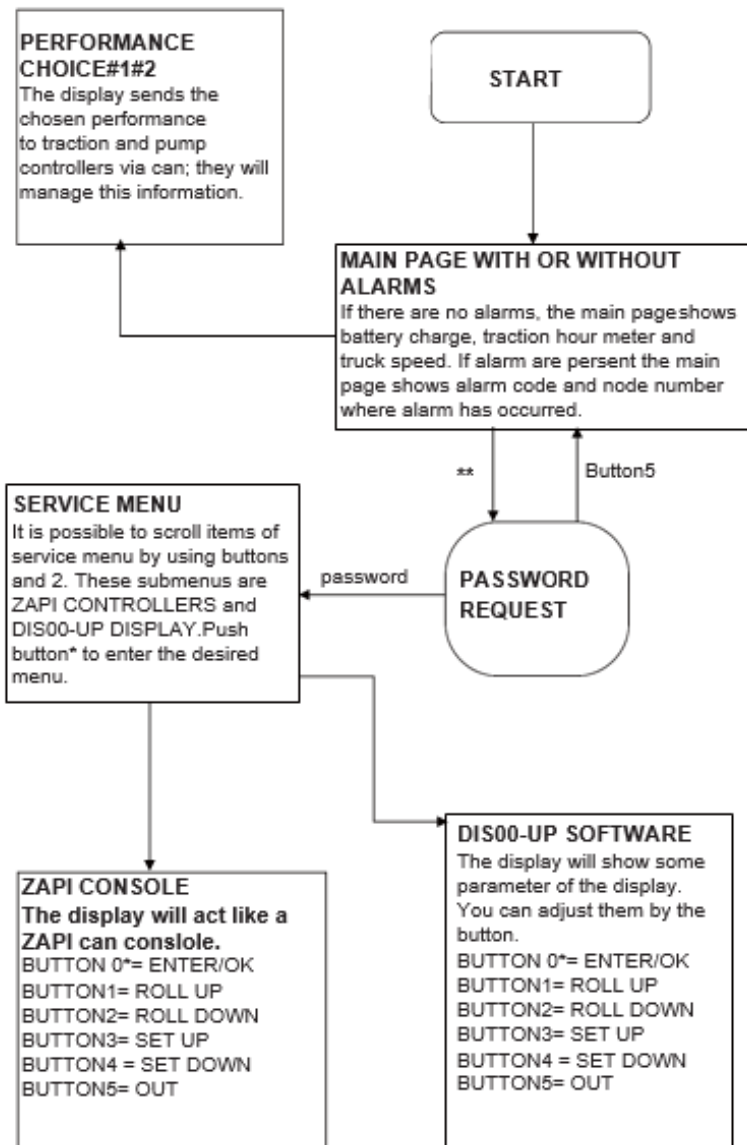
LPE50_0001

Item	Component	Item	Component
17	Display Unit	24	Accelerator Pedal
18	Lifting Lever	25	Brake Pedal
19	Tilting Lever	26	Emergency Stop Switch
20	Side Shift Lever	27	Hand Brake Lever
21	Attachment Lever	28	Steering Column Tilting Angle
22	Caution Light Switch	29	Travel Combination Switch
23	Key Switch	30	Combined Lamp Switch

Display Controller

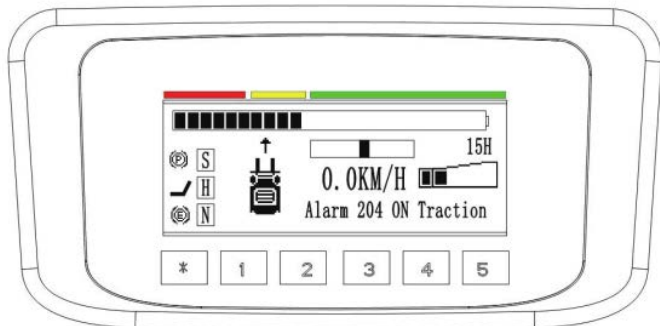


LPE50_0085



LPE50_0147

Display Controller Screen



LPE50_0086

Battery Indicator

DIS00-UP display doesn't calculate the remaining capacity of the battery. It reads the battery information from the controller and shows the percentage with twenty grids.



If the battery is fully charged and the controller verifies the capacity of battery is 100%, the display will show twenty grids as 100%.



If the battery is not fully charged or used for several times, the controller verifies the percent of the battery capacity. The display will show the percent by grids. Each grid indicates 5% of the battery capacity.



When the controller verifies the remaining capacity is nearly empty, the display will show one blinking grid.

Steer Angle

Below the battery indicator is the steering angle indicator.



A centered grid indicates a zero steering angle.



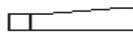
A far left grid indicates a maximum left turn angle.



A far right grid indicates a maximum right turn angle.

- DIS00-UP is a software structure containing menus and sub-menus. The DIS00-UP menu is controlled by the six operator buttons on the keyboard.
- At start-up, the software release will display, then the password must be entered to have access to the main page. If there are no alarms the display shows battery charge, truck speed (in Km/h) and traction hourmeter.
- If alarms are present it will show alarm code and node number in which alarm has occurred.
- To enter a password, press the first button (*) of membrane keyboard twice. This brings up the password entry screen. By using service password it's possible to enter SERVICE MENU which presents two items: "ZAPI CONTROLLERS" and "DIS00-UP DISPLAY". This menu allows the user to use dashboard as a real ZAPI CAN console connected to one module of CAN-BUS net. It follows flowchart diagram of software structure.

Accelerator



The accelerator indicator shows if the accelerator pedal is receiving signal and the acceleration of the vehicle. The graphic above shows the accelerator pedal is not active/depressed.



When the accelerator pedal is gently pressed, the first square fills indicating the pedal is receiving signal. The rest of indicator will fill as the pedal is depressed and speed increases, as shown above.















When the accelerator pedal is fully depressed the display is as shown above.

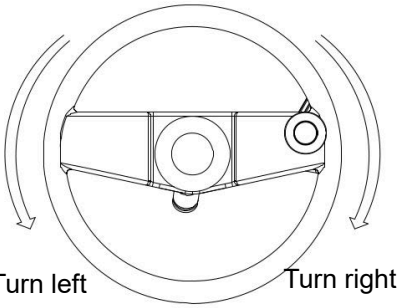


The truck icon provides the direction and angle the truck is traveling.

OPERATOR CONTROLS

ICON	INDICATION
	High speed mode. Use button 1 to select.
	Normal speed mode (default). Use button 1 to select.
	Low speed mode. Use button 1 to select.
	High acceleration mode. Use button 2 to select.
	Normal acceleration mode. Use button 2 to select.
	Low acceleration mode. Use button 2 to select.
	Parking brake is on.
	Seat switch is open.
	EABS (Electronic Brake Assistance System) is on.
	Neutral driving mode.
	Forward driving mode.
	Reverse driving mode.
****H	Total operating hours (max is 65535H).
**.*KM/H	Speed in kilometers per hour (kph), or miles per hour (mph)

Steering



LPE50_0113

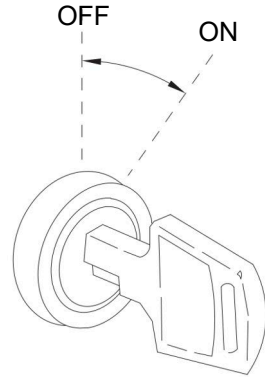
- When the steering wheel is turned right, the forklift will turn to the right.
- When the steering wheel is turned left, the forklift will turn to the left.
- The rear end of the forklift swings out when turning.



WARNING:

This forklift adopts a fully hydraulic steering system. Steering will be impaired when the oil pump motor stops running. Immediately restart the oil pump motor before turning again.

Key Switch



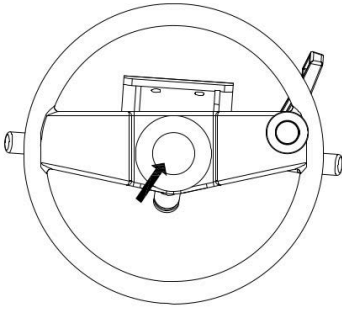
LPE50_0114

- The key switch has two positions; ON and OFF.
- Ensure the directional lever is in neutral and the acceleration pedal is released before the key switch is turned ON.
- Removing the key prevents the truck from being used by unauthorized personnel.



WARNING:

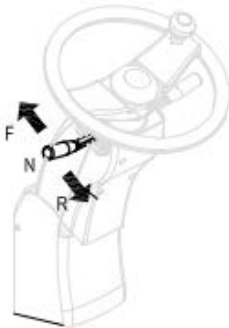
If the combination switch is not in neutral or the accelerator pedal is depressed, the forklift will not start when the key switch is turned to ON. At this point a fault code will be displayed, which is perfectly normal. Return the combination switch to the neutral position and take your foot off the accelerator pedal before attempting to start the forklift. The fault code will then disappear.



LPE50_0115

Horn Button

Press the horn button in the middle of the steering wheel to sound the horn.



LPE50_0116

Travel Combination Switch

- For switching direction of travel. Forward (F), Reverse (R) and Neutral (N).
- The travel combination switch is used to switch between forward and reverse directions of travel.

- When the combination switch is pushed forward and the accelerator pedal is depressed, the forklift truck will travel forward.
- When the combination switch is pulled backward and the accelerator pedal is depressed, the forklift truck will travel in reverse.



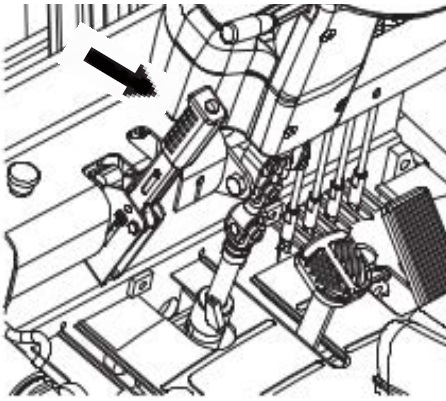
LPE50_0117

Combination Light Switch

- The combination light switch includes turn signal indicator and light switch.
- Turn Signal: Push or pull the switch and the corresponding signal light flashes.

Push Forward	←	Left turn light flashes
Neutral		Off
Pull back	→	Right turn light flashes

Caution: The turn signal lever does not automatically return to the neutral position. This must be done by hand.



LPE50_0119

Hand Brake Lever

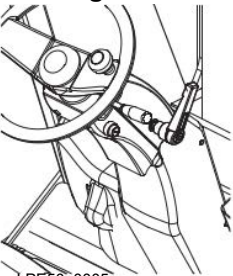
- Pulling on the brake lever generates force on the front wheels. To release the brake, depress button while moving the lever forward.

Emergency Stop Switch

- In an emergency, press the red mushroom head button to cut off the vehicle's main power supply.

Caution: Do not use the emergency stop switch to stop the truck under normal circumstances. Use for emergency only.

Steering Column Tilt Lever



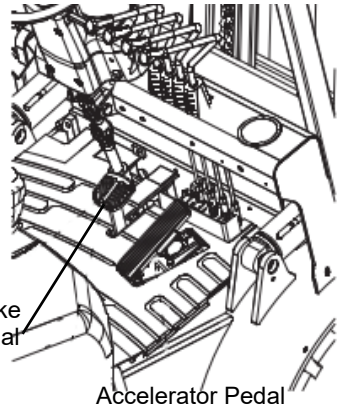
LPE50_0005

The tilting angle of the steering column is adjustable with a range of 12.5 degrees to suit individual operators. The steering column is unlocked by turning the right handle counterclockwise and locked by turning the right handle clockwise.

Brake Pedal

Depressing the brake pedal will slow down or stop the forklift.

Caution: Do not depress the accelerator and brake pedals at the same time, as this will damage the drive motor.



LPE50_0120

Accelerator Pedal

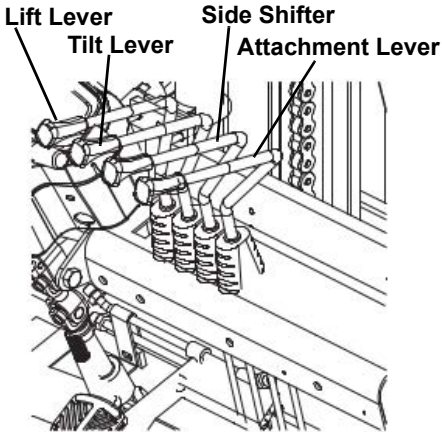
Slowly depress the accelerator pedal to engage the drive motor and the forklift will move. Speed increases as pressure is increased on the pedal.

Control Lever

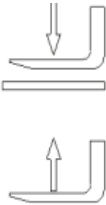
Control levers include the lift lever, tilt lever, side-shift lever and attachment lever (optional).

Attachment Lever (optional)

Operates attachment if included.



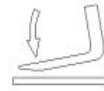
LPE50_0121



LPE50_0122

Lift Lever

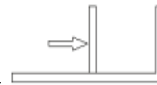
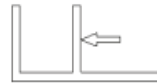
Pull back to raise the forks. Push forward to lower the forks. The lifting and lowering speed increases and decreases the farther the lever is pushed forward or backward.



LPE50_0123

Tilt Lever

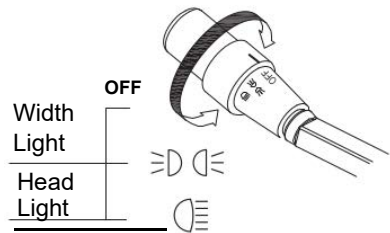
Used to tilt the mast forward and backward. Push forward to tilt the mast forward and pull back to tilt the mast backward. The speed is determined by how far the lever is pushed or pulled.



LPE50_0124

Side-shifter Lever (optional)

Moves mast left or right. Pushing or pulling this lever moves the mast left or right.



LPE50_0125

Light Switch

Rotate knob to control the light switch.

Headlight



LPE50_0126

Headlights

Headlights are installed on the front pillars of the overhead guard. Keep the lights clean and free of damage. Damaged lights must be replaced.

Front Lights

Front lights include turn signal lights and show-width lights. Keep lights clean and free from damage. Damaged lights must be replaced.

Rear Combination Lights



LPE50_0127

Rear Combination Lights

The rear combination lights include turn signal lights, show-width lights, brake lights and reverse lights. Keep lights clean and free from damage. Replace damaged lights.

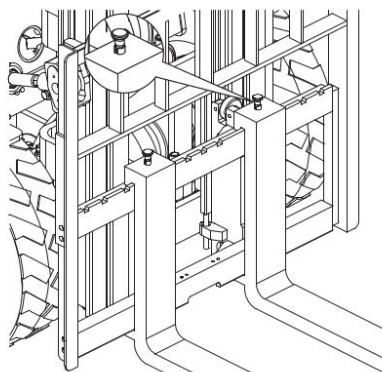
Fork Stopper

Used to adjust the forks and lock into place. To unlock, pull up the fork stopper and rotate it 90 degrees. Adjust forks to the desired position and lock.



WARNING:

Forks should be symmetrical to the center of the truck. Make sure fork stoppers are locked. The lower crossbar has an opening for fitting and removing the forks. Do not secure forks at this position to prevent them falling through the opening.



LPE50_0128



LPE50_0129

Air Spring

The air spring is used to support the battery cover while open. To close the battery cover, press the air spring the direction shown while pressing cover down hard, then secure with lock catch.

Overhead Guard

The overhead guard protects the operator against injury from falling objects. It must have sufficient impact strength. Do not use the forklift without the overhead guard in place.

Chassis

The chassis, in conjunction with the counterweight, forms the supporting base structure of the truck. It is used to support the main components.

Caution Light

To activate, press caution light button.

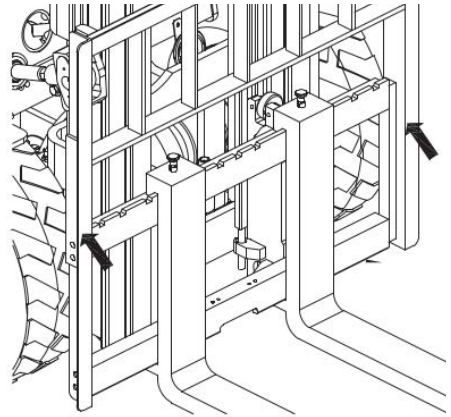


WARNING:

When starting the truck, press the caution light button to keep the caution light on.

Rear-View Mirror

The rear-view mirror is manually adjustable.



LPE50_0144

Load Backrest

The load backrest is a safety feature that prevents loads dropping. Ensure the load backrest extensions are correctly mounted and in good condition. To remove, unscrew the bolts on the left and right sides of the load backrest and remove the backrest.



WARNING:

Loads should be arranged so that they do not project beyond the edge of the truck loading surface and cannot slip or fall.



LPE50_0145

Rear-view Mirror

back incline. Releasing the knob will lock seat in place.

Safety Belt

Keep safety belt fastened when driving. Regularly clean and check the safety belt watching for:

- Cut or frayed straps
- Worn or damaged hardware including anchor points
- Buckle or retractor malfunction
- Loose stitching

Correct Use of Safety Belt

- Sit on the seat correctly
- Ensure belt is not twisted
- Fasten safety belt and ensure lock is secure



WARNING:

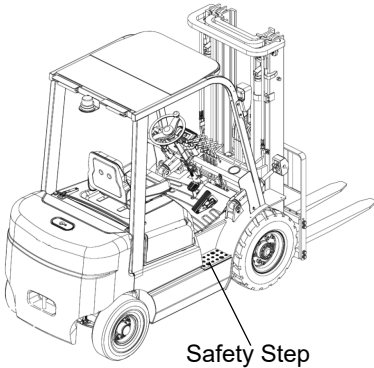
If there is any safety belt system damage, repair or replace immediately. Never modify the safety belt.

Operating Attachments

Attachments are optional equipment purchased by the user and installed onto the truck (i.e., lateral forks, clamps, etc.). Follow recommended working pressures and operating instructions for each attachment.

NOTE: After installing each attachment, a label should be attached to the battery hood, explaining the truck's new load capacity. An attachment operating notice should also be attached to the back of the attachment control lever.

Caution: *If the attachment was not supplied with the truck, do not use until the safe operation of the truck in terms of load capacity and stability is guaranteed and verified by your dealer after installation.*



LPE50_0146

Safety Step and Handrail

A safety step is provided on one side of the forklift body and a handrail is located on the left pillar of the overhead guard. Use the step and handrail to safely get on/off the truck.



LPE50_0004

Seat

To adjust seat position, pull the lever (2) to release the seat, move forward or back into desired position and release lever to lock into place.



WARNING:

Ensure the driver seat is locked before travel. Never adjust seat while vehicle is in motion.

Adjust Seat Back

While sitting on seat, rotate the seat-back adjusting knob (1) clockwise to adjust the

STANDARD VERSION SPECIFICATIONS

Performance Data for Standard Truck

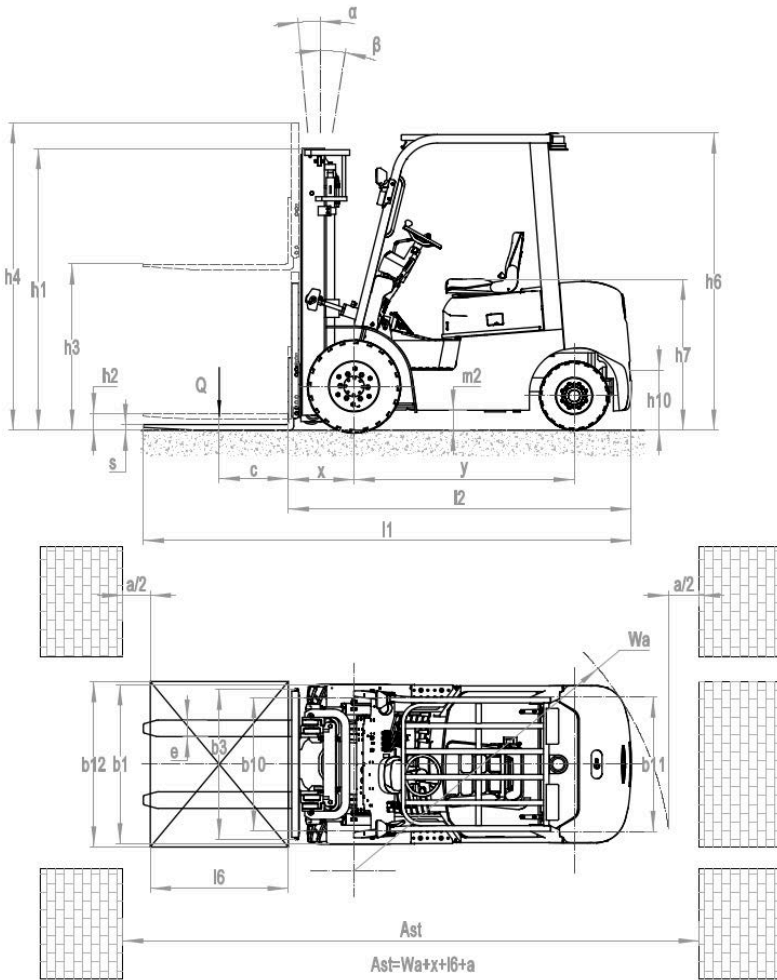
Distinguishing Mark					
1.1	Manufacturer				
1.2	Model designation			LPE50	LPE60
1.3	Drive unit			Electric	Electric
1.4	Operator type			Seated	Seated
1.5	Rated capacity	Q	lb (kg)	5000 (2250)	2727 (6000)
1.6	Load center distance	c	in (mm)	600 (24)	600 (24)
1.8	Load distance, center of drive axle to fork	x	in (mm)	481 (18.9)	
1.9	Wheelbase	y	in (mm)	1595 (62.8)	1750 (68.9)
Weight					
2.1	Service weight (include battery)		lb (kg)	4280 (9416)	4740 (10428)
2.2	Axle loading, laden driving side/loading side		lb (kg)	5814/706 (12790/1553)	6930/2240 (15246/4928)
2.3	Axle loading, unladen driving side/loading side		lb (kg)	2180/2090 (4796/4598)	860/2550 (1892/5610)
Types, Chassis					
3.1	Tire type driving wheels/steering wheels			Solid rubber	Solid rubber
3.2	Tire size, driving wheels		mm	7.00-12	28X9-15
3.3	Tire size, steering wheels		mm	6.00-9	6.50-10
3.5	Wheels, number driving/steering (x=drive wheels)		mm	2x/2	2x/2
3.6	Tread, Driving wheels	b10	in (mm)	38.2 (970)	39.8 (1010)
3.7	Tread, Steering wheels	b11	in (mm)	38.4 (975)	38.6 (980)
Dimensions					
4.1	Tilt of mast/fork carriage forward/backward	α / β (°)		6/6	6/6
4.2	Height, mast lowered	h1	in (mm)	87.4 (2220)	89.8 (2280)
4.3	Free lift (load backrest)	h2	in (mm)	46.6 (1185)	36 (915)
4.4	Lift height	h3	in (mm)	189 (4800)	189 (4800)
4.5	Height, mast extended	h4	in (mm)	229 (5825)	232.7 (5910)
4.7	Height of overhead guard (cabin)	h6	in (mm)	85 (2160)	85 (2160)
4.8	Seat height	h7	in (mm)	43 (1095)	44.5 (1130)
4.12	Tow center of pin height	h10	in (mm)	17 (435)	12.6 (320)
4.19	Overall length	l1	in (mm)	141 (3573)	147 (3735)
4.20	Length to face of forks	l2	in (mm)	99 (2503)	105 (2665)
4.21	Overall width	b1/b2	in (mm)	45.4 (1154)	48.4 (1230)
4.22	Fork dimensions	s/ e/ l	in (mm)	1.57x4.9x42 (40x125x1070)	1.57x4.9x42 (40x125x1070)
4.23	Fork carriage class/type A, B			2A	3A
4.24	Fork carriage width	b3	in (mm)	42.9 (1090)	45.3 (1150)
4.31	Ground clearance, laden, below mast	m1	in (mm)	4 (100)	4.7 (120)

Distinguishing Mark

4.32	The minimum ground clearance of frame	m2	in (mm)	5.9 (150)	5.9 (150)
4.34.1	Aisle width for pallets 1000 x 1200 crossways	Ast	in (mm)	156.9 (3985)	162.6 (4131)
4.34.2	Aisle width for pallets 800 x 1200 lengthways	Ast	in (mm)	165 (4195)	170.5 (4331)
4.35	Turning radius	Wa	in (mm)	90 (2290)	96.5 (2450)
5.1	Travel speed, laden/unladen	mph (km/h)		6.8/7.4 (11/ 12)	11/12
5.2	Lifting speed, laden/unladen	m/s		0.28/0.37 (55.1/72.3)	0.29/0.36 (57/ 70.9)
5.3	Lowering speed, laden/ unladen	m/s		0.45/0.5 (88.6/98.4)	0.4/0.43 (78.7/84.6)
5.5	Drawbar pull, laden/unladen	N		-----	-----
5.6	Max. drawbar pull, laden/ unladen	N		_____	-----
5.7	Gradeability, laden/unladen			-----	-----
5.8	Max. gradeability, laden/ unladen	%		15/15	15/15
5.10	Service brake type			Hydraulic/ Mechanical	Hydraulic/ Mechanical
	Park brake type			Mechanical	Mechanical
Electric-Engine					
6.1	Drive motor rating S2 60 min	kW		10	10
6.2	Lift motor rating at S3 15%	kW		12	12
6.3	The maximum allowed size battery	in (mm)		27.2x33x19.5 (690x845x49 6)	27.2x33x19.5 (690x845x49 6)
6.4	Battery voltage/nominal capacity K5	V/Ah		80V230AH 80V410AH 80V460AH	80V230AH 80V410AH 80V460AH
6.5	Battery weight	lb (kg)		271 (596)	271 (596)
Additional Data					
8.1	Type of drive control			AC	AC
10.5	Steering type			Hydraulic	Hydraulic
10.7	Sound pressure level at the driver's ear	dB (A)		<74	<74

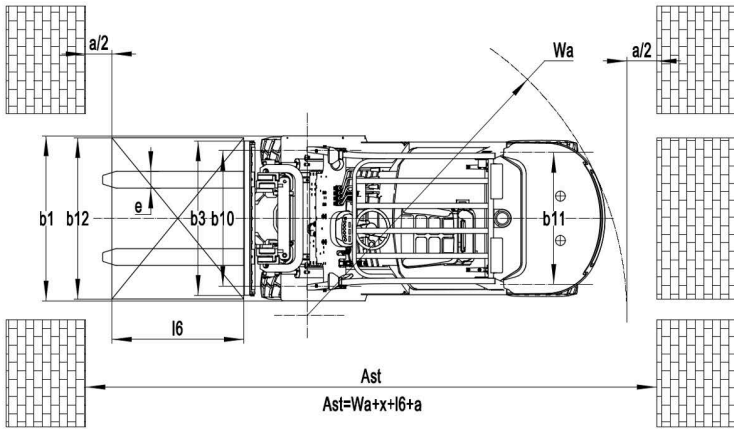
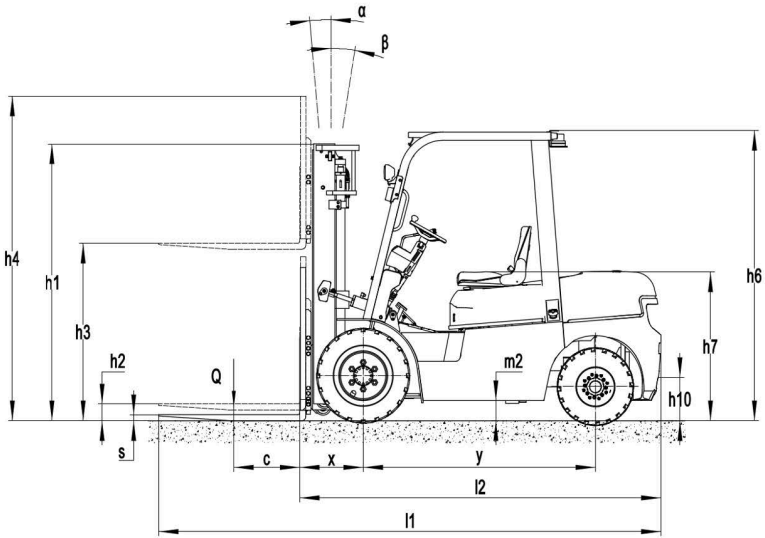
Dimensions

LPE50 Dimensions



LPE50_0130

LPE60 Dimensions



LPE50_0150

Safety Decals



LPE50_0131



WARNING:

If the truck starts to roll or tip over, grip the steering wheel tight to stay in your seat, do not attempt to get out.



LPE50_0132

Truck Data Plate

For queries regarding the truck or ordering spare parts, please quote the truck serial number found on the data plate. (Graphic is for reference only.)



LPE50_0134

Item	Description
1	PRODUCT NAME
2	MODEL TYPE
3	SERIAL 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

SAFETY

Before using the truck, inspect the work area. It should be neat, well lit, adequately ventilated, and free from hazardous material. Aisles and roadways should be unobstructed and well marked. Operators must know the classification for the truck and use the truck only in permissible areas. Ensure that there are no loose objects on the truck or in the operator compartment, especially on the floor plate where they could interfere with pedal operation (if equipped) or foot room. Fire extinguishers and other emergency equipment should be visible and easy to reach. Wear safety equipment when required. Don't smoke in "No Smoking" areas, or while charging batteries or refueling combustion engine trucks. Never operate the truck with greasy hands. This will make the controls slippery and result in loss of truck control. Any questions or concerns about safety should be brought to the attention of a supervisor. If an accident should occur, it must be reported immediately.

Safety Regulations For The Operation Of Forklift Trucks

Operating safely is every operator's obligation and responsibility. The "Safety Instructions" cover basic safety procedures and warnings of general application to the forklift trucks.

However, safety precautions given on the following pages are also applicable to lift trucks that have special specifications or attachments.

Read this manual carefully and become completely familiar with the truck. The driver should understand and comply with all of the information, directives and safety guidelines that are applicable to the industrial truck.

Know your truck sufficiently

The forklift is designed for material handling jobs and varies in how it is handled.

- The operator view is partially obstructed due to the hoist system.

- Rear wheel steering makes the rear of the truck swing outwards when going around corners.

Compactly designed, the forklift truck is heavy. Most of the weight of the truck and loads is on the front wheels when loaded.

Read the operator's manual and nameplates on the truck, and become familiar with your truck and operating procedures. If there is anything in the manual you do not understand, ask your service-partner to explain it to you.

Operation Permissions

Only trained and authorized persons shall be permitted to operate the truck.

Make Periodic Checks

Inspect the truck at periodic intervals for leaks, wear and breakage, making any necessary repairs. Neglecting repair can cause component failure risking accidents and injuries.

Ensure all controls are clean and free from oil and dirt.

Smoking, fire and spark are forbidden near the battery.

Use caution to prevent falls when performing maintenance in high positions such as the mast, front and rear lamp, etc.

Be aware of hot surfaces that could cause burns when inspecting the motor, controller etc.

Do Not Use Malfunctioning Forklift

Whenever malfunctions arise, stop the forklift, hang a sign of "danger" or "malfunction" and remove key. Report the malfunction immediately.

The forklift is not to be used until it has been repaired and approved for use.

Protect Yourself

Operator must wear appropriate safety equipment when operating and maintaining the truck.

Prevent Explosion

Make sure to operate the truck on fairly stable and even road surface.

If there is snow, ice build-up, or other obstacles, clean it before you operate the truck. The truck could lose control and cause injury.

Truck cannot be operated in potentially explosive atmosphere.

Tilting Safely

Do not tilt the mast with load high.

Use minimum forward and reverse tilt angle when stacking and unstacking loads. Never tilt forward unless load is slightly above the stack or at low lift height.

When stacking loads on a high place, make the mast vertical at a height of 15 to 20 cm above the ground and then lift the load. Never attempt to tilt the mast beyond vertical when the load is raised high.

To unstack loads from a high place, insert forks into the pallet, lift slightly and drive backwards, then lower the load. Tilt the mast backwards after lowering. Never attempt to tilt the mast with the load raised high.

Handling Bulky, Long Loads

When handling bulky loads, which can restrict vision, operate the machine in reverse or have a guide to help you, and when you are guided, make sure you understand the meaning of the guide's gesture, flag, whistle or other signals.

When operating with long loads such as lumber, pipe, etc., or in the case of the Large-sized model or the truck with spreader (load or truck with a stretched-out attachment), be extremely careful of load at corners or in narrow aisles. Be alert for fellow workers.

Start Safely

Before starting the truck, make sure that: Your safety belt is fastened, vehicle doors closed tightly, parking brake lever is applied securely (released). The travel switch is in neutral. No one is under, on and close to or in the vicinity of the truck.

Don't step on (depress) the accelerate pedal or control (operate) the lifting lever or tilting lever before turning on the power. Start slowly and never travel at excessive speed.



LPE50_0151

Prohibit Sudden Stops, Starts or Turns

Operate the controls smoothly. Avoid sudden stops, starts or sharp turns. Sudden braking may cause the truck to overturn.



LPE50_0152

Focus on Traveling Route

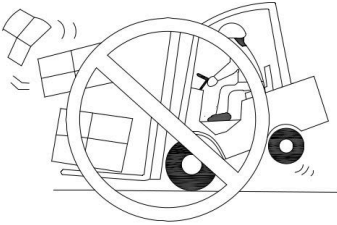
Pay attention to the route of the truck, be sure to keep a clear view of it and look in the direction of travelling.



LPE50_0153

Don't Offer Rides to Others

No riders on the forklift. Do not use people as an additional counterweight.



LPE50_0154

Carry Loads Properly

Use the appropriate attachments and tools to handle the load properly.

Avoid hoisting the load with wire rope suspended from the forks or attachment, as the rope could slip.

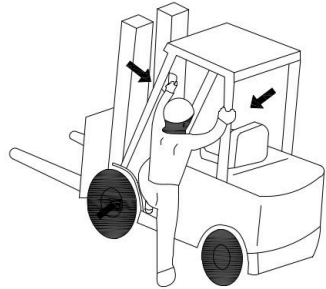
If necessary, qualified personnel could create a sling using a hook or crane arm attachment.

Take care not to allow forks to protrude from the load. The protruding fork tips may damage or turn over/bump the adjacent load.

Do not allow the forks to touch the floor to avoid damaging the fork tips or driving surface.

Concentrate On Your Work

Keep your mind on your work. Learn to anticipate danger before it arises.



LPE50_0155

Mount and Dismount Properly

Never mount or dismount a moving truck. Face the truck using the safety steps and safety handgrip when mounting or dismounting the truck. Do not jump!

Operator Seating

Only operate truck from a properly seated position. Adjust the seat so you have access to all hand and foot controls.

Know the Capacity of the Truck

Know the rated capacity of your lift truck and its attachments, and never exceed it.

Do not use a person as an additional counterweight as it is very dangerous.

Be Seated Safely

Keep your head, hands, arms, feet and legs within the confines(cab) of the operator's compartment (truck). Never stick hands or other body parts out of truck while traveling.

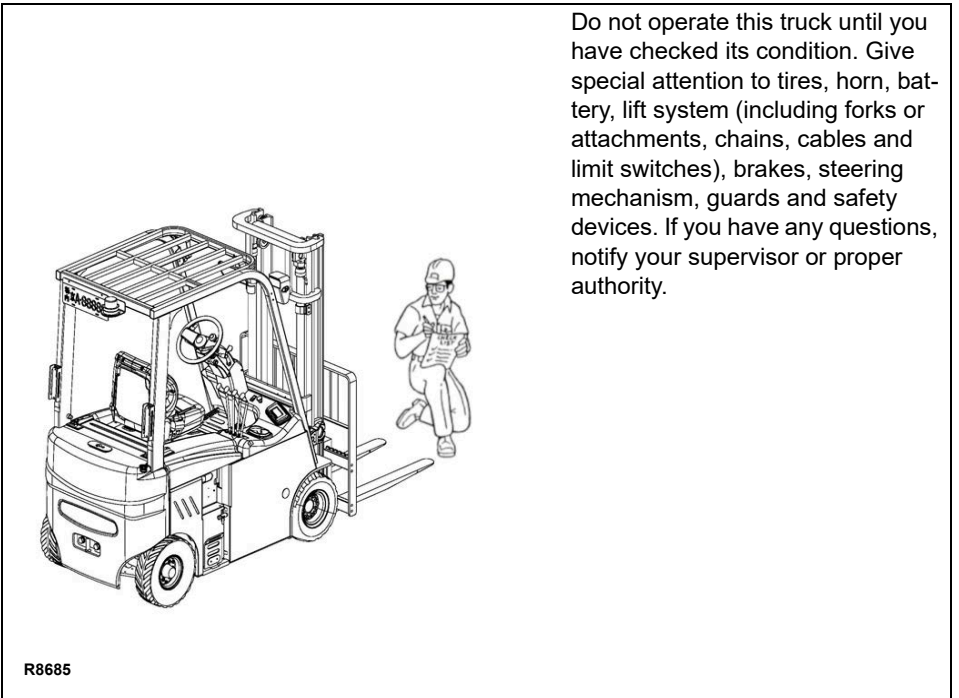
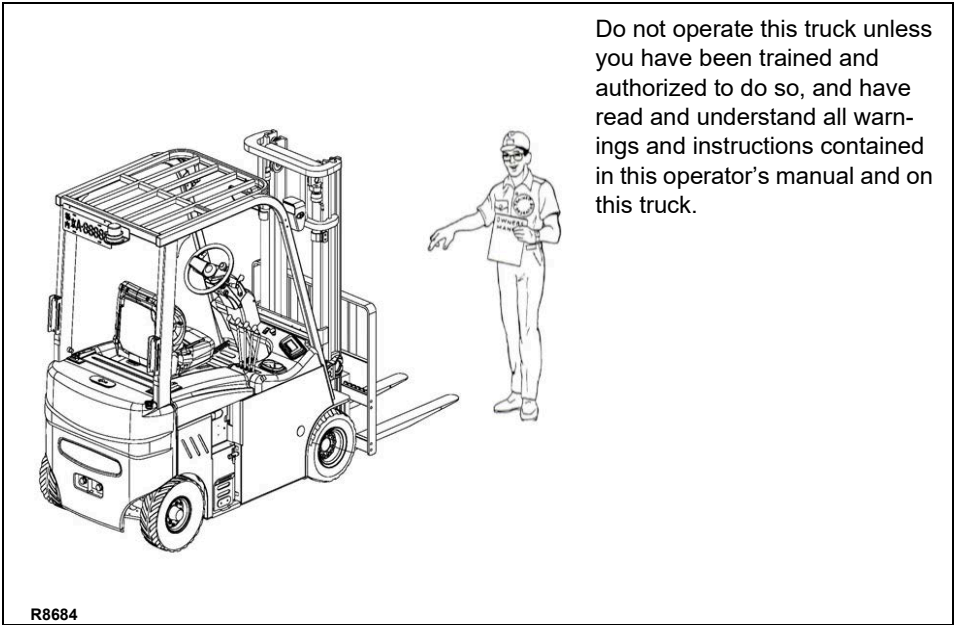
Use Proper Attachments

You shall refit the truck attachment under Big Lift LLC approval. Modifications to the truck must be authorized by the manufacturer. Only trained, authorized personnel are permitted to install the attachments and connect the energy supply for power-driven attachments.

Driving Over a Dock-board or Bridge-plate

Before driving over a dock-board or bridge- plate, be sure that it is properly secured and strong enough to sustain the weight.

The following operating instructions appear on the truck warning decal, which is located near the steering arm.

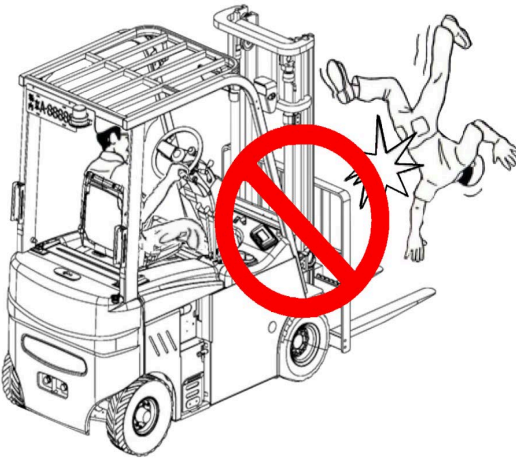


Operate truck only from designated operating position. Keep hands, feet & all body parts inside the operator's compartment. Never place any part of your body into the mast structure or between the mast and the truck. Do not carry passengers.



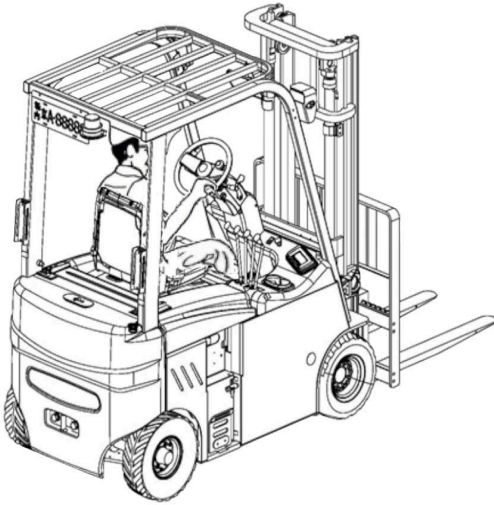
R8686

Observe applicable traffic regulations. Yield right of way to pedestrians. slow down and sound horn at cross aisles and wherever vision is obstructed.



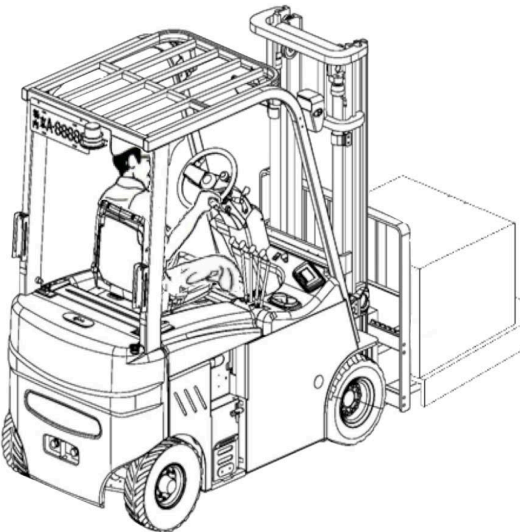
R8687

Travel with lifting mechanism as low as possible. Always look in direction of travel. Keep a clear view, and when load interferes with visibility, travel with load trailing.



R8688

When using forks, space forks as far apart as load will permit. Before lifting, be sure load is centered, forks are completely under the load, and load is as far back as possible against load backrest.



R8689

Do not handle loads which are higher than the load backrest or load backrest extension unless load is secured so that no part of it could fall backward.



R8690



Elevate forks or other lifting mechanism only to pick up or stack a load. Lift and lower with mast vertical or tilted slightly back - never forward. Watch out for obstructions, especially overhead.

R8691

Do not lift personnel on forks or work platform with this truck. It is not designed for this function and someone could get seriously injured if they fell off. Use the correct equipment for this task.

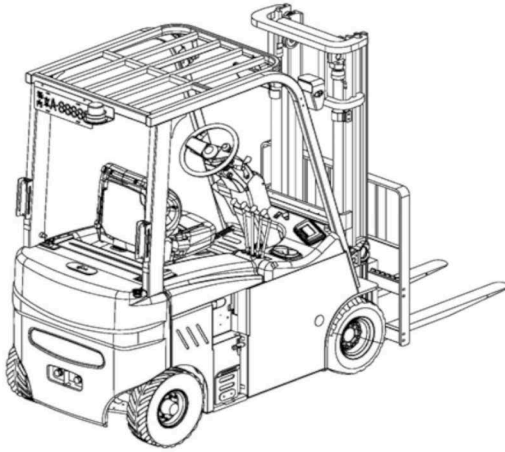


R8692

Do not allow anyone to stand or pass under load or lifting mechanism. Do not drive up to anyone standing in front of an object. Before turning ensure no personnel are in rear swing area of truck.



R8693



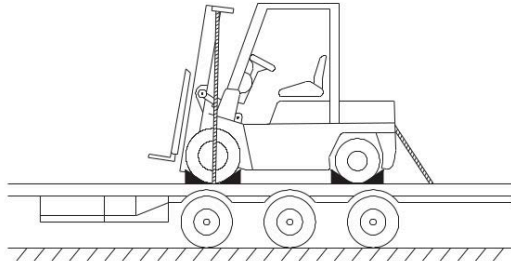
R8694

When leaving truck neutralize travel control. Fully lower lifting mechanism and set brake. When leaving truck unattended also shut off power.

TRANSPORT AND COMMISSIONING

Use a truck or flatbed trailer to carry the forklift truck.

1. Lower the lift mast.
2. Press the emergency stop switch.
3. Secure the front and rear wheels with chocks to prevent slipping.
4. To lash the fork lift truck with a lifting mast installed, use the holes on the top cross beam of the mast and the trailer coupling pin.
5. The truck can now be transported.



WARNING:

If the truck is to be transported without a mast, it must be tied at the front overhead guard.

Lifting Truck Using Hoist



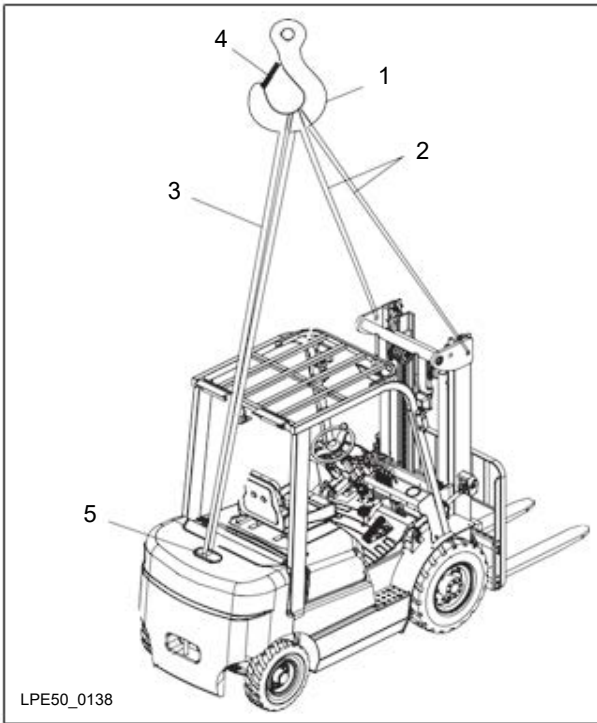
WARNING:

*Ensure that no one is in the working area of the hoist when using it to lift the truck!
Walking around under the lifted load is absolutely prohibited.*

Caution: Use lifting equipment and a hoist that has sufficient carrying capacity to lift the truck. For the truck weight (including the battery), see the factory nameplate.

The sling must be fastened at the designated lifting points when using the hoist.

NOTE: When assembling lifting tool, ensure the lifting tool will not touch forklift or overhead guard when lifting.



1. Fasten the wire ropes (3) to the counterweight hook (5).
2. Fasten the wire ropes (2) to the lifting hole in both ends of outer mast crossbar.
3. Hang all ropes on the lifting hook (1) of the hoist.

Caution: After hanging the sling on the lifting hook, the safety lock (4) must be fastened. Only use lifting gear with sufficient capacity.

(Weight lifted = net weight + battery weight; see truck nameplate).

Never walk under a forklift when it is being lifted.

Towing Regulations

When the truck needs to be moved, a tow rope or rod can be attached to the tow pin. A tow rope can also be attached to the base of the lift mast.

Caution: *Braking can only be performed by the brake pedal during towing.*

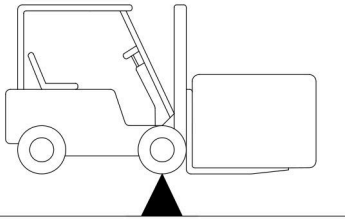
Towing Procedure

NOTE: Power will be disabled after pressing the emergency stop button.

1. Press emergency stop switch.
2. Lower the goods, but do not allow the fork arms to touch the ground.
3. Remove the load.
4. Secure the tow bar to the tow pin or rope on the base of the lift mast.

NOTE: The driver should operate the steering wheel and brake during towing as necessary.

Caution: *Do not exceed the truck's maximum working speed when towing.*



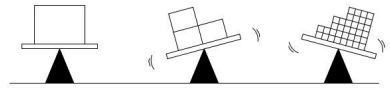
LPE50_0156

Truck Structure

The forklift truck consists of the lifting device (forks and mast) and the truck itself (with tires).

The front wheels are the fulcrum of the forklift and keep the center of gravity of the forklift and load balanced.

The relationship between the forklift's center of gravity and the load's center of gravity, is very important to be able to operate the forklift safely.



LPE50_0157

Load Center

The forklift handles load of different shapes, from crates to boards and elongated objects. To assess the forklift and its stability, it is very important to distinguish between the centers of gravity of different shaped loads.

Windy Conditions

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

Light loads must be secured in windy conditions to prevent the load from falling.

PLANNED MAINTENANCE

Overview

Performing regular vehicle maintenance and repair can ensure the continuous and reliable use of the truck.

Maintenance and repair operations should only be done by specially trained and qualified personnel. If you want to perform the maintenance and repair on your own, it is recommended that on-site training of your maintenance personnel be completed by the service representative of the vendor. Maintenance by the Dealer Service Representative Considerations;

1. Truck must be parked on level ground reserved for maintenance. This area should be clean and relatively dust-free. Block the wheels with wooden wedges, disconnect the key switch and disconnect the battery connections.
2. When lifting the truck, use the designated lifting points on the vehicle.
3. When jacking up the truck, appropriate tools must be used to secure the truck to prevent the occurrence of accidental rolling or tipping over.



WARNING:

When lifting load components or during the operations under the cabin, sufficiently strong chains or safety device must be used to secure the vehicle.

Caution: *It is strictly forbidden to make any modifications to the truck without spe-*

cific written consent by the manufacturer. Doing so will void the warranty and the manufacturer will not be held liable for such modifications.

NOTE: Under harsh working conditions such as the external temperature is too high or too low, dusty conditions, or implementing multiple shifts per day, the maintenance and care interval should be shortened.

- *Prior to any lubrication, replacement of filters or operating the hydraulic system, clean the external parts carefully and use a clean container.*
- *Only compliant lubricants can be used, See Table 1-3.*

MAINTENANCE

Cleaning

- Do not use flammable liquids to clean the truck.
- Before starting to clean, all necessary security measures must be taken to prevent sparking (short circuit) during operation. If the truck is powered by battery, battery plug must be pulled out.
- When cleaning electrical and electronic components, use only low-intensity suction gas or compressed dry air. Remove dust on component surfaces with a non-conductive and anti-static brush.

Caution: *Do not use vapor steam to clean the equipment.*

Do not spray water under the battery compartment area.

REGULAR INSPECTION AND MAINTENANCE

Normal use conditions: Inspection & Maintenance Schedule

Table 1-1

Operating Hours (h)	Requirements - Once Every:
50	7 days
250	60 days
500	90 days
1000	6 months
2000	Year

Caution: When the truck is at break-in phase (after approximately 100 hours of operation), check the torque of wheel nuts and bolts and re-tighten if necessary.

Harsh operating conditions:

The maintenance intervals should be shortened by half under harsh working conditions such as:

- Dusty environment
- Corrosive environment
- Cold storage environment

Table 1-2 Inspection and Maintenance List

Inspection & Maintenance List					
Interval in days/months/years	7 d	60 d	90 d	6 m	1 y
Interval in hours	50	250	500	1000	2000
Functions and Control					
Check the functions of the operation switches and display	A				
Check alarm system functions			A		
Check parking brake functions			A		
Check the emergency switch functions			A		
Check the steering wheel functions			A		
Check the cables for damage and if the terminals are secure			A		
Check the seat switch functions			A		
Check and tighten the controllers and contacts			A		
Check accelerator pedal functions			A		
Check fault information records and operating hours			A		
Power Supply & Drive System					
Check the battery cables for damage, replace if necessary			A		
Check the battery charge connector			A		
Check battery locking mechanism			A		
Check and tighten motor mounting bolts					A
Check the connections of motor connectors					A
Check the position of various bearings for noise			A		
Check transmission oil level			A		
Clean or replace the gear oil	Replace once every 1000 hours				
Check the gearbox for abnormal noise or leaks			A		
A = Check / Adjust					
L = Lubrication					

Inspection & Maintenance List

Interval in days/months/years	7 d	60 d	90 d	6 m	1 y
Interval in hours	50	250	500	1000	2000
Check the drive and steering wheels for wear or damage	A				
Check and lubricate the wheel bearings			A/L		
Check the travel speed					A
Hydraulic System					
Check the functions of the hydraulic system	A				
Check if the hoses, pipes and interfaces are fastened or sealed securely, and check for damage			A		
Check pump motor connections					A
Check and tighten pump motor mounting bolts					A
Check the gear pump fixation and check for leaks			A		
Check the cylinders for leaks			A		
Check the cylinders for damage and check the fixation					A
Check the oil tank fixation and check for leaks					A
Check the hydraulic oil level			A		
Clean or replace the hydraulic oil	Replace once every 2000 hours				
Check and clean oil tank air filter			A		
Replace the oil tank air filter					A
Check the relief pressure					A
Braking System					
Check the braking functions	A				
Check the brake fluid level			A		
Check the pump and piping connections for leaks			A		
Check the release of brake pedal is normal			A		
Check the braking distance of brake					A
A = Check / Adjust L = Lubrication					

Inspection & Maintenance List

Interval in days/months/years	7 d	60 d	90 d	6 m	1 y
Interval in hours	50	250	500	1000	2000
Table 1-2 Cont.					
Mast System					
Check the mast for damages					A
Clean and lubricate the rolling surface of lift mast column with grease		A/L			
Check and lubricate mast rollers			A/L		
Check the fixation of lift mast			A		
Check the tubing on mast for connections and leaks			A		
Check the side shifter functions	A				
Check and lubricate the chains			A/L		
Check the lifting chains and chain guides for wear, adjust and grease			A		
Check the fork carriages for wear and damage			A		
Visual inspection of rollers, sliders and stoppers			A		
Check the lifting and lowering speed					A
A = Check / Adjust L = Lubrication					

Inspection & Maintenance List

Interval in days/months/years	7 d	60 d	90 d	6 m	1 y
Interval in hours	50	250	500	1000	2000
Other					
Check if the signs are clear and complete				A	
Check the chassis for cracks or damages					A
Check the connections of bolts and nuts			A		
Check the engine hood and lubricate the hinges			A/L		
Check tire pressure		A			
Check the fixation of battery and battery tray				A	
Check the seat fixation and adjustment functions					A
Check the seat belt and functions	A				
Check the overhead guard and cabin					A
Checking covering parts for damages					A
Check if the optional features are functioning properly	A				
A = Check / Adjust L = Lubrication					

LUBRICATION

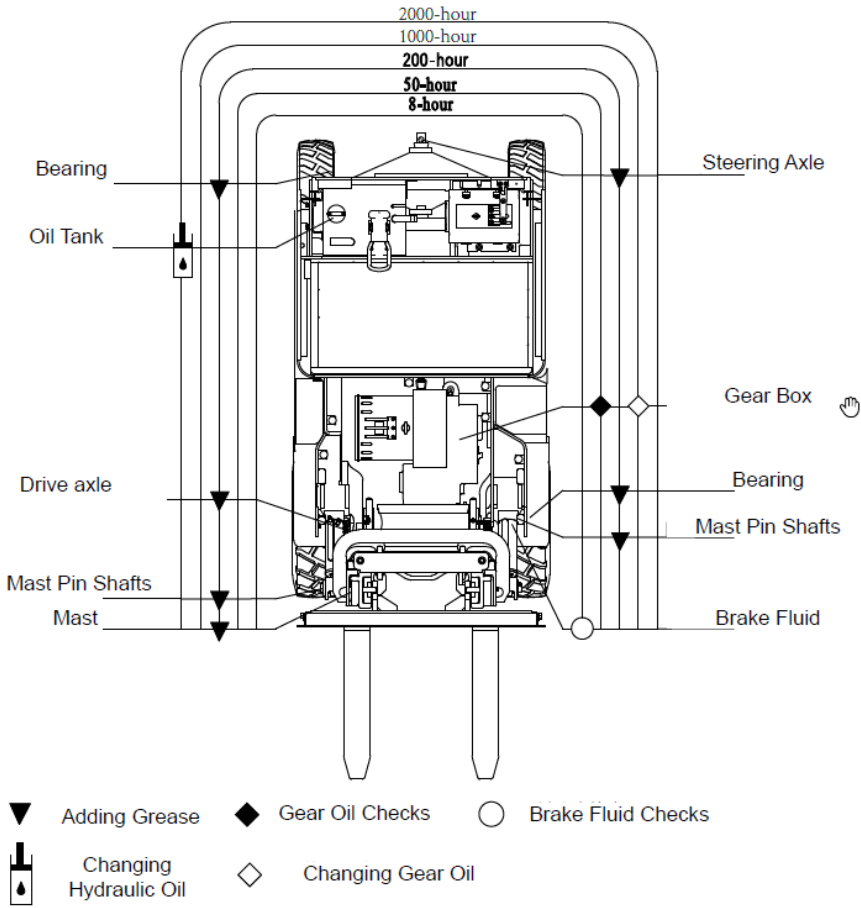
Lubricant

- Improper operations may create hazards to the operator's health and life, as well as to the surrounding environment.
- When storing or adding lubricant, use clean containers. Do not mix different

types and specifications of lubricants with each other.

NOTE: See [Table 1-3](#) for the lubricants used in this truck.

Caution: *The use and disposal of lubricants must be carried out in strict accordance with the manufacturer's regulations.*



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Figure 1-1 Lubrication Diagram

Table 1-3 Lubrication Chart

Code	Type	Specification	Amount	Location
A	Anti-wear hydraulic oil	L-HM46	See Table 1-5	Hydraulic System
B	Multi-purpose grease	Polylub GA352P	Appropriate amount	Sliding surface (See Table 2.4)
C	Heavy duty gear oil	85W-90GL-5	4.5L (align with oiling port)	Drive Axle
D	Brake fluid	ZSM207DOT3	After the pressure within the system is completely discharged, add oil as needed to 2/3 full	Brakes

Table 1-4

Sliding Surface Lubrication Table	
Code	Position
L1	Steering axle
L2	Tilt cylinder connector
L3	Fork carriage
L4	Steering axle

Table 1-5

Application Amount of Hydraulic Oil		
Mast Series	Lifting Height Inches (mm)	Amount qt. (L)
3-Stage Mast	189 in (4800 mm)	11 gal (44 L)
	197 in (5000 mm)	12 gal (46 L)

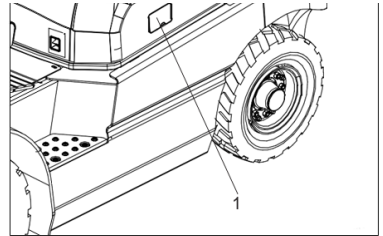
BATTERY MAINTENANCE & CHARGING

Checking the battery level

1. Press the emergency stop switch
2. Insert the electric switch key and turn clockwise.
3. Check the power level shown on the discharge indicator.

NOTE: Charge and maintain the battery and optional charger according to manufacturers instructions. If there are no instructions, please contact your maintenance agent.

4. Check all cables and plug connections for visible signs of damage.
5. Before charging make sure power is turned OFF.
6. It is essential to follow the safety regulations of the battery and charging station.



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Charging Procedure

1. Insert the electric switch key and turn clockwise.
2. Tilt the lift mast forwards slightly. The truck must be stationary on the ground.
3. Press the emergency stop switch.
4. Connect charger connector to the battery connector(1).
5. Switch on the charger and charge the battery according to the battery and

charging station manufacturers' instructions.

6. After the battery is fully charged, close the charger, then remove the connector.



WARNING:

Switch the charging station and truck off before connecting/ disconnecting the charging cable of the battery charging station to/ from the battery connector.



WARNING:

Output voltage, current and application range of the charger must match the battery, otherwise it will influence the volume and service life of the battery. Charging cable polarity must match the charger output terminal polarity.

NOTE: Recharge the battery in time. Do not fully discharge the battery or keep lower than 20%.

Storage

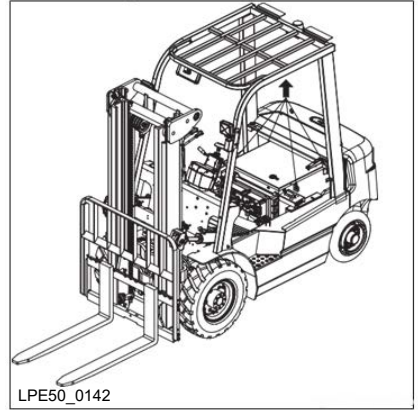
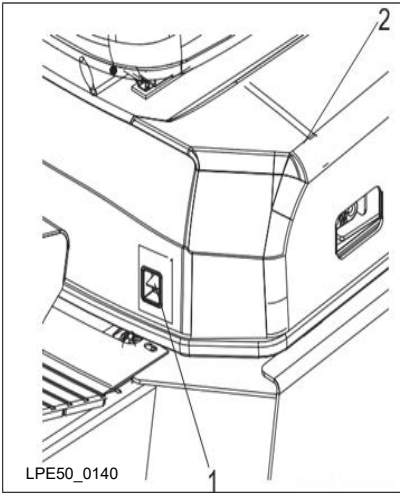
If batteries are taken out of service for a lengthy period they should be stored fully charged in a dry, frost-free room.

If the battery is not used for an extended period, it must receive a supplementary charge every month to prevent permanent damage to the battery.

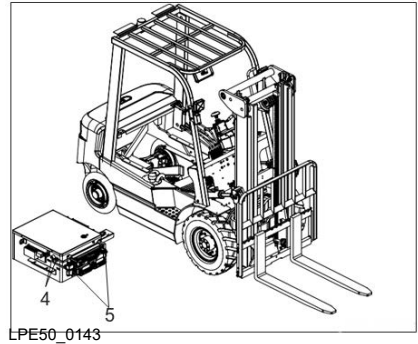
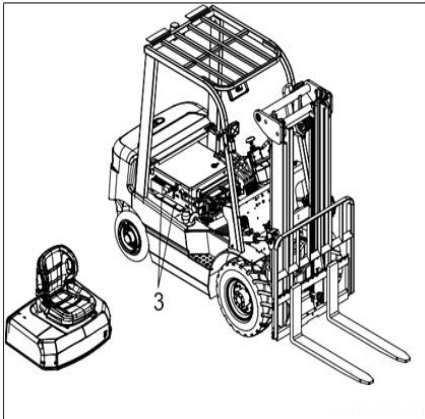
Battery Removal & Installation

1. Park the truck securely and turn off the power before removal and installation of the battery.
2. The truck must be parked on level ground. To prevent short circuits, batteries with exposed terminals or connectors must be covered with a rubber mat. Place the battery connector or the battery cable in such a way that they will not get caught on the truck when the battery is withdrawn.
3. When transporting batteries with the aid of a crane, ensure that the crane is of adequate capacity (the battery weight is indicated on the battery identification plate at the battery trough). The lifting gear must exert a vertical pull so that the battery container is not compressed. Attach the hooks to the battery hand (or battery strap) in such a way that the lifting gear, when slack, cannot collapse on the battery cells.
4. When removing the battery make sure it does not get caught on the battery panel, causing the truck to tip over.
5. After installing the battery, check all cables and plug connections for visible signs of damage. Ensure that the battery is firmly secured in the truck to prevent any damage caused by sudden movements of the truck. Whenever you replace the battery make sure it

Removal Procedure



7. Lift the battery with controller assembly to a proper height through the sling tool and remove it from the side of the overhead guard.



1. Park the truck securely.
2. Press the switch (1).
3. Open the battery hood (2).
4. Unscrew the 4 screws on the battery.
5. Remove the air spring and battery hood (3).
6. Remove the harness with controller.

8. Unscrew two screws(4) and four screws (5) Remove the controller assembly from the battery.

Caution: The battery must be secured to prevent sliding. Contact dealer for assistance if necessary.

NOTES

NOTES



NOTICE - OBTAINING A PARTS AND SERVICE MANUAL

A complete parts and service manual covering this truck is available from Big Lift LLC. To order, obtain the serial number of your truck and download from www.bigjoesupport.com or you can contact your Big Joe Authorized Dealer.