



# Operator's Manual

SEC20-35

OM-1205

IMPORTANT! Do not remove this manual from the lift truck.

MAR 2022 | REV 1.5





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# Information

## Lift Truck Information

Model

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Type

---

Serial No.

---

Truck Weight

---

Rated Capacity

---

Gross Weight

---

## Component Serial Number

Drive Axle / Motor

---

Steer Axle

---

Hydraulic Pump / Motor

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Traction Controller

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Pump Controller

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# Overview

## YOU can prevent accidents

**First:** Know the rules of safe lift truck operation and the safety rules specific to your work area.

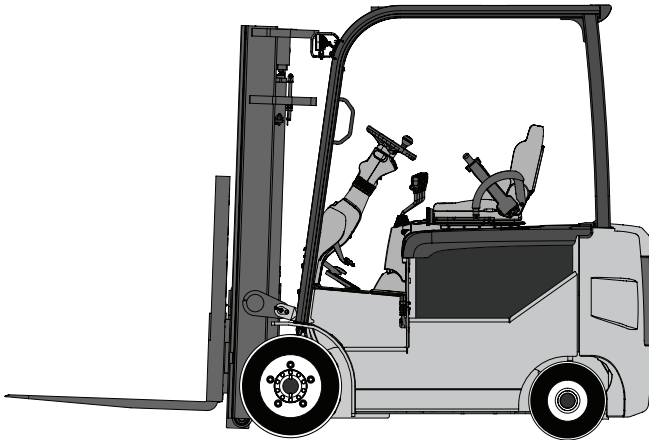
**Next:** Read the Operator's Manual. If you do not understand something, ask your supervisor.

**LEARN** about the lift truck you operate!

## Know YOUR lift truck

**Then:** Operate your lift truck safely.

**And:** Keep your lift truck in a safe operating condition with correct and regular maintenance.



### **WARNING**

If you do not follow these rules, there is a risk of injury or death.

### **IMPORTANT!**

Do not expose this manual to hot water or steam.

# A Message to Operators

Your CLARK lift truck is a specialized machine with unique operating characteristics, and designed to perform a specific task. It requires specific instructions and rules for safe operation and maintenance.

Its function and operation is not like a car or ordinary passenger vehicle. Specialized instructions and rules are required to ensure safe and correct operation and maintenance.

The safe operation of our lift trucks is of utmost importance to CLARK.

**Lift truck accidents are most commonly caused by...**

- **An incorrectly trained operator.**
- **An inexperienced operator.**
- **An operator not obeying basic lift truck safety rules.**
- **A damaged or malfunctioning lift truck.**

**For these reasons, CLARK wants you to know how to safely operate and properly maintain your lift truck.**

The primary function of this manual is to help you learn how to safely operate your lift truck. This manual gives the correct safety rules and hazards of lift truck operation. It also identifies the special components and features of your specific lift truck and describes their function.

This manual is not a training manual, it is a resource to assist trained and authorized operators how to safely operate their lift truck by showing the correct procedures.

This manual does not include information about every possible condition that may result in an accident. Be aware of all possible hazards in your specific work area and be certain to correct or avoid them.

Always make sure that the lift truck is maintained to a safe, working condition. Do not operate a damaged or malfunctioning lift truck. Practice safe operation every time you operate your lift truck.

**Let's set high standards in safety together!**

Before beginning operation, make sure you understand the safe and correct operating procedures of your lift truck. It is your responsibility to operate the lift truck safely, correctly, and efficiently.

Know and understand that the federal Occupational Safety and Health Act (OSHA) and state, provincial, and local law, require operators to be trained and certified in the safe operation of their lift truck. It is an OSHA requirement that the lift truck be inspected BEFORE every shift. If you have not been certified (or need recertification) to operate or inspect your lift truck, tell your supervisor.

All CLARK lift trucks are designed and built to handle hard work, but not abuse from an operator. They are designed and built to be dependable, but are only as safe and efficient as the operator(s) and person(s) responsible for using and maintaining them.

Do not make repairs to any lift truck unless you have been authorized and properly trained to do so. For questions concerning the proper maintenance or repair of your CLARK lift truck, contact your CLARK dealer.

**Only use genuine CLARK replacement parts and accessories to ensure optimal performance of your lift truck!**



## Foreword

CLARK welcomes you to the growing group of professionals who own, operate, and/or maintain our lift trucks. We take pride in the tradition of high quality and superior value that the CLARK name represents.

This Operator's Manual has been specially prepared to help you use and maintain your CLARK lift truck in a safe and correct manner. It describes the safe operation, maintenance, and features unique to your CLARK lift truck. The safe and efficient operation of your lift truck depends on both operator skill and knowledge.

### The operator must always...

- **Read and understand the safety rules described in this Operator's Manual.**
- **Read and practice the safe driving and safe load handling techniques shown in this manual.**
- **Know the construction and features of the lift truck and how they function.**
- **Know the capabilities and limitations of the lift truck.**
- **Ensure the lift truck is maintained to a safe working condition**

Your CLARK lift truck has been designed and built to be as safe and efficient as technology allows. As manufactured, it meets all applicable and mandatory design and construction requirements of the *ANSI / ITSDF B56.1 Safety Standard for Low Lift and High Lift Trucks*.

## Importance of Routine Inspection and Maintenance

The regular care and proper maintenance of your CLARK lift truck is absolutely necessary to your safety. It also allows for a lower cost of ownership and optimal productivity. A damaged or malfunctioning lift truck is a potential source of danger to the operator, any personnel working nearby, and anyone else in the work area. Always keep your lift truck in a safe, operating condition by following the recommended service schedule described in the *Planned Maintenance* section of this manual.

## Operator's Daily Inspection

You are required to inspect your lift truck daily and to ensure it is safe to operate. The importance of this *Daily Inspection* is described later in this manual. You can provide your own checklist sheet or your CLARK dealer can supply you with copies of a helpful *Operator's Daily Checklist*.

## Planned Maintenance

In addition to the *Daily Inspection*, CLARK recommends that a *Planned Maintenance (PM)* program be performed by an authorized and properly trained technician. This safety and maintenance inspection and service will provide an opportunity to thoroughly examine the operating condition of your lift truck. Any *Planned Maintenance* can be scheduled through your CLARK dealer to meet your specific lift truck application and usage.

The *Planned Maintenance* program covers periodic inspections, checks, cleaning, lubrication, and minor adjustments. Any necessary adjustments and timely maintenance will be performed to maximize the service life of components and reduce unscheduled downtime. These procedures are described in detail in your lift truck's service manual. Your CLARK dealer can help with implementing a *Planned Maintenance* program and providing properly trained and authorized service technicians to keep your lift truck operating safely and efficiently.

## Always Practice Safe Operation

Incorrect lift truck operation can cause accidents. Do not operate an improperly setup, damaged, or malfunctioning lift truck.

**Read and understand** the procedures for safe driving and maintenance described in this manual. If you have questions, ask for assistance.

**Stay alert and follow** the rules, regulations, and procedures for safe lift truck operation. Avoid accidents by identifying and avoiding potentially dangerous procedures or situations.

**Drive and work safely** and follow the safety messages and warnings found in this manual and attached to your lift truck.

## Safety Messages and Warnings

The **safety messages and warnings**, found in this manual and attached to the lift truck, identify specific areas where potential hazards exist. Make sure to **know and understand** the meaning of these instructions, symbols, and messages. Damage to the lift truck, serious injury, or death to you and/or other personnel may result if these messages are not followed.

### NOTE

Provides helpful information related to procedures, equipment, tools, specifications, or other special data.



### CAUTION

There is a risk of damage to the lift truck or nearby objects.



### WARNING

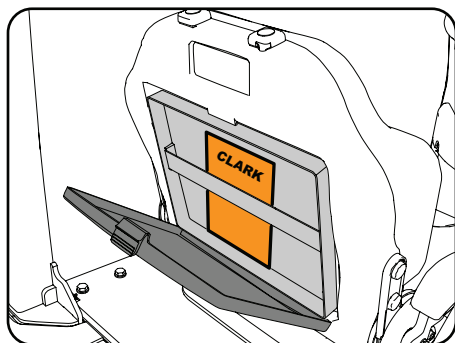
There is a risk of injury or death to the operator or nearby personnel.

## How to Use this Manual

The Operator's Manual contains important information about the safe operation, features, functions, and maintenance of your CLARK lift truck.

### **IMPORTANT!**

**Read the Operator's Manual before operating your lift truck.**



- All descriptions, images, and specifications in this Operator's Manual were correct at the time of printing.
- CLARK Material Handling Company reserves the right to make improvements and changes to the specifications and/or design, without notice and without incurring obligation. Contact your authorized CLARK dealer for information on possible updates or revisions to this or any other CLARK technical information.
- The examples, illustrations, and descriptions in this manual are intended to help improve your skill and knowledge as a professional lift truck operator and to take complete advantage of the capabilities and features of your lift truck.
- Read and understand the information located in the *General Safety Rules* and *Operating Hazards* sections of this Operator's Manual.
- Follow the instructions and procedures about how to correctly maintain your lift truck, including recommended service intervals and component capacities.
- Safe and careful driving is your responsibility! Drive defensively and always be aware of other personnel who are working nearby. Know your lift truck's capabilities and limitations.
- Follow all **IMPORTANT**, **CAUTION**, **WARNING**, and **DANGER** messages or warnings to avoid damage to the lift truck and/or injury to yourself or others.
- OSHA requires that the Operator's Manual be permanently attached to your lift truck. Keep this manual on the lift truck as a reference for anyone who may operate or service it. If the lift truck you operate is not equipped with an Operator's Manual, alert your supervisor immediately.
- Your authorized CLARK dealer is ready to help and can provide you with additional information about the unique features, operation, and maintenance of your lift truck.

## Safety Standards

### IMPORTANT!

Familiarize yourself with the safety instructions contained in the following publications:

#### **ANSI / ITSDF B56.1 Safety Standard for Low Lift and High Lift Trucks**

Available from: Industrial Truck Standards Development Foundation, 1750 K Street NW Suite 460, Washington, DC 20006.

#### **NFPA 505 Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance and Operations**

Available from: National Fire Protection Association, Inc., 1 Batterymarch Park, Quincy, MA 02169.

#### **OSHA 1910.178 Powered Industrial Trucks**

Available from: Occupational Safety & Health Administration, 200 Constitution Ave NW, Washington, DC 20210.

#### **UL 583 Standard for Electric-Battery-Powered Industrial Trucks**

Available from: Underwriters Laboratory Headquarters, 333 Pfingsten Road, Northbrook, IL 60062.

### IMPORTANT!

Your CLARK lift truck has been built to meet all applicable mandatory design and construction requirements of the **ANSI / ITSDF B56.1 Safety Standard for Low Lift and High Lift Trucks**. No additions, omissions, or modifications should be made to the lift truck that affect compliance to the above requirements or in any way minimize the effectiveness of its safety devices.

# Section 1. General Safety Rules

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## Do's and Don'ts



**DON'T** mix drugs or alcohol with your job.

**DO** watch for pedestrians.



**DON'T** block safety equipment.

**DO** wear personal protective equipment.



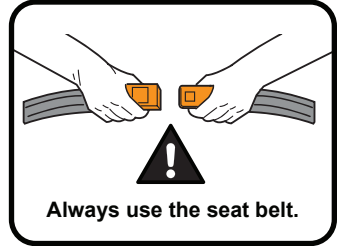
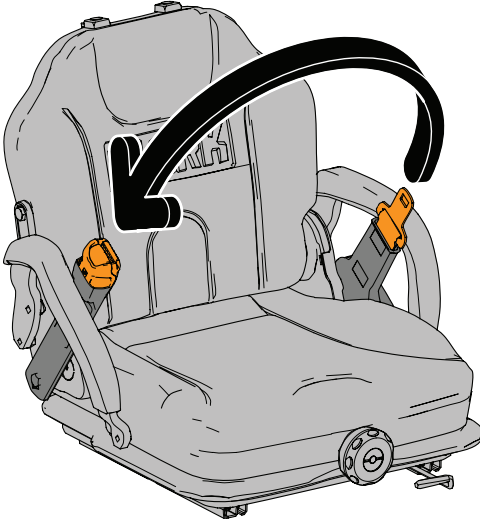
**DON'T** smoke while operating the lift truck and in **NO SMOKING** areas.

**DON'T** operate the lift truck outdoors during poor weather conditions such as rain, snow, or ice.

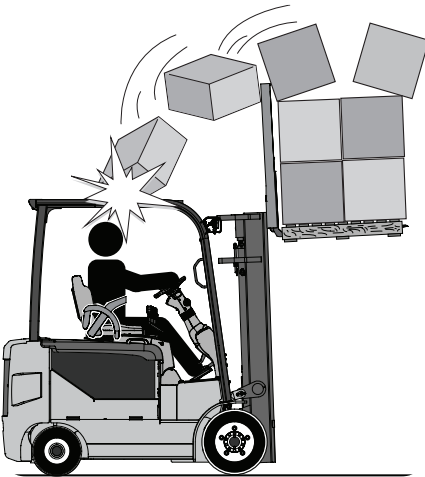


## Operator Protection

### Seat Belt



### Overhead Guard

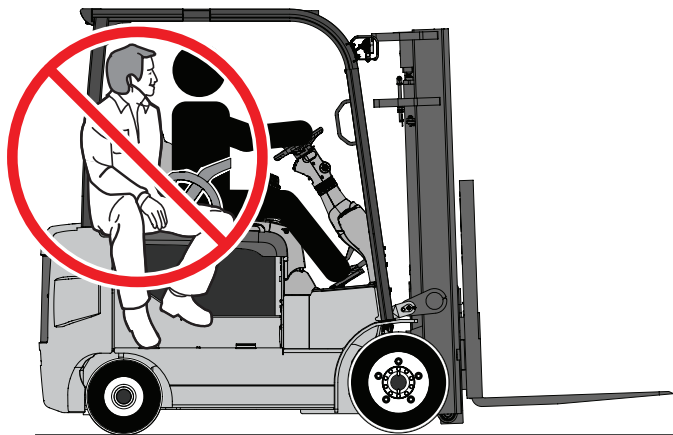


#### **WARNING**

- Stay under the overhead guard when operating the lift truck.
- Keep arms and legs inside the operator's compartment.
- Be careful when traveling in reverse and in tight areas.

## Pedestrians

### No Riders



**! WARNING**

The operator is the only person allowed on the lift truck.

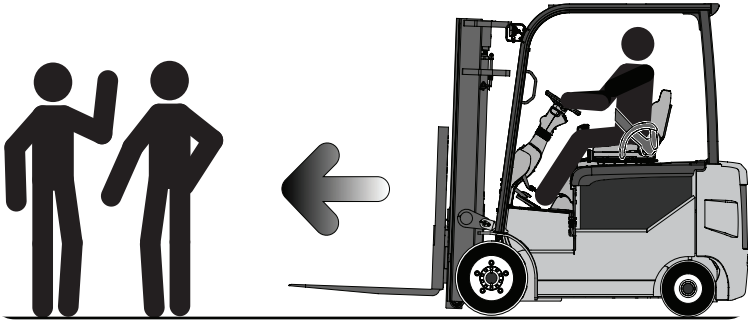
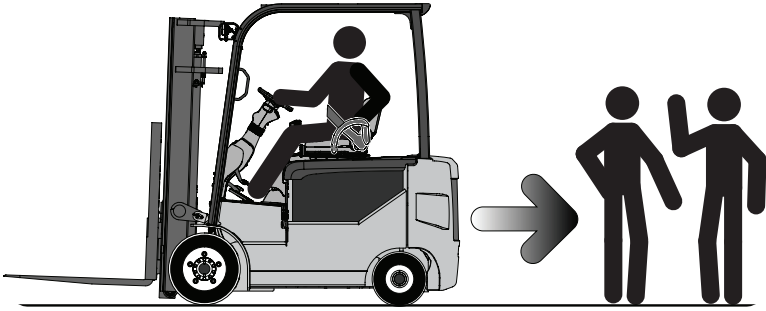


**! WARNING**

Do not transport personnel with the lift truck.



## Nearby Personnel



 **WARNING**

- Always look in the direction of travel.
- Always slow down and sound the horn at every intersection or area with limited visibility.
- Always alert personnel to stand back while operating or parking the lift truck.
- Always be aware of any personnel in your work area.

# Upright

## Forks and Upright



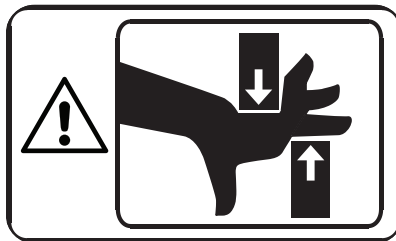
**! WARNING**  
Do not walk or stand under raised forks.

**! WARNING**  
Do not raise personnel with the lift truck.

**! WARNING**  
Do not use the upright as a ladder.



## Pinch Points

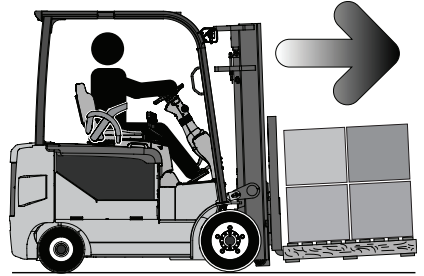


**! WARNING**  
Keep hands, feet, and legs out of the upright.

## Travel

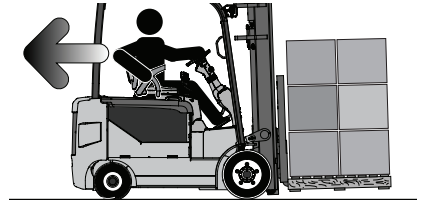
### Forward Travel

- Lower the forks to a safe height and tilt the upright back when traveling with a load.
- Do not lift or lower a load while the lift truck is traveling.



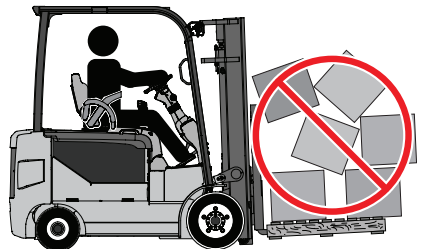
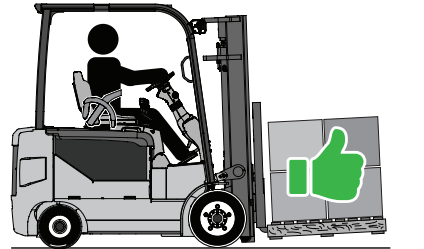
### Reverse Travel

- Travel in reverse when handling loads that restrict your view.
- Rotate in your seat and look in the direction of travel when traveling in reverse.



### Loaded Travel

- Unstable loads are a hazard to you and other nearby personnel.
- Make sure all loads are stacked correctly and equally positioned across the forks.
- Position the heaviest part of the load closest to the front wheels of the lift truck.
- Do not attempt to lift a load using one fork.



## Parking



### Parking Rules

- Do not park the lift truck on a ramp or grade.
- Do not leave the lift truck before coming to a complete stop.
- Park the lift truck in an authorized area only.
- Do not block traffic.
- Put the directional control in the neutral position.
- Fully lower the upright and/or attachments to the ground.
- Remove the key when leaving the lift truck for an extended period.



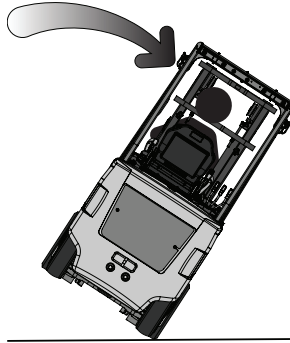
#### **WARNING**

Always apply the parking brake before attempting to exit the lift truck. An icon will illuminate on the dash display when the parking brake is engaged.

## Tipover

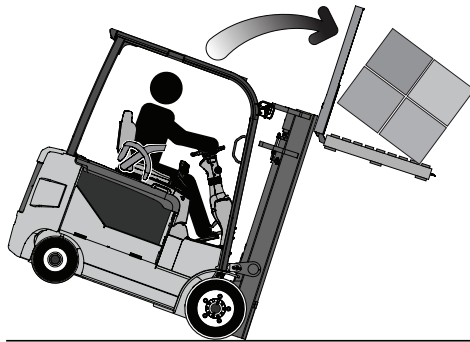
### Side Tipover

- Tipover can occur when a certain combination of travel speed and turn sharpness **exceeds** the stability of the lift truck. This is most likely to occur with an unloaded lift truck.
- Tipover can occur while turning with the upright raised or braking in reverse with the upright raised or accelerating during a turn.
- Side tipover can occur when attempting to turn on a ramp or grade.



### Forward Tipover

- Tipover can occur when a certain combination of overloading and load elevation **exceeds** the stability of the truck. This is most likely to occur because of excessive forward tilt, braking when traveling forward, or accelerating in reverse.
- Tipover can occur when traveling with the forks pointed down grade with a load.



### WARNING

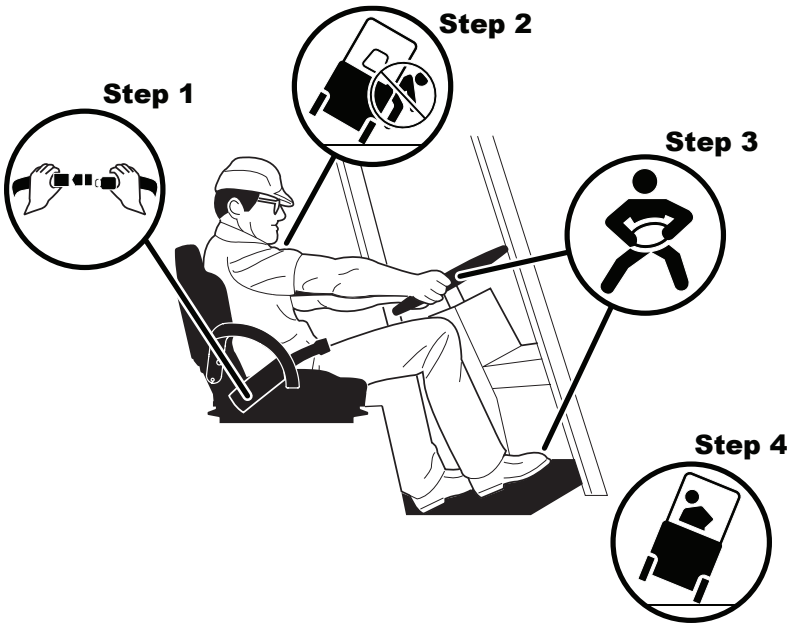
To avoid a tipover, do not operate your lift truck: over foreign objects, on rough surfaces, near drop offs, or off-center with a capacity load.

## What To Do in Case of a Tipover

### **WARNING**

**DO NOT JUMP!** During a tipover, your best chance of survival is to **stay in the seat**.

**BRACE YOURSELF AS ILLUSTRATED BELOW!**



1. Always use your seat belt.
2. Stay in your seat.
3. Hold the steering wheel tightly and brace your feet.
4. Lean away from the impact.

# Section 2. Operating Hazards

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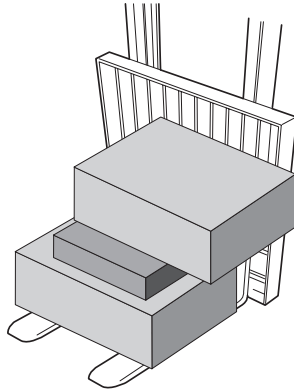
 **WARNING**

- Always secure loose loads before handling.
- Long loads decrease the capacity of your lift truck. Know and understand your lift truck's specific load rating.
- Be careful when traveling with an elevated load and know about load end swing.
- Only travel with a raised load when picking or dropping off a load to a rack or shelf.

# Load Handling

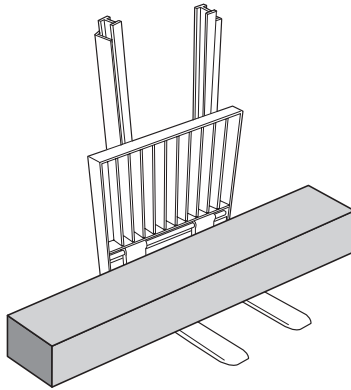
## Unbalanced Loads

Do not handle uneven loads.



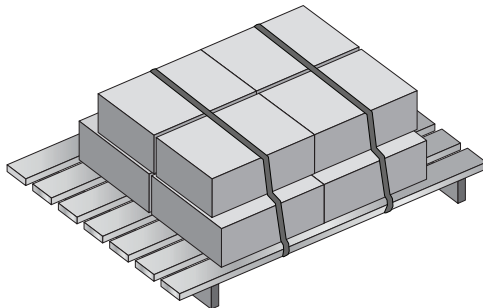
## Wide Loads

Center wide loads on the forks.



## Loose Material

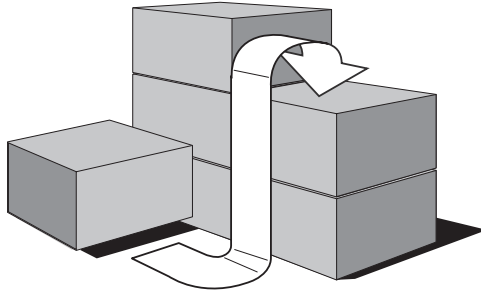
Stack and band loose material.





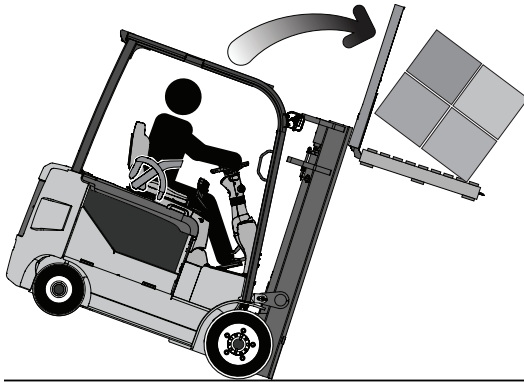
## Right-Angle Stacking

Avoid sharp turns and operate slowly.



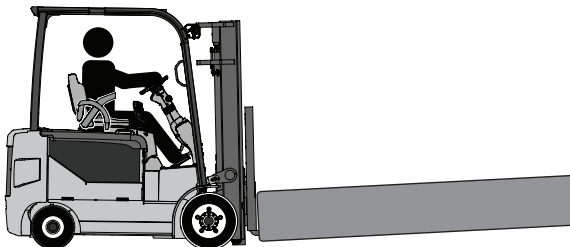
## High Loads

Do not turn sharply with a raised load.

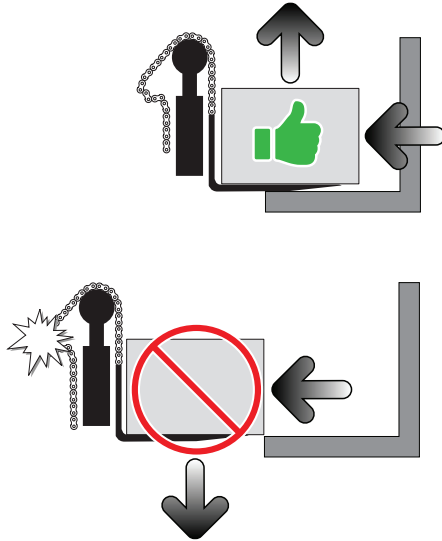


## Long or Wide Loads

Long or wide loads require more clearance.



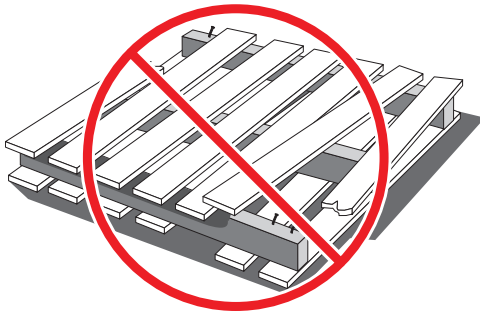
## Chain Slack



### **! WARNING**

Check for chain slack before attempting to lower a load or when withdrawing the forks after placing a load. Chain slack is caused by the upright, carriage, or forks hanging up. Raise the forks before moving, or damage to the chains may occur.

## Pallets and Skids



### **! WARNING**

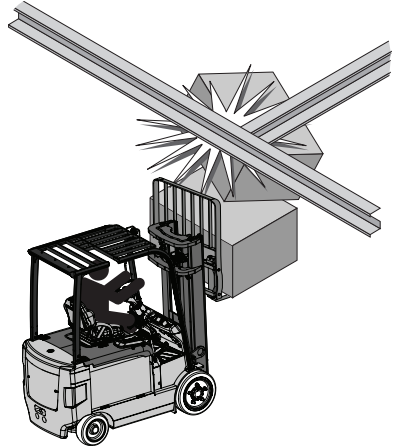
Do not move or store material on damaged pallets or skids, this can lead to material falling unexpectedly. Always use pallets or skids that are in good condition.

# Collisions

## Overhead Clearance

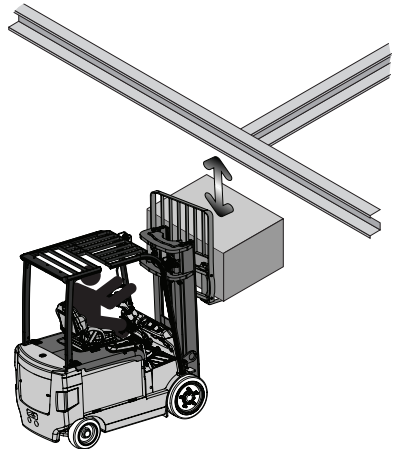
### WARNING

- Know your overhead clearance and look for obstacles.
- Colliding with an overhead structure can cause the lift truck to tipover or drop its load.
- Keep the load low and tilted back.

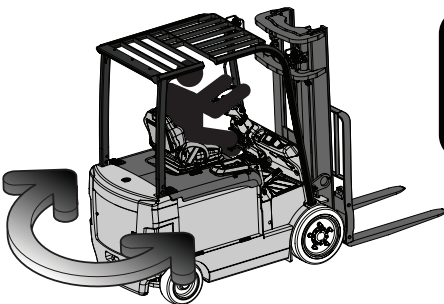


### WARNING

- Know the total height of your lift truck, with and without a load.
- Check your surroundings and ceiling height.
- Keep the load low and tilted back when traveling.



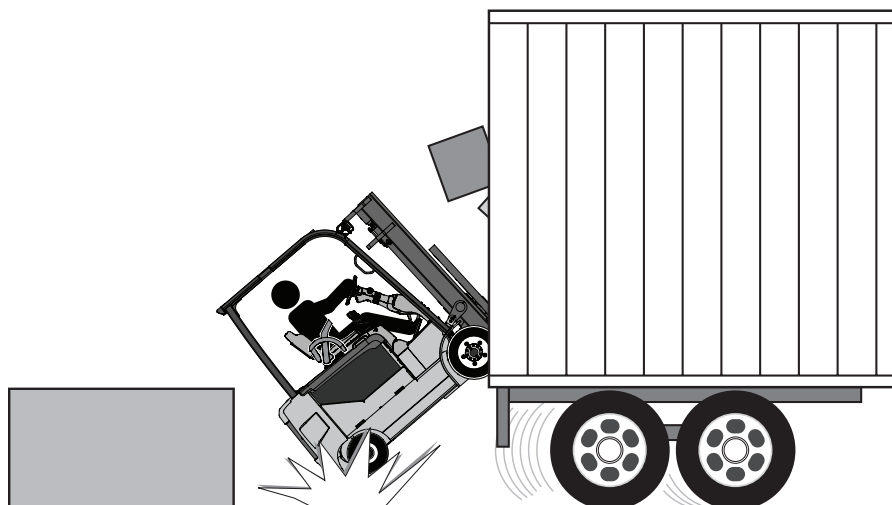
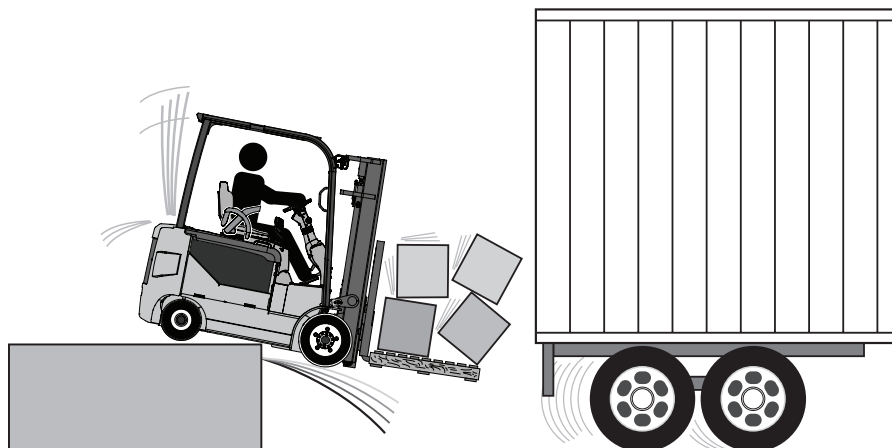
## Rear End Swing



### WARNING

Slow down and look for obstacles and other personnel before turning. Always know where the rear of the lift truck is positioned.

## Drop-Offs



### **WARNING**

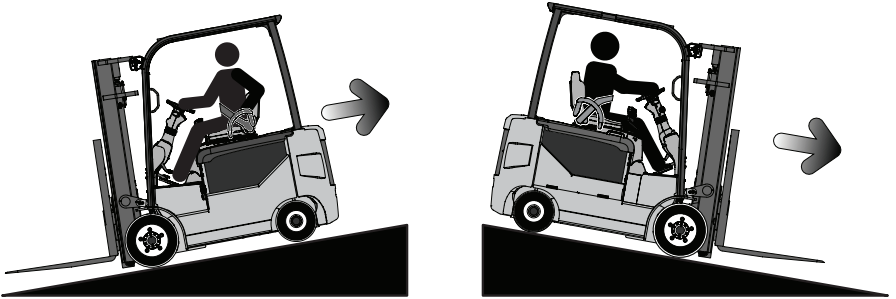
When operating on a dock or drop-off, do the following:

- Tell the driver not to move the trailer and use the trailer brakes.
- Install wheel chocks.
- Use a trailer-to-dock system if available.

The trailer may move unexpectedly while loading or unloading.

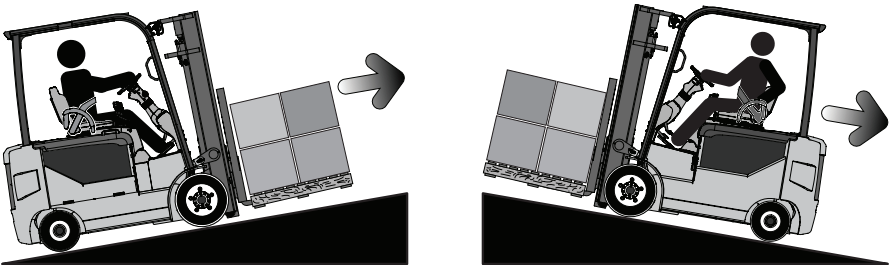
## Ramps and Grades

### Unloaded Travel



When Traveling Unloaded...  
Keep Forks Pointed Down Grade

### Loaded Travel

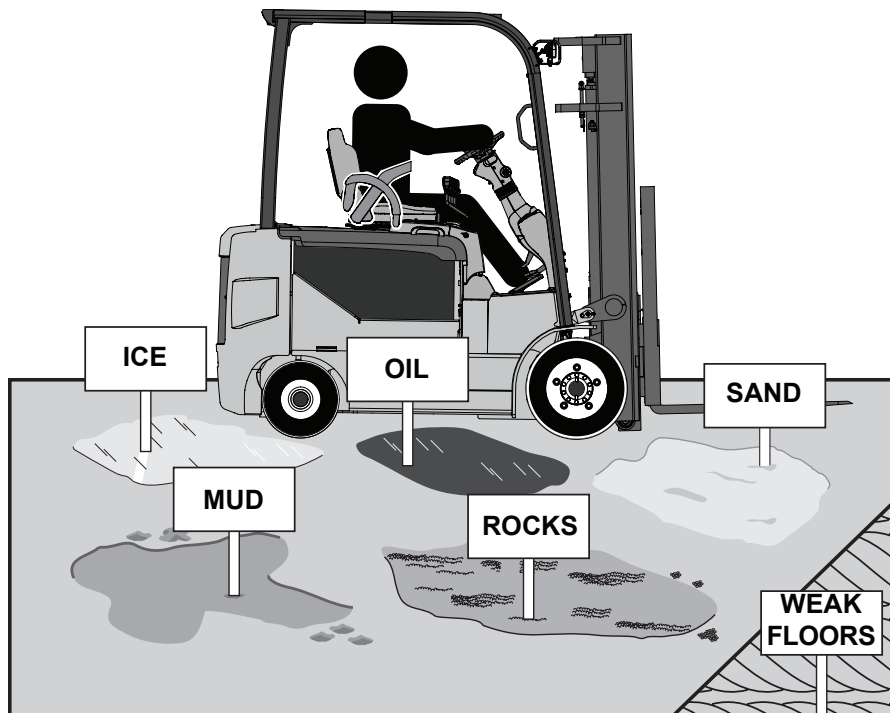


When Traveling Loaded...  
Keep Forks Pointed Up Grade

 **WARNING**

- Always look in the direction of travel.
- Always ascend or descend grades slowly, and with caution.
- Always limit travel speed to 4.8 km/h (3.0 mph) or less if operating on a grade of 10% or greater.
- Do not exceed the maximum operating grade for your specific lift truck model, as defined in this Operator's Manual.
- Do not turn on a grade.

## Surface and Capacity



### WARNING

Poor conditions can cause the lift truck to lose traction when braking or traveling.

### WARNING

Do not travel over a surface that cannot support the weight of a loaded lift truck. Know the combined (gross) weight of the lift truck and the load.

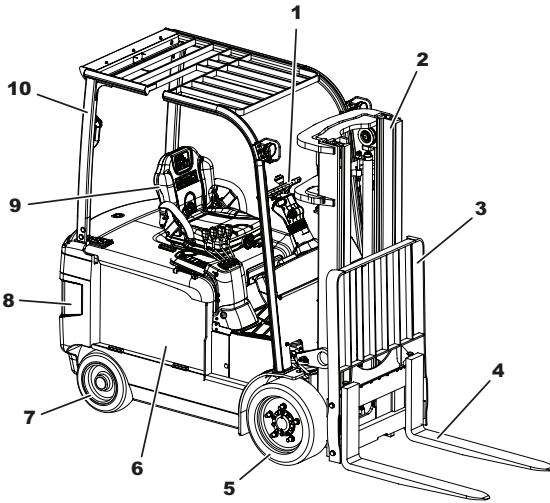
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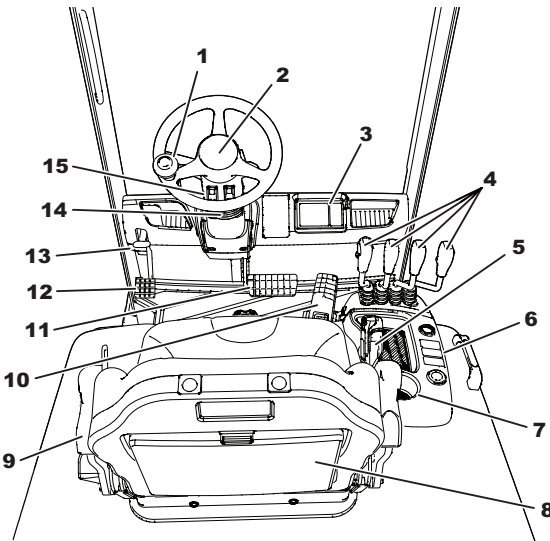
# Overview

## Lift Truck Components



1. Steering Wheel
2. Upright
3. Load Backrest
4. Forks
5. Drive Wheels
6. Battery Compartment
7. Steer Tires
8. Counterweight
9. Seat
10. Overhead Guard

## Operator Compartment



1. Steering Knob
2. Horn
3. Dash Display
4. Control Levers
5. Seat Belt
6. Accessory Ports
7. Cup Holder
8. Operator's Manual
9. Hip Restraints
10. Accelerator Pedal
11. Brake Pedal
12. Parking Brake Pedal
13. Release Lever
14. Tilt Release Button
15. Light Switches

### NOTE

Your lift truck may vary in appearance depending on the model and optional equipment.

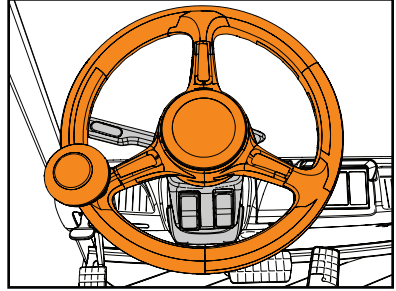


# Operator Controls

## Driving Controls

### Steering Wheel

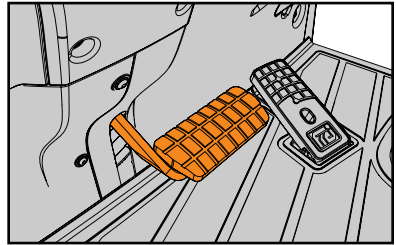
The steering wheel controls the position of the rear steer wheels and tires.



### Brake Pedal

The brake pedal controls the braking of the lift truck.

Press down on the brake pedal to slow or stop the lift truck.

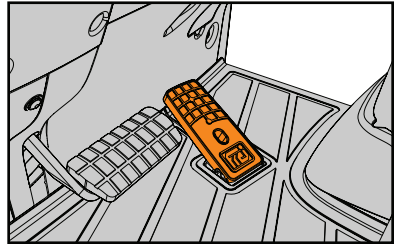


### Accelerator Pedal

The accelerator pedal controls the speed of the lift truck.

Press down on the accelerator pedal to increase the speed.

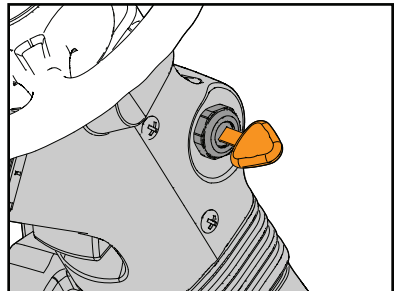
Release the accelerator to allow the lift truck to coast.



### Key Switch

The key switch turns the lift truck on or off.

When the lift truck is off, all travel, hydraulic, and steering functions are disabled.

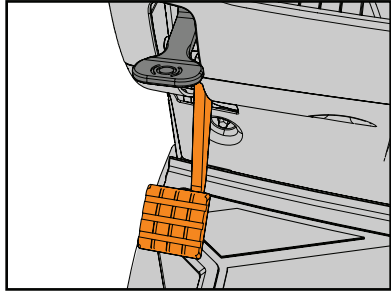


## Driving Controls

### Parking Brake Pedal

The parking brake pedal is used to engage the parking brake.

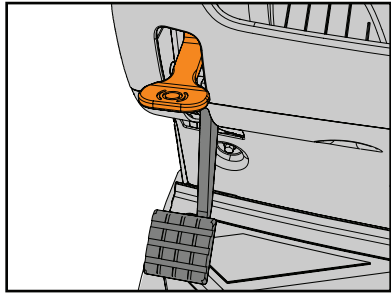
Press down on the parking brake pedal to engage the parking brake.



### Release Lever

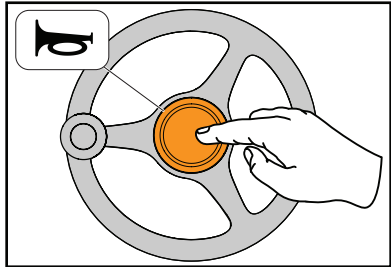
The release lever is used to disengage the parking brake.

Lift up on the lever to release the parking brake.



### Horn

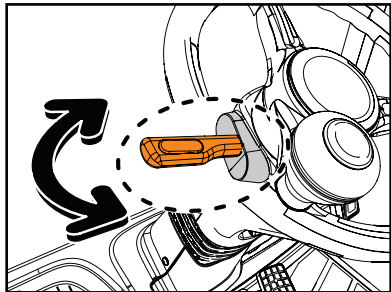
The horn is used to alert nearby personnel while operating the lift truck.



### Directional Control

The directional switch is used to change the driving direction of the lift truck.

There are three positions: forward, neutral, and reverse.



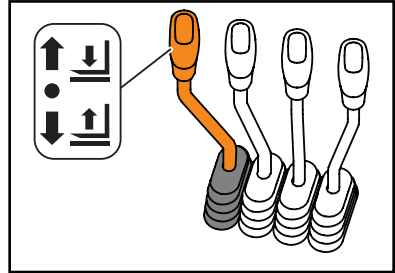
**Hydraulic Controls - Standard**

**Lift Lever**

The lift lever controls the raising and lowering of the upright.

Pull the lever back to lift the upright.

Push the lever forward to lower the upright.

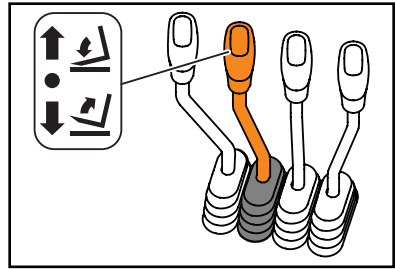


**Tilt Lever**

The tilt lever controls the vertical position of the upright.

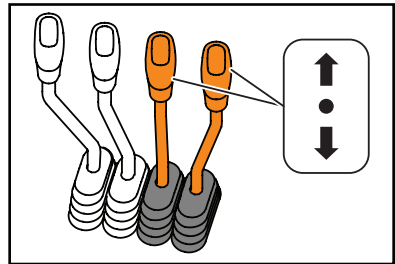
Pull the lever back to tilt the upright backward.

Push the lever forward to tilt the upright forward.



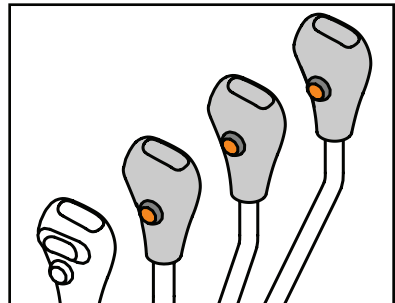
**Auxiliary Levers**

The auxiliary lever(s) control optional functions such as a sideshifting, fork positioning, and third or fourth hydraulic functions (if equipped).



**Auxiliary Buttons (If equipped)**

The auxiliary button(s) control optional functions such as clamping, rotating, fork leveling, and actuating the fifth or sixth hydraulic functions.



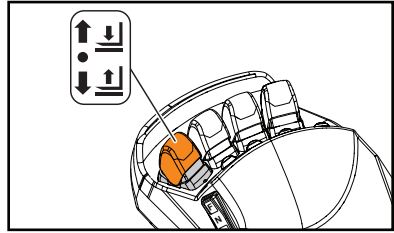
## Hydraulic Controls - Optional

### Lift Lever

The lift lever controls the raising and lowering of the upright.

Pull the lever back to lift the upright.

Push the lever forward to lower the upright.

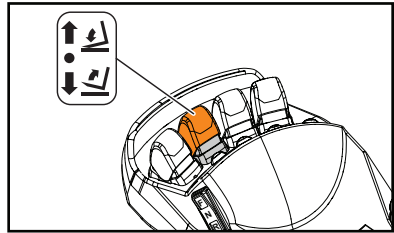


### Tilt Lever

The tilt lever controls the vertical position of the upright.

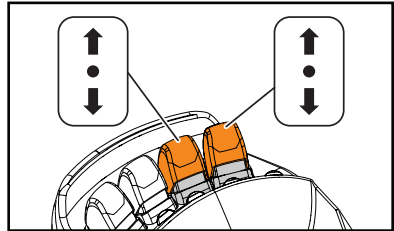
Pull the lever back to tilt the upright backward.

Push the lever forward to tilt the upright forward.



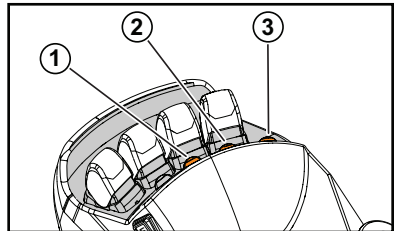
### Auxiliary Levers

The auxiliary levers control optional functions such as a sidsifting, fork positioning, and third or fourth hydraulic functions (if equipped).



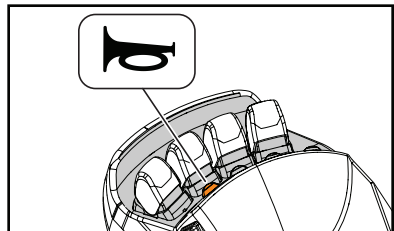
### Auxiliary Buttons (If equipped)

The auxiliary buttons control optional functions such as fork leveling (vertical mast), clamping, rotating, and actuating the fifth or sixth hydraulic functions.



### Horn

The horn is used to alert nearby personnel while operating the lift truck.

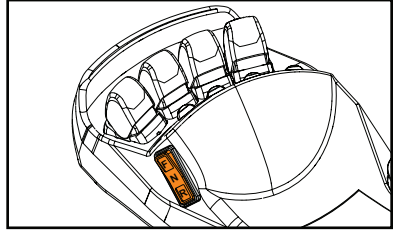


### Hydraulic Controls - Optional

**Directional Control (If equipped)**

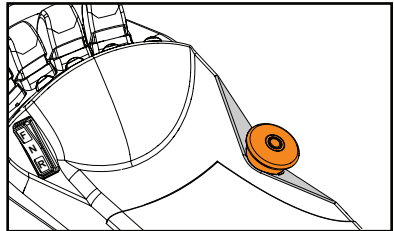
The directional switch is used to change the driving direction of the lift truck.

There are three positions: forward, neutral, and reverse.



**Emergency Disconnect (If equipped)**

The emergency disconnect switch enables the operator to immediately turn lift truck power off. Only use this in an emergency situation.



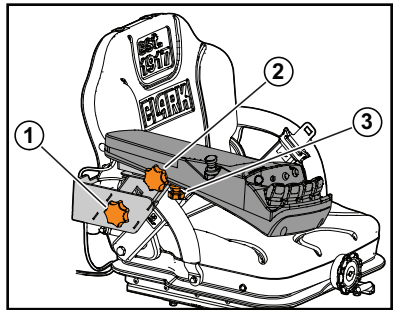
**Adjustable Armrest**

The armrest is adjustable to ensure the most comfortable position for the operator.

Use adjuster (1) to move the armrest up or down.

Use adjuster (2) to move the armrest forward or backward.

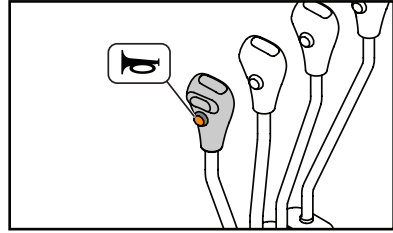
Use adjuster (3) to move the angle of the armrest right or left.



## Optional Controls

### Horn Button

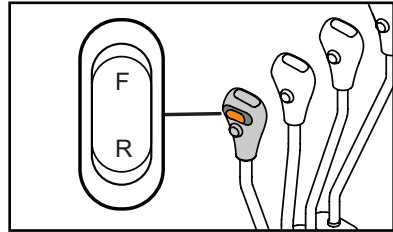
The horn button is used to alert nearby personnel while operating the lift truck.



### Directional Control (If equipped)

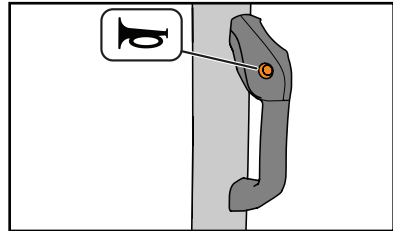
The directional control switch is used to change the driving direction of the lift truck.

There are three positions: forward, neutral, and reverse.



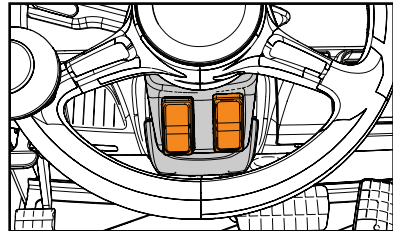
### Rear Horn Button (If equipped)

The rear horn button allows the operator to operate the horn while traveling in reverse.



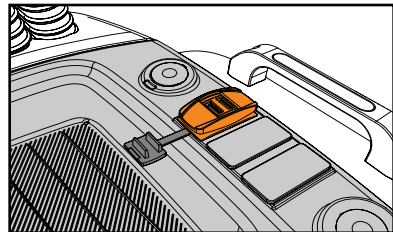
### Accessory Switches (If equipped)

The accessory switches control electrical options such as headlights and work lights.

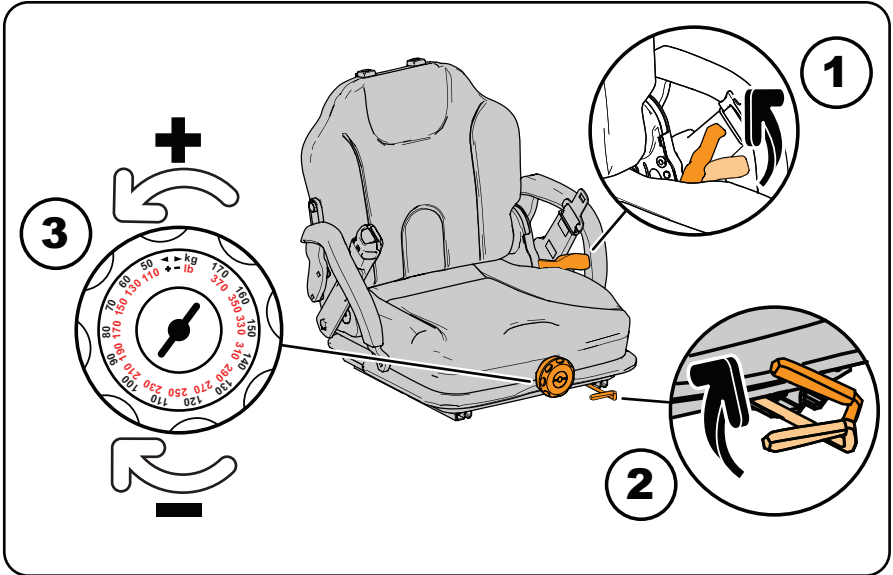


### Accessory Charge Ports (If equipped)

A pair of USB charge ports allow the operator to power a variety of electronic devices.



## Seat



### Adjusting the Seat Recline:

- Pull back on the side lever (1) and lean backward or forward to position the seat back cushion. Release the lever to lock into place.

### Adjusting the Seat Position:

- Pull up on the front lever (2) and slide the seat forward or backward. The seat should be positioned so that the steering wheel, hydraulic controls, and pedals are easy to reach and comfortable to operate. Release the lever to lock into place.

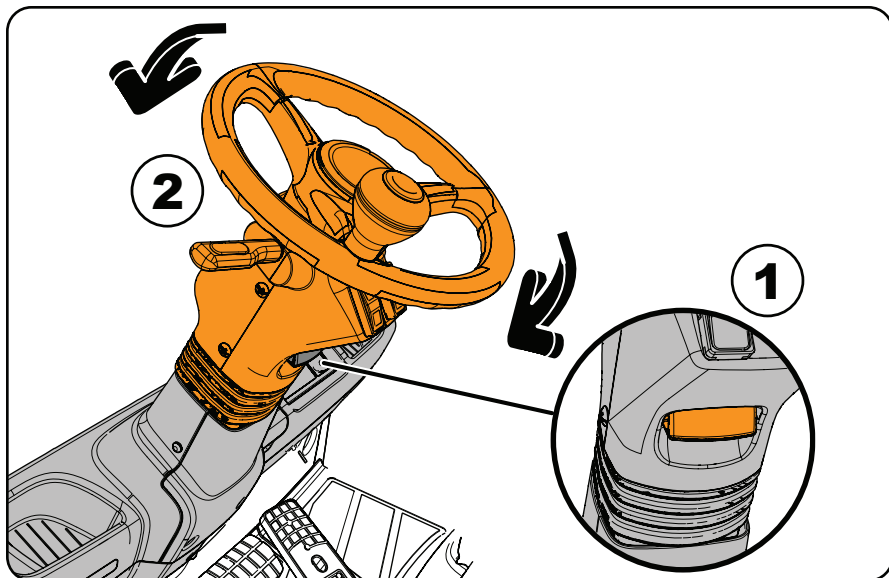
### Adjusting the Seat Firmness:

- Turn the adjustment knob (3) until the weight of the operator is shown. The seat can be adjusted from 70–170 kg (155–374 lb).

### WARNING

Do not attempt to adjust the seat while operating the lift truck.

## Steering Column



### Adjusting the Steering Column:

- Press and hold the lock button (1) to release the steering column.
- Rotate the steering column (2) up or down to the desired tilt angle.
- Release the lock button (1) to secure the steering column in place.

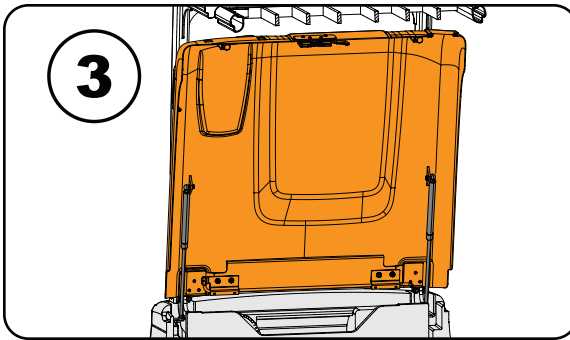
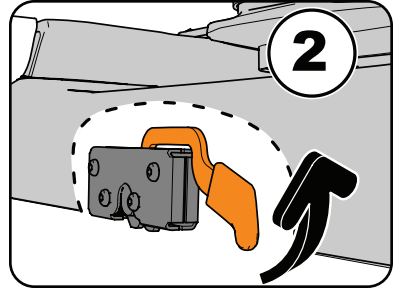
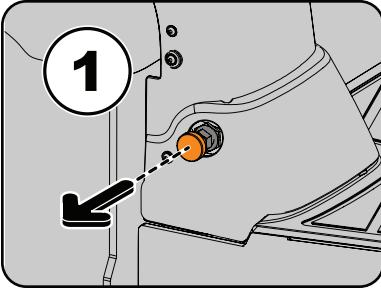


### WARNING

Do not attempt to adjust the steering column while operating the lift truck.



# Hood



## Raising the Hood:

- Rotate the steering column fully forward.
- Pull the latch (1) out to release the hydraulic controls, and then rotate the lever assembly fully forward.
- Push the release lever (2) up to release the hood.
- Lift the hood (3) until it is fully supported by the struts.

## Lowering the Hood:

### IMPORTANT!

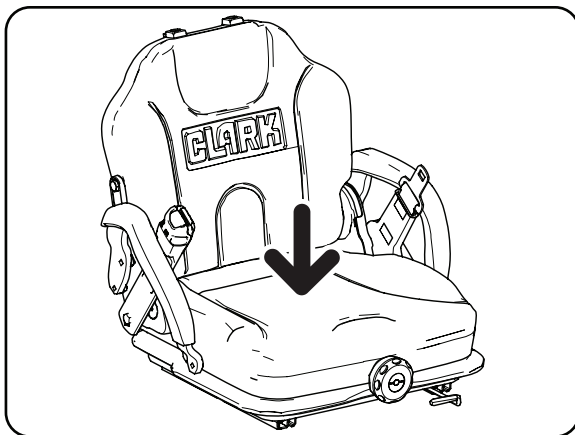
Make sure the hydraulic control assembly is rotated fully forward before attempting to close the hood.

- Push the hood down until the latch positively engages the striker.
- Rotate the hydraulic control assembly back to the locked position.
- Check that the hood is secured before resuming operation.

### WARNING

Do not attempt to operate the lift truck if the hood is not properly latched. Always use care when raising and lowering the hood to prevent possible injury.

# Operator Presence System



The operator presence system (OPS) consists of a safety switch located in the bottom of the operator's seat. It determines if the operator is seated correctly while operating the lift truck. The operator must sit in the seat to travel or use the hydraulic controls.

If the operator is not in a correct seating position, both travel and hydraulic operations are interrupted. An alarm will appear on the dash display if travel or hydraulic operation is attempted without sitting in the seat.

If the lift truck is traveling and the OPS switch is disengaged, the lift truck will come to a controlled stop. The OPS switch must be depressed to resume operation. If this occurs, an icon and alarm message will appear on the dash display to inform the operator.

If the lift truck is stopped with the keyswitch in the ON position, the operator leaves the seat, and the parking brake is engaged, an alarm will sound after 10 minutes. An alarm message will also appear on the display. If this occurs, re-cycle the key to resume operation of the lift truck.



## WARNING

Do not attempt to leave the operator's seat while the lift truck is moving. Remain seated, with the seat belt securely fastened, until the lift truck is fully stopped and the parking brake is manually applied.

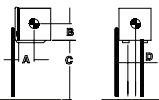
## NOTE

The seat suspension firmness must be properly adjusted for the operator's weight to ensure proper operation of the OPS.

# Data Plate

## Data Plate

The data plate contains important information about the specifications, weight, and lifting capacity of your specific lift truck. If it is missing or damaged, remove the lift truck from service and contact your authorized CLARK dealer for a replacement.

<b>CLARK</b>		From the factory this truck meets ANSMITSDF B56.1 and complies with Canadian standard ICES-002		
Model	Type	Serial No.		
Attachments		in		
Rearward Tilt	deg	in		
 <ul style="list-style-type: none"> <li>Capacities are with attachment or forks with upright in vertical position.</li> <li>Capacities are for centered or shifted loads, as indicated by dimension D.</li> </ul>	C	D	A	
		in		lb
		mm		kg
		in		lb
		mm		kg
		in		lb
	mm		kg	
D/Tire Width		in	mm	
D/Tire Type		B		
Truck Weight $\pm$ 5%		lb or	kg	
Electric truck is without Battery.		Max Battery	lb or	
		Min Battery	lb or	
		Volts	Battery Type	
For other capacities consult Clark Material Handling Co., Lexington, KY				

**(1) Model and Type:** Identifies the model and type of lift truck. Certain types of lift trucks are not permitted in areas that contain fire hazards - watch for marked areas.

**(2) Serial Number:** A unique identification number assigned to your lift truck. It is also stamped on the frame of your lift truck. Use this number when requesting service information or ordering replacement parts to ensure accuracy.

**(3) Attachments:** Lists the current attachment(s) installed on the lift truck. The operator must make sure this matches with what is actually installed on the lift truck.

**(4) Capacity:** Shows the maximum lifting capacity of the lift truck with respect to the load center and the fork height.

**(5) Weight:** The unloaded weight of the lift truck. It does not include the weight of the battery. Always use the total (loaded) weight of the lift truck when operating on elevators, dock boards, or floors with a limited capacity.

### WARNING

By law, all modifications affecting capacity or safety must be approved by the manufacturer before changes to the lift truck can be made.

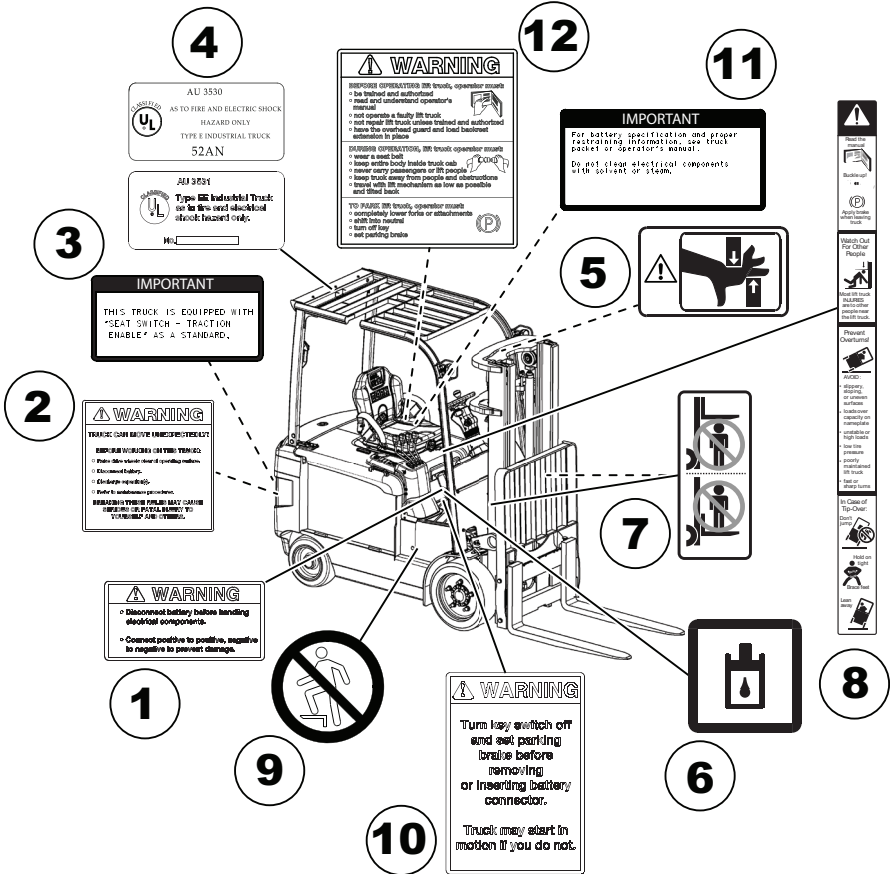
A new data plate is required whenever modifications are made to the lift truck that may affect capacity, such as adding an attachment. Contact your authorized CLARK dealer for an updated data plate showing the correct capacity.

### WARNING

The maximum load capacity of the lift truck DOES NOT increase if the load center is less than what is shown on your data plate. DO NOT exceed the maximum load capacity!

# Decals

## Decals



- |    |                    |     |                       |
|----|--------------------|-----|-----------------------|
| 1. | Battery Polarity   | 7.  | Fork Safety           |
| 2. | Service Warning    | 8.  | Tipover Safety        |
| 3. | Seat Switch        | 9.  | No Step               |
| 4. | UL® Classification | 10. | Parking Safety        |
| 5. | Upright Safety     | 11. | Battery Specification |
| 6. | Hydraulic Fluid    | 12. | Operator Warning      |



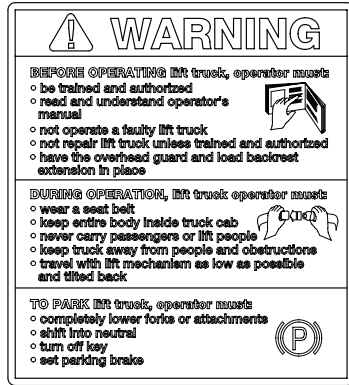
### WARNING

Safety or warning decals that are unreadable or missing should be immediately replaced.

Safety Decals

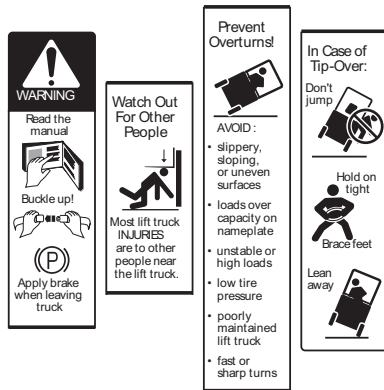
Operator Warning

The operator warning decal describes how to safely operate and park the lift truck.



Tipover Safety

The tipover safety decal shows how to reduce the chance of injury during a tipover and how to avoid tipovers.



Service Warning

The service warning decal describes how to safely prepare the lift truck for service or maintenance.



## Safety Decals

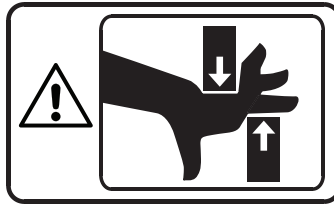
### Fork Safety

The fork safety decals show the risk of serious injury or death when the forks are in a raised position.



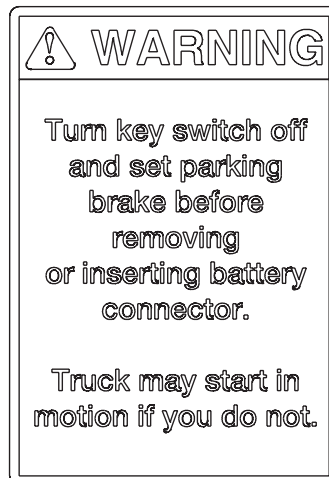
### Upright Safety

The upright safety decal warns of the risk of serious injury when placing body parts between the moving components of the upright.



### Parking Safety

The parking safety decal warns that the parking brake must be engaged and the key switch turned OFF, before connecting or disconnecting the battery.



# Section 4. Operating the Display

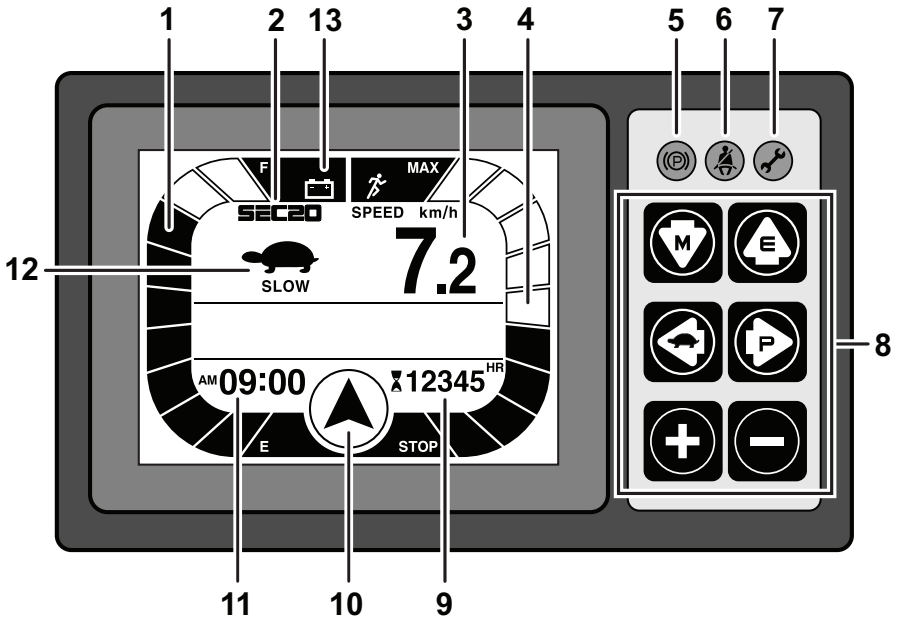
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## Contents

Overview.....	48
Icons and Indicators.....	50
Menu .....	54

# Overview

## Dash Display



- |    |                         |     |                  |
|----|-------------------------|-----|------------------|
| 1. | Battery Level           | 7.  | Fault Indicator  |
| 2. | Model                   | 8.  | Menu Buttons     |
| 3. | Travel Speed            | 9.  | Hour Meter       |
| 4. | Speedometer             | 10. | Travel Direction |
| 5. | Parking Brake Indicator | 11. | Clock            |
| 6. | Seat Indicator          | 12. | Performance Mode |
|    |                         | 13. | Battery Type     |



## Menu Buttons

**MENU  
(DOWN)  
Button**



Press the MENU button to enter Menu Mode.

When Menu Mode, press the MENU button to return to the previous screen.

**ENTER  
(UP)  
Button**



Press the ENTER button to enter a menu.

When in Menu Mode, press the ENTER button to enter a menu or save a value.

**LOW SPEED  
(LEFT)  
Button**



Press the LOW SPEED button to enable or disable low speed (turtle) mode.

When in Menu Mode, press the LEFT button to select a menu or value.

**MODE  
(RIGHT)  
Button**



Press the MODE button to change the performance mode.

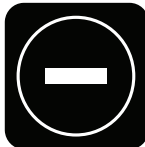
When in Menu Mode, press the DOWN button to select a menu or value.

**PLUS  
Button**



When in a menu, press the PLUS button to increase a value.

**MINUS  
Button**



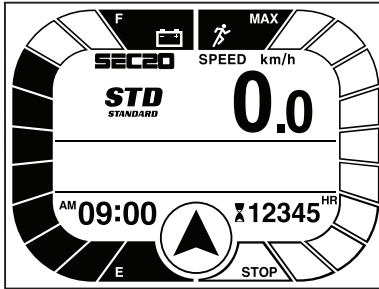
When in a menu, press the MINUS button to decrease a value.

If a controller alarm occurs, press this button to hide the alarm window.

# Icons and Indicators

## Main Screen Function

Standard



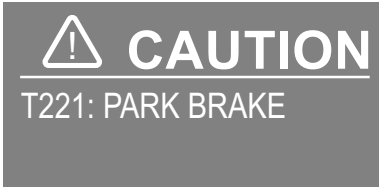
When traveling or stopped, the following information is shown: travel speed, time, operating hours, lift truck model, battery level, travel direction, and current performance mode.

Optional  
(Load Weight)



When stopped, or when not operating a hydraulic function, the load weight is shown when the ENTER (UP) button is pressed.

Controller  
Alarm



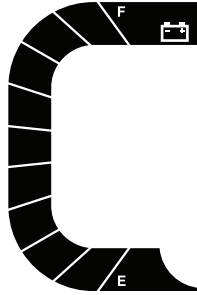
When a controller alarm occurs, the alarm code and name are shown in a new window.

### IMPORTANT!

If a controller service alarm occurs continuously, stop operation of the lift truck and contact your CLARK dealer for assistance.

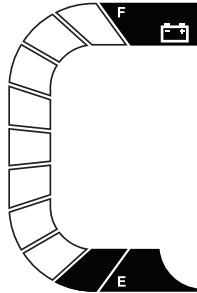
Icons

**Battery Level  
(NORMAL)**



The battery level icon shows the remaining battery charge. Each increment on the icon is equal to 10% of total battery charge. The battery charge level is considered NORMAL when it is greater than 20%.

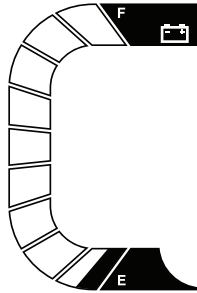
**Battery Level  
(LOW BATTERY)**



When the battery charge level reaches 20% or less, then a LOW BATTERY warning message will appear on the display.

Depending upon specific lift truck settings, travel and/or hydraulic cutbacks may be applied.

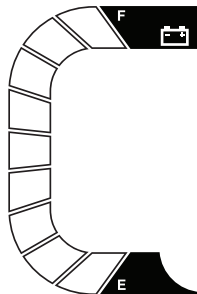
**Battery Level  
(CHARGE SOON)**



When the battery charge level reaches 15% or less, then a CHARGE SOON warning message will appear on the display.

Depending upon specific lift truck settings, travel and/or hydraulic cutbacks may be applied.

**Battery Level  
(CHARGE NOW)**



When the battery charge level reaches 10% or less, an alarm will sound and a CHARGE NOW warning message will appear on the display.

The lift interrupt feature will automatically reduce the maximum travel speed and disable hydraulic lift function.

## Icons

Clock

AM  
**09:00**

This clock icon shows the current time.

Speedometer

km/h  
**15.9**

The speedometer icon shows the lift truck's travel speed.

Load Weight  
(If Equipped)

**2345 kg**

The load weight icon displays the weight of the current load.

Hour Meter

 **12345** HR

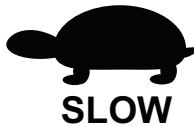
The hour meter icon shows the total operating hours of the lift truck.

Travel Direction



The travel direction icon shows if the directional switch is in the forward (F) or reverse (R) position.

Low Speed Mode



The low speed (turtle) icon is displayed when the lift truck is in low speed mode and operating with reduced travel speeds.

Performance Mode



The performance mode icon shows the lift truck's current operating mode.

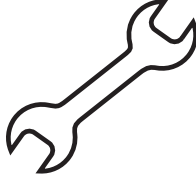
Indicators

**Parking Brake**



The parking brake indicator is illuminated when the parking brake is engaged.

**Fault**



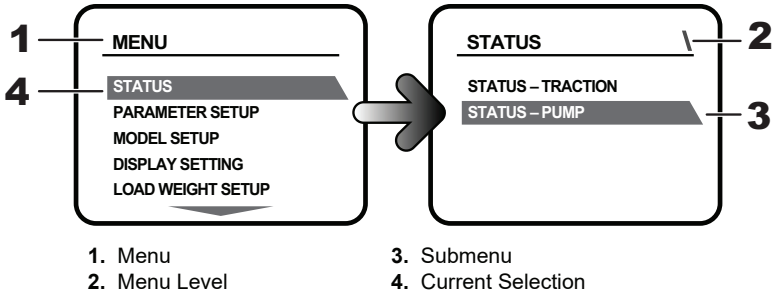
The fault indicator is illuminated if a controller alarm has occurred.

**Seat Switch**



The seat switch indicator is illuminated when the lift truck is illuminated when the lift truck is ON and the operator is improperly sitting in the seat.

# Menu



## Description

Menu mode allows the lift truck operator to view various controller readings in real time using the STATUS submenu. The remaining submenus are accessed using the service password and are intended for technician use only. If the service password is required, then refer to the Service Manual or contact the CLARK Service Department for assistance.

### Menu Descriptions

- STATUS-TRACTION: this submenu enables the operator or technician to view various traction controller readings in real time.
- STATUS-PUMP: this submenu enables the operator or technician to view various pump controller readings in real time.
- PARAMETER SETUP: this submenu allows the technician to adjust travel, braking, and hydraulic function speeds. The lift truck must be in CUSTOM mode for these settings to apply, refer to the Service Manual for additional information.
- MODEL SETUP: this submenu allows the technician to adjust the model shown on the display.
- DISPLAY SETTING: this submenu allows the technician to adjust the displayed units, displayed language, clock, speed limit alarm, and view the display software version.
- LOAD WEIGHT SETUP: this submenu allows the technician to enable or disable the load weight system, and view the actual load weight (if equipped).
- ERROR HISTORY: this submenu allows the technician to view and clear controller alarms.
- PASSWORD: this submenu allows the technician to disable (lock) the lift truck for service and adjust the service password.

### How to Enter Menu Mode

1. Press the MENU button.
2. Select the desired submenu using the LEFT and RIGHT buttons.
3. Press the ENTER button.
4. If required, enter the service password and then press the ENTER button.



### NOTE

For additional information regarding the display menu, refer to the Service Manual.

Menu		
Level	Name	Description
<b>1</b>	<b>STATUS-TRACTION</b>	
1.1	BATT. VOLT.	Battery voltage level.
1.2	BATT. CHARGE	Battery charge level.
1.3	MOTOR VOLT.	Traction motor voltage.
1.4	FREQUENCY	Traction motor frequency.
1.5	MEASURED SPEED	Traction motor speed.
1.6	CURRENT RMS	Traction motor current.
1.7	CONTROL TEMP.	Traction controller temperature.
1.8	MOTOR TEMP.	Traction motor temperature.
1.9	A6-SEAT SWITCH	Seat switch open status.
1.10	A4-FWD SWITCH	Directional switch in forward position.
1.11	A5-RVS SWITCH	Directional switch in reverse position.
1.12	A11-BRAKE PDL SW	Service brake switch status.
1.13	A3-ACCEL SIG 1	Accelerator pedal sensor signal 1 voltage.
1.14	A10-ACCEL SIG 2	Accelerator pedal sensor signal 2 voltage.
1.15	A13-PARK BRK SW	Parking brake switch open status.
1.16	A18 - PBR-EM BRK	Electromagnetic parking brake status.
<b>2</b>	<b>STATUS-PUMP</b>	
2.1	MOTOR VOLT.	Pump motor voltage.
2.2	FREQUENCY	Pump motor frequency.
2.3	MEASURED SPEED	Pump motor speed.
2.4	CURRENT RMS	Pump motor current.
2.5	CONTROL TEMP.	Pump controller temperature.
2.6	MOTOR TEMP.	Pump motor temperature.
2.7	A4-LIFT SWITCH	Lift switch status.
2.8	B13-TILT SWITCH	Tilt switch status.
2.9	B6-AUX1 SWITCH	Auxiliary 1 switch status.
2.10	A5-AUX2 SWITCH	Auxiliary 2 switch status.
2.11	A3-LIFT POT.	Lift/lower sensor voltage.
2.12	A10-TILT SENSOR	Fork leveling sensor voltage.
2.13	A11-FORK LVL PB	Fork leveling push button switch status.

Menu		
Level	Name	Description
2.14	B5-AUX3 CLL PB	Clamp lever lock push button switch status.
2.15	SEAT FROM TRAC.	Speed limit switch status.
2.16	B11-MAST SWITCH	High mast switch status.
2.17	B3-PRESS. SENSOR	Load weight sensor voltage.
2.18	B4-SEAT BELT SW	Seat belt switch status.
2.19	A13-ESQ LIMIT SW	Lift limit switch status.
2.20	B16-MOT. FAN RLY	Pump motor fan status.
2.21	B9-CONTR FAN RLY	Pump controller and traction controller fan status.
2.22	A16-ACC. SIG 1	Reverse travel accessory status.
2.23	A18-ACC. SIG 2	Forward travel accessory status.
2.24	A19-ISO LWR VAL.	Hydraulic ISO valve status.
2.25	B17-AUX3 CLL VAL	Clamp lever lock control valve status.
<b>3</b>	<b>PARAMETER SETUP</b>	
3.1	TRACTION PARAMETER	
3.1.1	ACCEL. DELAY*	Adjust acceleration ramp of traction motor.
3.1.2	RELEASE BRAKING*	Adjust deceleration ramp of traction motor when coasting (accelerator pedal released during travel).
3.1.3	INVERSION BRAKING*	Adjust deceleration ramp of traction motor when directional switch toggled during travel (plugging).
3.1.4	DECEL. BRAKING*	Adjust deceleration ramp of traction motor when accelerator pedal partially released during travel.
3.1.5	PEDAL BRAKING*	Adjust deceleration ramp of traction motor when brake pedal is pressed during travel.
3.1.6	MAX SPEED FORW*	Adjust maximum forward travel speed.
3.1.7	MAX SPEED BACK*	Adjust maximum reverse travel speed.
3.1.8	TRUCK LOCK	Enable or disable the truck lock feature.
3.2	PUMP PARAMETER	
3.2.1	MAX SPEED LIFT LOW*	Adjust maximum lift speed (low mast).
3.2.2	TILT SPEED LOW*	Adjust tilt speed (low mast).
3.2.3	AUX1 SPEED LOW*	Adjust 1st auxiliary function speed (low mast).
3.2.4	AUX2 SPEED LOW*	Adjust 2nd auxiliary function speed (low mast).

\*Lift truck must be in CUSTOM mode. Refer to Service Manual.



Menu		
Level	Name	Description
3.2.5	LOWER ADDER	Adjust lower adder value.
3.3	DISPLAY PARAMETER	
3.3.1	TURTLE BUTTON	Enable or disable the low speed (turtle) button.
3.3.2	PERFORMANCE BUTTON	Enable or disable the performance mode button.
<b>4</b>	<b>MODEL SETUP</b>	
4.1	EPX FL	
4.2	SEC20/35	
4.2.1	SEC20	
4.2.2	SEC25	
4.2.3	SEC30	
4.2.4	SEC32	
4.2.5	SEC35	
4.2.6	SEC20 Li	
4.2.7	SEC25 Li	
4.2.8	SEC30 Li	
4.2.9	SEC32 Li	
4.2.10	SEC35 Li	
4.3 - 4.8	CRX FL, GTX, GEX, OSX, CRX, SRX	
<b>5</b>	<b>DISPLAY SETTING</b>	
5.1	SPEED UNIT	Adjust the speedometer units.
5.2	LANGUAGE	Adjust the display language.
5.3	TIME SETUP	
5.3.1	12/24	Adjust the clock type (12-hour or 24-hour).
5.3.2	HOUR	Adjust the hour.
5.3.3	MINUTE	Adjust the minute.
5.3.4	AM/PM	Adjust AM or PM.
5.4	SOFTWARE VERSION	View the software version of the display.
5.5	SPEED ALARM SETUP	
5.5.1	SPEED ALARM	Enable or disable the speed alarm feature.
5.5.2	ALARM SPEED SET	Adjust the speed when the speed alarm occurs.

Menu		
Level	Name	Description
5.6	CLARK LOGO	Enable or disable the logo at startup.
<b>6</b>	<b>LOAD WEIGHT SETUP</b>	
6.1	LOAD WEIGHT	View the current weight of the load.
6.2	SET REF. WEIGHT	Adjust the reference load weight.
6.3	UNLOADED-1ST	Adjust the base point weight when in free lift.
6.4	UNLOADED-2ND	Adjust the base point weight when above free lift.
6.5	LOADED-1ST STAGE	Adjust the weight correction when in free lift.
6.6	LOADED-2ND STAGE	Adjust the weight correction when above free lift.
6.7	LOAD OPTION	Enable or disable the load weight feature.
<b>7</b>	<b>ERROR HISTORY</b>	
7.1	TRACTION ERROR	
7.1.1	ERROR 1	View traction controller alarm #1.
7.1.2	ERROR 2	View traction controller alarm #2.
7.1.3	ERROR 3	View traction controller alarm #3.
7.1.4	ERROR 4	View traction controller alarm #4.
7.1.5	ERROR 5	View traction controller alarm #5.
7.1.6	ERROR RESET	Clear all traction controller error(s).
7.2	PUMP ERROR	
7.2.1	ERROR 1	View pump controller alarm #1.
7.2.2	ERROR 2	View pump controller alarm #2.
7.2.3	ERROR 3	View pump controller alarm #3.
7.2.4	ERROR 4	View pump controller alarm #4.
7.2.5	ERROR 5	View pump controller alarm #5.
7.2.6	ERROR RESET	Clear all pump controller error(s).
<b>8</b>	<b>PASSWORD</b>	
8.1	PASSWORD LOCK	Enable or disable the password enable feature.
8.2	PASSWORD CHANGE	Adjust the dash display password.

# Section 5. Operating Your Lift Truck

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# Before Operating the Lift Truck

## **IMPORTANT!**

Read the Operator's Manual before operating the lift truck.



## **WARNING**

- Safe operation is always the responsibility of the operator!
- The operator must be trained and authorized to operate this lift truck.
- Only operate the lift truck in a safe and controlled manner. Improper use of a lift truck is dangerous and can cause injury or death to the operator or nearby personnel.
- Do not operate the lift truck without an overhead guard. Do not remove the overhead guard unless specifically authorized.
- Always inspect the lift truck before starting your shift. Make sure all controls and systems operate correctly and as intended from the manufacturer.
- Do not attempt to start or operate the lift truck from outside of the operator's position. Always sit in the seat with the seat belt correctly latched before operating the lift truck.
- The overhead guard is intended to protect the operator from falling objects but it cannot protect against every possible situation. Always use safe judgment and extra care when handling loads.

## **Starting From a Safe Condition**

Before operating the lift truck, do the following:

1. **Read and understand the Operator's Manual.**
2. **Perform the required Daily Inspection.**
3. **Check that the upright is fully lowered to the ground.**
4. **Check that all lift truck controls are in neutral.**
5. **Enter the operator's station and sit in the seat.**
6. **Adjust the seat and the steering column.**
7. **Use the seat belt, ensuring it is correctly latched.**
8. **Put the directional control into neutral.**
9. **Turn the keyswitch to the ON position.**
10. **Check that the parking brake is engaged.**

## Safe Operation

### Look where you are going...

Check that your intended path of travel is clear of obstacles and pedestrians. Watch for other personnel, lift trucks, and any other obstructions in your path of travel and work area. Do not rely on your lift trucks warning lights or alarms to alert others while operating your lift truck. Do not allow personnel to walk under raised forks. Use the horn at intersections and wherever your view is obstructed.

### Protect yourself and those around you...

Do not operate the lift truck or its attachments from outside the operator's position. Keep arms, legs, and hands inside the operator's compartment when operating the lift truck. Do not reach or place hands, arms, legs or head into the upright when operating the lift truck. Do not use the upright as a ladder. Do not allow personnel to be near the upright when operating the lift truck.

### Do not allow riders...

Do not use the lift truck to carry other personnel. The operator is the only person allowed on the lift truck.

### Always have control of your lift truck...

Do not operate a lift truck if your hands or feet are wet or greasy. Avoid bumps, holes, slick spots, and debris in your path that may cause the lift truck to lose traction or tipover. If unavoidable, slow down and carefully drive past them. Always reduce speed when traveling on wet or slick areas. Avoid sudden movements when operating the lift truck. Start, stop, travel, steer, and brake in a smooth and controlled way. Operate your lift truck at a speed that allows for safe, controlled stopping. Do not raise the load except when stacking. Always travel slowly while turning, especially when unloaded.

### Grades, ramps, and inclines...

Use care when operating on ramps, inclines, and uneven areas. Always travel straight up and down slowly when on a sloped surface. Do not attempt to turn or drive at an angle when on sloped surface. When operating a loaded lift truck, always travel with the forks pointed upgrade. When operating an unloaded lift truck, always travel with the forks pointed downgrade.

### Practice safe operation every time...

It is your responsibility to safely operate your lift truck. Do not perform stunt driving or horseplay. Observe your work areas traffic rules. Always be in control of your lift truck. Read and understand the information in this Operator's Manual. Stay alert and look for warning icons and indicators that may appear on the display. If an error message appears, immediately stop operating the lift truck. Report the issue to your supervisor or lift truck technician. Do not operate a lift truck that is faulty or is in need of repair.



#### WARNING

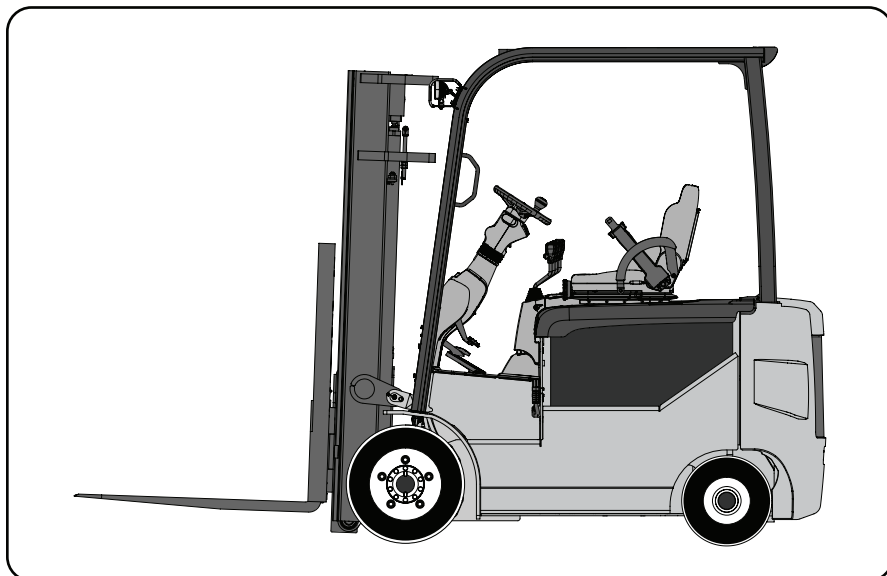
Only operate in work areas that have been approved for your lift truck type. Always check the classification of the work area in which you intend to operate. The type designation for the lift truck is shown on the data and capacity plate.

# Forks and Upright

## Positioning the Forks for Traveling

When traveling with or without a load, it is recommended to have the forks raised slightly and the upright tilted back. This helps prevent the fork tips from catching on the ground or debris while traveling. It also helps to reduce the amount of fork wear.

1. Raise the forks approximately 150-200 mm (6-8 in) above the floor.
2. Tilt the upright back slightly to raise the fork tips.



### **WARNING**

Do not travel with a raised upright to avoid possible tipover.

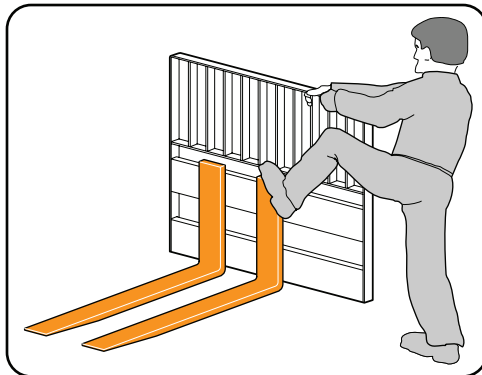
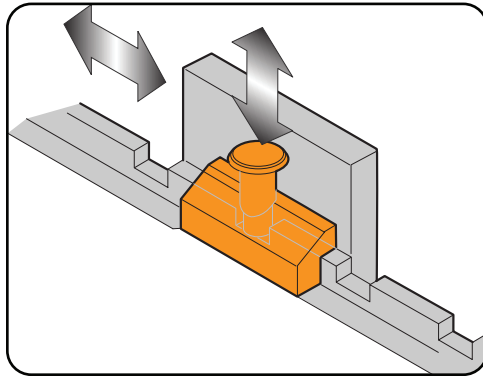
### **NOTE**

The most common conditions that affect lift truck stability are: surface condition, grade, travel speed, load weight, and load size. Lift trucks equipped with optional attachments may have the operating stability of a partially loaded lift truck, even when unloaded.

## Adjusting the Forks

The forks are adjustable on the carriage. When carrying a load, the forks should be spaced as far apart as possible. Position each fork an equal distance from the center of the carriage.

1. Raise the carriage so that the forks do not contact the ground.
2. Tilt the upright fully forward.
3. Release the fork locking pin.
4. Slide the fork to the desired position using your foot (as shown below).
5. Secure the fork using the locking pin.
6. Repeat the procedure for the other fork.



### WARNING

Forks are heavy and can cause a crushing injury. Use care when adjusting the forks.

# Load Handling

## Overview

- Always handle loads that are at or below the lift truck's rated capacity. The rated capacity can be found on the lift truck's data plate. This rating specifies the maximum load that should be lifted. However, other factors such as using a special attachment, handling loads with a high center of gravity, or traveling over uneven surfaces may reduce the safe working load to be less than the rated capacity. Under these conditions, the operator must reduce the load carried so that the lift truck remains stable and safe to operate.
- Do not handle loads that are loose, unevenly stacked, or unstable that can easily shift and fall. Only handle stable loads or loads that are safely secured. Always stack and band loose loads. Center the load on the forks. Do not lift a load that may fall.
- Do not handle loads that are taller than the fork carriage unless the load is properly secured to prevent it from sliding back or falling. Always keep the back of the load against the carriage.
- If a load is placed on the end of the forks, it lowers the lift truck's stability. Always lift and lower the load with the upright either tilted slightly tilted back or vertical. Do not tilt the upright forward when the load is raised, except to pick up or drop off a load over a rack or stack.
- The lift truck is designed to handle loads positioned forward of the front wheels so that the weight of the load is counterbalanced by the weight of the lift truck.
- The farther the center of gravity of the load is from the lift truck's load center, the greater the leverage and the more force will attempt to lift the rear of the lift truck. Always position the load as close to the front wheels as possible and back against the carriage.
- If the lifting chains become slack, this may indicate there is upright or carriage hang up.

## Picking Up and Moving Loads

- When picking up a load, approach the load slowly and align the lift truck square with the load. The forks should be adjusted to fit the load or pallet being handled and spaced as wide as possible to provide the best stability and balance. Before lifting, make sure the load is centered and the forks are fully supporting the load. The fork length should be at least two-thirds the length of the load. Use the lift and the tilt controls to adjust the forks to the correct height and angle to easily engage the load pallet. Move forward until the forks are square and completely under the load.
- If the forks are longer than the load, move back until they no longer extend beyond the load. Raise the load high enough to clear the floor. Move back slowly, enough to clear any obstacles, and set the load down. Move forward until the load is squarely positioned against the load backrest or carriage.
- Raise the load from the floor or stack by tilting the upright back just enough to lift the load from the surface. When stacking or tiering, only use enough backward tilt to stabilize the load.
- Raise or lower the load to traveling height and tilt the upright fully back to travel, except for loads that must be transported as level as possible.
- Make sure the forks do not extend past the load.

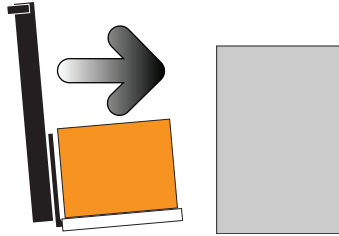


### Traveling with a Load

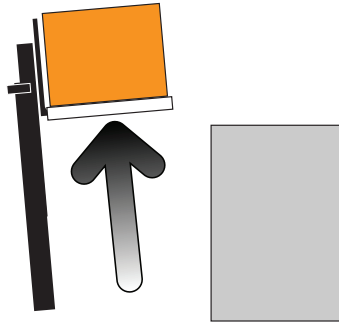
- Always travel with the load as low as possible and the upright tilted back. Do not travel with a raised load. Do not attempt to raise the load except when stopped or stacking.
- Know and follow all traffic rules and regulations for your work area. Look and be aware of other vehicles, personnel, and other obstacles. Always look in the direction of travel and ensure a clear view of your intended path of travel. If a load blocks your visibility, travel in reverse with the load trailing, except when traveling up a slope or incline.
- Avoid sudden movements when carrying a load. Always slow down when turning. During normal operation, always start, stop, travel, steer, and brake smoothly. Operate the hydraulic controls slowly and smoothly.
- Avoid traveling over bumps, holes, and loose materials or debris to prevent loss of control or damage to the lift truck. Always slow down and cross at an angle when traveling over railroad tracks.
- Be careful when traveling with long, high, or wide loads. Look and be aware of the clearances around the lift truck and the load when traveling. Raise the forks or attachment only high enough to pick or stack the load. Look for and avoid obstructions, especially ones that are overhead.
- Know that exaggerated tail swing occurs when turning while traveling forward. This is characteristic of all lift trucks that are steered by the rear wheels. Always check the tail swing area of the counterweight to be sure it is clear before attempting to turn.
- Be aware about the current stability condition of your lift truck. When special attachments are used, additional care should be used when securing, manipulating, positioning, and transporting a load. Special lift truck attachments add weight and complexity to the lift truck, make sure to operate a lift truck equipped with an attachment as partially loaded when not handling a load.

## Stacking a Load

**Step 1** Drive forward slowly while aligning the load squarely with the stack

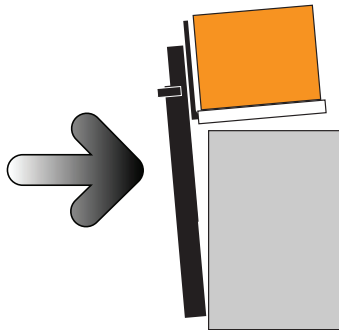


**Step 2** Raise the load as the lift truck approaches the stack.



Drive forward slowly until the load is almost touching the stack.

**Step 3** The leading edge and sides of the load pallet should be lined up with the near edge and side of the load or rack on which you are stacking.



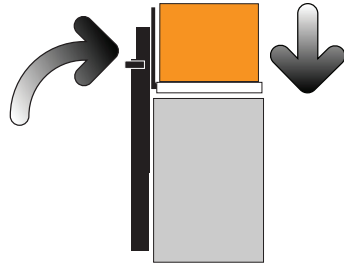
## Stacking a Load

### Step 4

Stop close to the stack and raise the load high enough to clear the top surface of the stack.

Position the load slowly so that it aligns with the load or rack beneath it. Use care not to move or damage nearby loads.

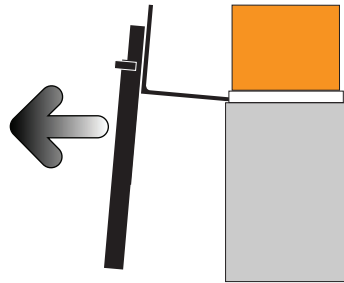
Once aligned, tilt the upright to the vertical position and carefully lower the load until fully supported on top of the stack.



### Step 5

Lower the forks slightly to disengage the load pallet.

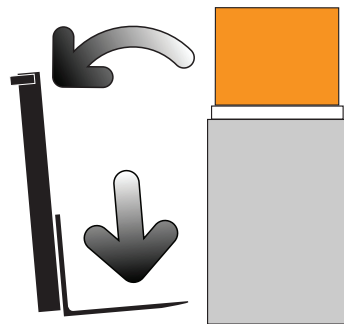
Tilt the forks slightly forward, if needed, to clear the pallet.



### Step 6

Check for nearby personnel and obstructions, then carefully move backward until the forks are clear of the stack.

Stop and lower the forks to the travel position and then tilt the upright fully back.



## Unstacking a Load

1. Slowly approach the stack with the lift truck lined up squarely with the load.
2. When near the stack, tilt the upright to the vertical position.
3. Raise the forks high enough to freely engage the load pallet. Adjust fork angle as necessary to position the forks squarely under the load.
4. Move forward until the forks are under the load. Make sure that the forks do not extend beyond the load. If the forks are longer than the load, move backward until the fork tips do not extend beyond the load.
5. Raise the load enough to clear the top surface of the stack. Move backward slightly and then set the load down. Move forward until the front face of the forks contacts the load.
6. Tilt the upright back slightly until the load is raised high enough to clear the stack or, with the upright in the vertical position, raise the forks until the load is raised high enough to clear the stack. Tilt the upright back just enough to stabilize the load.
7. Check for nearby personnel and obstructions, then carefully move backward until clear of the stack.
8. Stop and lower the load to the travel position and then tilt the upright back. Make sure the load is fully back against the carriage or front face of the forks. Some loads may have to be transported as level as possible.

## Dropping Off a Load

1. Move the load into the correction position.
2. Tilt the upright to the vertical position.
3. Fully lower the load.
4. As needed, adjust the fork height and tilt the upright forward slightly to easily remove the forks from the load pallet.
5. Carefully move backward until the forks are clear from the load.
6. Raise the forks to the travel position and tilt the upright fully back.

# Braking

## Normal Braking

The service braking system for the lift truck is both mechanically and electronically controlled. When the brake pedal is depressed while traveling, the drive motor torque direction is reversed and the lift truck slows down. The service drum brakes are also engaged and slow the rotation of the front drive wheels.

## Stopping the Lift Truck

Push down firmly on the brake pedal until the lift truck comes to a stop. The farther the brake pedal is depressed the quicker the lift truck will slow down and come to a stop.



### WARNING

Always stop the lift truck using smooth, controlled braking. Excessively hard braking can cause wheel sliding and loss of control, which can lead to a tipover or accident.

## Plugging

The lift truck can change direction, without braking, by plugging. Plugging is the preferred and recommended method of braking the lift truck and changing direction quickly. While traveling forward or backward, move the directional control lever to the opposite direction while keeping the accelerator pedal depressed. The lift truck will slow to a controlled stop and then begin to accelerate in the opposite direction.

The plugging distance is controlled using the accelerator pedal. The farther the accelerator is depressed, the shorter the distance will be until the lift truck changes direction. The shortest plugging distance occurs when the accelerator pedal is fully depressed.

## Release Braking

When the accelerator pedal is released while traveling, the drive motor torque direction is reversed, and the lift truck will come to a controlled stop.

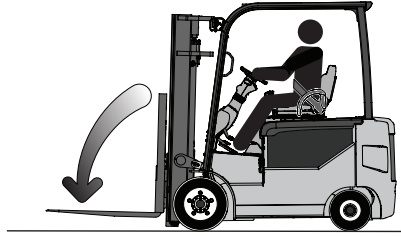
# Parking

## Parking the Lift Truck

### Step 1

Stop the lift truck and put the directional control in neutral.

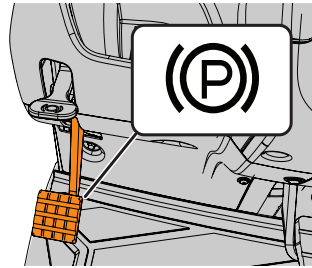
Lower the upright to the ground, and then tilt the upright fully forward.



### Step 2

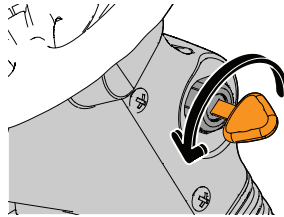
Press down on the parking brake pedal until fully depressed.

The icon on the dash display will illuminate when the parking brake is engaged.



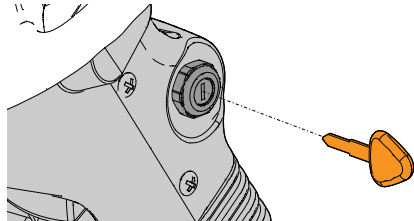
### Step 3

Turn the key switch OFF.



### Step 4

If leaving the lift truck for an extended period, remove the key and block the wheels.



## WARNING

- Park away from high traffic areas.
- Do not block emergency exits or routes, stairways, or equipment.
- Do not park on a ramp or grade.

# Section 6. Maintaining Your Lift Truck

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### **WARNING**

The following information is intended as a reference when determining your lift truck's specific planned maintenance (PM) schedule. For complete maintenance and service information, refer to the service manual or your CLARK dealer.

# Safe Maintenance

The following instructions have been prepared using current industry and government safety standards applicable to industrial lift truck operation and maintenance. They are listed here for the reference and safety of all workers during inspection and maintenance operations. If you have any questions regarding the correct inspection or maintenance procedures for your lift truck, please contact your CLARK dealer.

1. Lift trucks can become hazardous if maintenance is neglected. Therefore, suitable maintenance facilities, trained personnel, and procedures shall be provided.
2. Maintenance and inspection of all lift trucks shall conform with the manufacturer's recommendations.
3. A scheduled planned maintenance, lubrication, and inspection system shall be followed.
4. Properly ventilate all work areas and keep floor clean and dry.
5. Do have fire protection equipment present in the work area. Do not use an open flame to check the battery's electrolyte level. Do not use open pans of fuel or flammable cleaning fluids when cleaning parts.
6. Operation of the lift truck to check performance must be conducted in an authorized, safe, and clear area.
7. **Before Starting Maintenance or Repair:**
  - Fully lower the upright and relieve the hydraulic pressure before working on the hydraulic system.
  - Disconnect the battery before working on the electrical system.
  - Raise and support the lift truck using an appropriate lifting device.
  - Install appropriate supports prior to beginning work.
8. **Before Driving the Lift Truck:**
  - Connect the battery connector.
  - Insert the key and turn the keyswitch to the on position.
  - Check that the path of travel is clear.
  - Check the function of the directional controls and the emergency disconnect switch.
  - Check the service and emergency brake functions.
9. **Before Leaving the Lift Truck:**
  - Park the lift truck in a designated area.
  - Fully lower the upright to the ground.
  - Turn the keyswitch off and remove the key.
  - Disconnect the battery connector.
10. All brakes, steering mechanisms, control mechanisms, warning devices, lights, guards and safety devices, lift mechanisms, and frame members must be carefully and regularly inspected and maintained to a safe operating condition.
11. Specialized lift trucks or devices designed and approved for hazardous area operation must receive special attention to ensure that maintenance preserves the original, approved safe operating features.
12. The hydraulic system must be regularly inspected and maintained to ensure that excessive leakage (drift) has not developed to the extent that it creates a hazard.
13. All batteries, motors, controllers, switches, protective devices, electrical conductors, and connections must be inspected and maintained.
14. Refer to the OEM manufacturer's (CLARK) procedures for replacing battery connections to avoid injury or damage to the equipment.
15. Lift trucks must be kept clean to minimize the risk of fire and to aid in the detection of damaged or defective parts.
16. Always use replacement parts and fluids that are of a quality at least equal to that of the Original Equipment Manufacturer (OEM).





# Daily Inspection

Daily Inspection Overview	Every 8-10 Hours (Daily)	OK	NA	Explanation
<b>CHECK</b>				
Obvious damage	•			
Fluid leaks	•			
Drive and steer tires	•			
Capacity plate and warning decals	•			
Load backrest and attachment	•			
Upright and lift chains	•			
Overhead guard	•			
Battery cables and connections	•			
Ground strap chain	•			
Seat and hip restraint condition	•			
Seat belt operation	•			
Seat switch operation	•			
Dash display operation	•			
Error messages or alarms	•			
Horn and light operation	•			
Hydraulic operation	•			
Speed control operation	•			
Steering control operation	•			
Service brake operation	•			
Parking brake operation	•			



## WARNING

OSHA requires the operator to inspect the lift truck before beginning each shift to ensure a safe operating condition.

## Visual and Operational Inspections

### Lift Truck Exterior

- Check for obvious damage, fluid leaks, or other maintenance issues.
- Check that all safety, capacity, and warning plates and decals are attached and legible.

### Wheels and Tires

- Check the condition of the tires and tread.
- Check the wheel lug nuts.

### Load Backrest and Forks

- Check for excessive wear and damaged or missing parts.
- Check for cracks and bent parts.
- Check that the fork tips are level.

### Upright and Lift Chains

- Check the lift chains for excessive stretch and wear, broken links, misaligned pins, and corrosion.
- Check the lift chains for proper lubrication and correct adjustment (equally tensioned).
- Check the upright rails for excessive wear (metal flaking).
- Check the rollers for excessive wear and proper lubrication.
- Check for hydraulic fluid leaks and loose hoses and fittings.

### Overhead Guard

- Check for damage to the overhead guard.
- Check that the overhead guard is securely attached to the frame.
- Check that the overhead guard has not been modified.

### Battery and Cables

- Check the battery for damage and leaks.
- Check the battery receptacle, cables, and terminals.
- Check that the ground strap chain is installed and touching the floor.

### Seat Belt and Seat Switch

- Check for any obvious damage.
- Check that the seat belt functions and latches correctly.
- Check that truck does not operate if the operator is not in the seat.

### Dash Display and Errors

- Check that the dash display boots when the lift truck is turned on.
- Check for any controller alarms (errors).

### Horn and Lights

- Check the horn.
- Check that the work lights (if equipped) work correctly.
- Check that the warning lights (if equipped) work correctly.

### Hydraulics

- Check the lift, lower, tilt, and auxiliary (if equipped) hydraulic functions.
- Check for hydraulic pump cavitation when the upright is fully raised.
- Check for binding or rough operation of the upright (racking).

### Steering and Speed Control

- Check that the directional control changes the lift truck direction properly.
- Check that the steering is smooth and allows for a full range of motion.
- Check that the lift truck accelerates smoothly and with no unusual noises.

### Service and Parking Brake

- Check that the service brake works properly.
- Check that the parking brake works properly.

# Cleaning

## Cleaning Rules

Always maintain a clean lift truck. Do not allow debris or contaminants to accumulate on the lift truck. Clean any excess or leaking grease and oil before operating the lift truck. Before attempting to clean the lift truck, make sure to prevent shorting (arcing) of the electric circuits.

Your specific operating environment determines the amount and extent of cleaning required for your lift truck. For severe truck applications, frequent cleaning is required to allow for safe and optimal lift truck operation.

- Disconnect the battery before cleaning the lift truck.
- Use clean, dry low-pressure air and non-conductive, anti-static brushes to clean electrical components.
- Do not use pressurized water to clean the lift truck.
- Do not use flammable solvents to clean the lift truck.
- Clean the lift truck at least every PM interval.
- After cleaning, check all lift truck functions operating and returning to service.



### CAUTION

Per OSHA, when using compressed air to clean the lift truck, air pressure must **not** be greater than 207 kPa (30 psi).



### WARNING

Always wear appropriate eye protection when cleaning.

## Planned Maintenance

### Operating Conditions

Planned maintenance intervals are mostly influenced by operating conditions. The service intervals specified in this Operator's Manual are for normal operation only. For severe or extreme operation, the maintenance interval should be shortened to ensure optimal lift truck performance and reliability. Contact your authorized CLARK dealer if you have questions regarding the recommended service intervals for your specific lift truck application.

#### Normal Operation:

Standard 8 to 10 hour material handling operation in a clean, indoor location with smooth and level floors.

#### Severe Operation:

Extended operating hours, continuous operation, or routine capacity loads.

#### Extreme Operation:

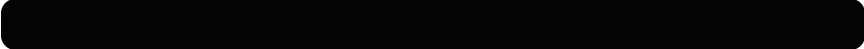
High or low temperatures, sudden temperature changes, outdoor use on rough and uneven floors, or dirty environmental conditions.

#### NOTE

The maintenance intervals described in this Operator's Manual are for lift trucks that operate for a standard 8-10 hour shift in normal operating conditions.

#### NOTE

- Inspect your lift truck before each shift.
- Fill out a daily inspection sheet. Retain for your records.
- Report any issues to your supervisor or service technician.
- Do not operate your lift truck until any issues have been corrected.



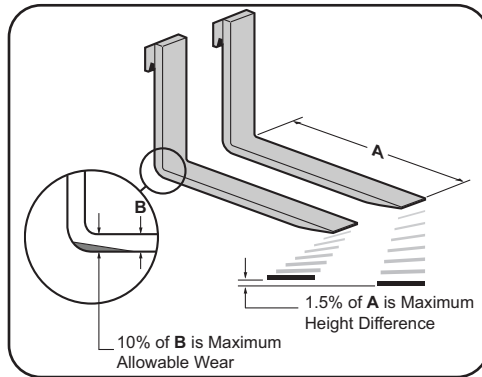
<b>PM Service Intervals</b>	Every 450-500 Hours (6 Months)	Every 900-1000 Hours (12 Months)	Every 2000 Hours (Yearly)
<b>CHECK</b>			
Wheel fastener torque	■		
Drive axle fluid level	■		
Hydraulic fluid level	■		
Brake fluid level	■		
Battery electrolyte level	■		
Drive and pump motors	■		
Lift chain stretch and wear	■		
Critical fastener torques	■		
Service brake linings		■	
<b>CLEAN</b>			
Drive and pump motors	■		
Traction and pump controllers	■		
Battery vents and terminals	■		
Drive axle breather	■		
Hydraulic tank breather	■		
Hydraulic control linkage	■		
<b>LUBRICATE</b>			
Lift chains	■		
Upright / carriage rails and rollers	■		
Upright trunnions	■		
Tilt cylinder pins	■		
Steer axle wheel bearings			■
<b>TEST</b>			
Battery load voltage	■		
Tilt and lift cylinder drift	■		
Main and auxiliary relief pressures			■
Parking brake			■
<b>REPLACE</b>			
Drive axle fluid			■
Hydraulic tank breather		■	
Hydraulic tank fluid and filter			■

## Forks and Lift Chain

### Fork Inspection

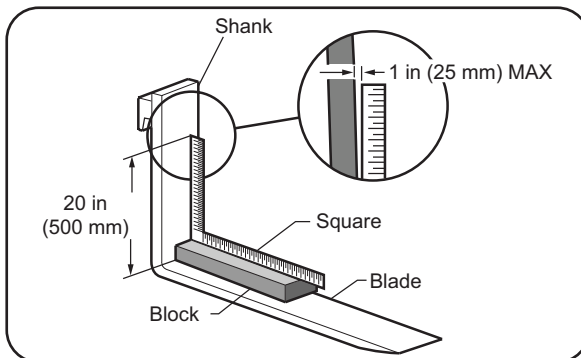
#### Inspect the forks for bending and wear:

- The top surfaces of the forks should be level with each other.
- If the height difference between the fork tips is greater than 1.5% of the blade length (**A**), then the forks must be replaced.
- If the fork heel is worn by more than 10% of the thickness (**B**) of the fork blade, then the forks must be replaced. The load capacity of the forks is reduced when the forks are excessively worn.



#### Inspect the forks for twists and bends:

- Position a 50 mm (2 in) thick block, at least 100 mm (4 in) wide and 600 mm (24 in) long, on the blade of the fork with the 100 mm (4 in) surface against the blade.
- Position a 600 mm (24 in) square on the top of the block and against the shank.
- Check the fork gap at 500 mm (20 in) above the blade. If the gap distance is greater than 25 mm (1 in), then the forks must be replaced.



### **WARNING**

Do not operate a lift truck with bent, damaged, or worn forks.

## Lift Chain Inspection and Lubrication

During normal operation, inspect and lubricate the lift chains every 450 to 500 hours. If operating in a corrosive or extreme working condition, inspect the lift chains more frequently.

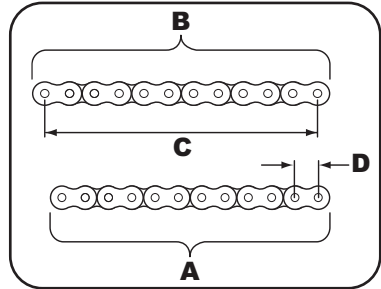
Be sure to check for the following: corrosion, cracked plates, raised or turned pins, tight joints, excessive wear, and worn pins and holes.

Lift chain lubrication is a critical part of your planned maintenance program. The correct and timely lubrication of the lift chains will also maximize their service life.

## Lift Chain Wear and Replacement Criteria

The lift chain will gradually stretch over time during normal operation. When a section of chain has stretched 3% or more, it is considered excessively worn and must be replaced. When checking for chain stretch, always measure a segment of chain that moves over a sheave.

- **New Chain Length (A):** distance from the first pin counted to the last pin counted in a span while the chains are lifting a small load.
- **Worn Chain Length (B):** distance from the first pin counted to the last pin counted in a span while the chains are lifting a small load.
- **Span (C):** number of pins in the segment of chain to be measured.
- **Pitch (D):** distance from the center of one pin to the center of the next pin.

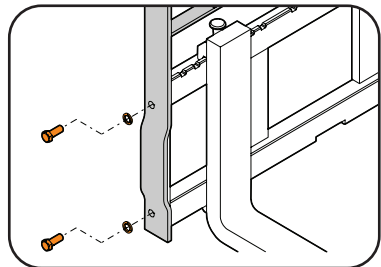


### **WARNING**

Do not attempt to repair a worn or broken lift chain.

## Load Backrest

Check the condition of the load backrest. Inspect the welds on the load backrest and carriage for cracks. Check that the load backrest mounting fasteners are not missing and properly tightened to specification. If the load backrest has been removed, make sure that fork stops have been installed on each side of the carriage.



### **WARNING**

If the lift truck is not equipped with a load backrest, or it has been removed, then fork stops must be installed on each side of the carriage to prevent the forks from being unintentionally forced off of the carriage during operation.

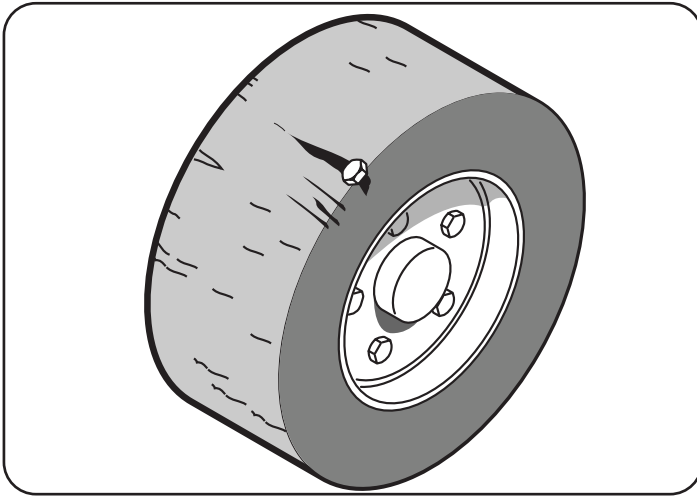


## Wheels and Tires

Inspect the drive and steer wheels and tires every day before operating the lift truck.

Do the following when inspecting the wheels and tires:

- Inspect the tires for excessive wear. Replace if needed.
- Remove any embedded foreign objects from the tires.
- Inspect the tire for large cracks or missing chunks.
- Check for loose or missing wheel fasteners. Tighten any loose or replaced fasteners to the correct torque specification. Refer to your lift truck's service manual for the correct specifications.



 **WARNING**

Tires that are excessively worn or damaged can lower the lifting capacity of your lift truck.  
Always replace damaged or worn tires.

# Fuses

The lift truck is equipped with two fuse boxes and two main fuses. The front fuse box is located behind the cowl and is accessed by removing a cover plate labeled FUSE BOX. The rear fuse box is located in the rear of the lift truck and is accessed by removing the rear counterweight cover.

The main fuses for the traction and pump motors and controllers are located in the rear of the lift truck and are also accessed by removing the rear counterweight cover.

## Front Fuse Box

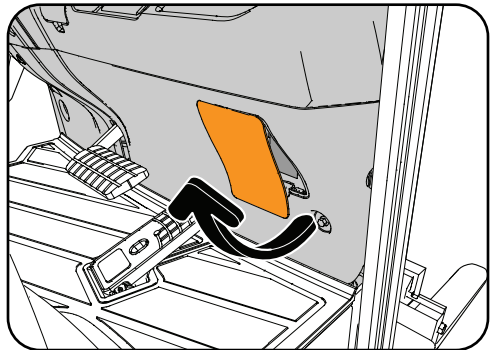
Number	Description	Rating
FC-1	Key Switch	10A
FC-2	Telematics	2A
FC-3	12V Converter	2A
FC-4	Display	2A
FC-5	12V Converter (if equipped)	10A
FC-6	Horn	2A
FC-7	None	N/A
FC-8	Headlights / Work Light	2A
FC-9	Strobe Light	2A
FC-10	B+ Option (if equipped)	2A

## Front Fuse Box

Number	Description	Rating
FC-11	ISO Solenoid	2A
FC-12	None	N/A
FC-13	None	N/A
FC-14	None	N/A
FC-15	Cold Storage	5A
FC-16	None	N/A
FC-17	12V Option #1 (if equipped)	5A
FC-18	12V Option #2 (if equipped)	5A </td
FC-19	12V Option #3 (if equipped)	5A
FC-20	12V Option #4 (if equipped)	5A

## Front Fuse Box

FC-1	FC-11	NONE
FC-2	FC-12	NONE
FC-3	FC-13	2A
FC-4	FC-14	2A
FC-5	FC-15	5A
FC-6	FC-16	5A
FC-7	FC-17	7.5A
FC-8	FC-18	7.5A
FC-9	FC-19	10A
FC-10	FC-20	10A



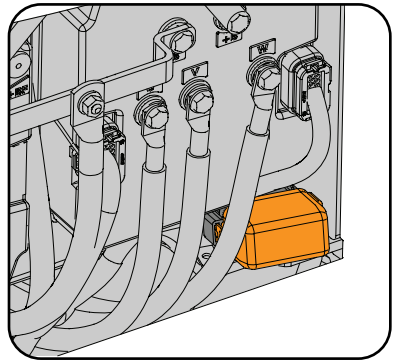
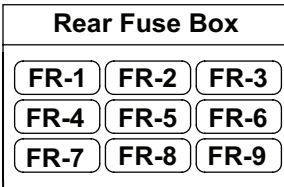
### Rear Fuse Box

Number	Description	Rating
FR-1	Traction - Positive In	10A
FR-2	Pump - Positive In	10A
FR-3	Controller Fans	2A
FR-4	Power Jack / USB (if equipped)	5A
FR-5	Pump Motor Fan	2A

### Rear Fuse Box

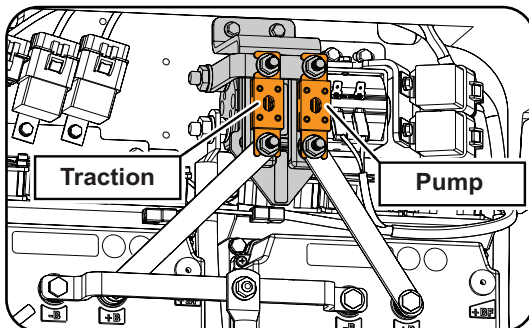
Number	Description	Rating
FR-6	Accelerator	2A
FR-7	Backup / Travel Relay (if equipped)	2A
FR-8	Traction - Key On	7.5A
FR-9	Pump - Key On	7.5A

### Rear Fuse Box



### Main Fuses

Number	Description	Rating
N/A	Traction Motor and Controller	500A
N/A	Pump Motor and Controller	500A



# Battery

## Battery Service Area



The industrial battery service area must be in a location dedicated for that purpose. The area must be free of all nonessential combustible materials.

The battery service area must have the following:

- Ability to clean and properly dispose of spilled electrolyte solution.
- Appropriate personal protective equipment (PPE) such as face shields, protective aprons, and rubber gloves.
- Fire prevention and protection.
- Battery charger(s) protected from accidental collision damage.
- Adequate ventilation to allow excess gas to disperse.
- An eyewash station when handling acid concentrates greater than 50% (or a specific gravity greater than 1.40).
- A conveyor, overhead hoist, or other suitable lifting equipment must be provided for safe handling of batteries.

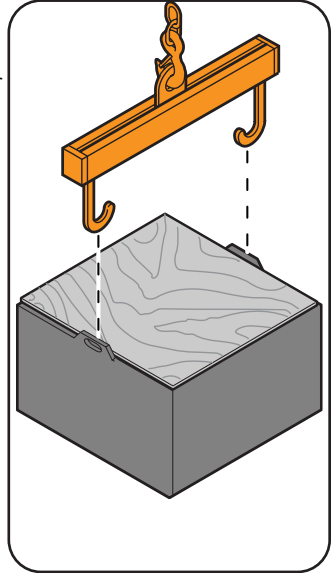
### WARNING

Do not smoke or allow open flames or sparks near battery charging areas or batteries. If electrolyte (sulfuric acid) solution contacts your eyes or skin, flush with water and seek medical attention immediately. Remove the battery from the lift truck before cleaning the battery. Battery service must be performed by authorized personnel only.

## Battery Handling

When removing or installing the battery, do the following:

- Ensure the service area is equipped with the proper tools designed for moving industrial batteries, such as a conveyor or overhead hoist.
- Use lift hooks that have safety latches and are the correct size.
- Use a specialized attachment device, such as an insulated spreader bar, to install the lifting device to the battery. The width of the spreader bar must be the same as the width of the battery, to prevent damage to the battery.
- If the battery does not have a cover or has exposed terminals or connectors, cover the top with an insulating material, before installing the lifting device.
- Chain hoists must be equipped with load chain containers to store excess lifting chain.
- Keep all tools or other metal objects away from the battery terminals.



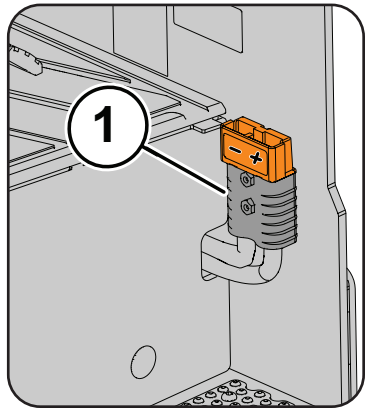
### **WARNING**

Industrial batteries are heavy and awkward to handle. Use an appropriate lifting device and proper attachment to lift the battery.

## Battery Charging

### Charging the Battery:

1. Safely park the lift truck.
2. Raise and secure the hood.
3. Check all cables and connections for damage.
4. Disconnect the battery cable (not shown) from the battery receptacle (1).
5. Connect the battery cable to the charger (not shown).
6. Follow the recommended procedure provided by the battery and/or charging station manufacturer.



## Battery Care

### Cleaning

The recommended method of cleaning a lead-acid industrial battery is to use a solution of baking soda dissolved in water and rinsed using a low pressure spray of cool, clean water. After cleaning, apply an appropriate protectant to the terminals and cable connections to prevent corrosion. Always refer to and follow the instructions provided by your specific battery manufacturer regarding the correct battery maintenance and care.

### Service Records

Record all battery service and maintenance to maximize the service life of your battery and lift truck. Select a test cell and record the readings of the specific gravity and temperature before and after charging along with the date. It is best to vary the location of the test cell to distribute any loss of electrolyte. Every two to three months, record all battery readings including specific gravity, temperature, and voltage.

### Optimize Battery Life

- Follow normal battery maintenance procedures, recharging before 80% discharged and with periodic equalizing charges.
- Do not add acid to the battery. Only a qualified battery technician should determine if this is necessary.
- Check the battery electrolyte level after charging. Add distilled water if the top of the separators or plates are visible. Do not overfill!
- Use a proper lifting device that will not put pressure on the battery case when lifting or moving the battery.
- Keep open flames, sparks, tools and other metal objects away from the top of battery to prevent arcing.
- Do not overcharge the battery.
- Keep the battery clean and dry.
- Retain all battery service records.

# Section 7. Towing and Lowering

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# Emergency Towing

## **WARNING**

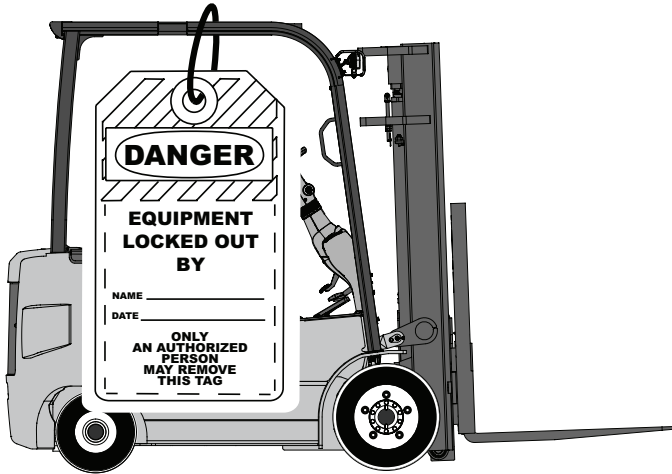
THIS SECTION IS INTENDED FOR SERVICE TECHNICIANS ONLY!

The following information is to be used as a reference. For complete maintenance and service information, refer to the Service Manual.

## Disabled Lift Truck

If the lift truck becomes disabled...

- Safely park the lift truck and remove the key.
- Attach an **OUT OF SERVICE** tag.
- Report the issue to your supervisor or certified lift truck technician.



## **WARNING**

Do not operate a lift truck that requires service or repair. Do not attempt to service or repair a faulty lift truck yourself.



### Safe Towing Rules:

- Do not tow on a grade or if ground conditions are poor.
- If using another lift truck to tow, make sure it is of equal or greater size and carrying a partial load to ensure adequate traction.
- Always use approved tow bars and connections.
- Do not exceed 8 km/h (5 mph) when towing a lift truck.
- An operator must be seated on the lift truck to be towed.
- Make sure the parking brakes are released before attempting to tow the lift truck.

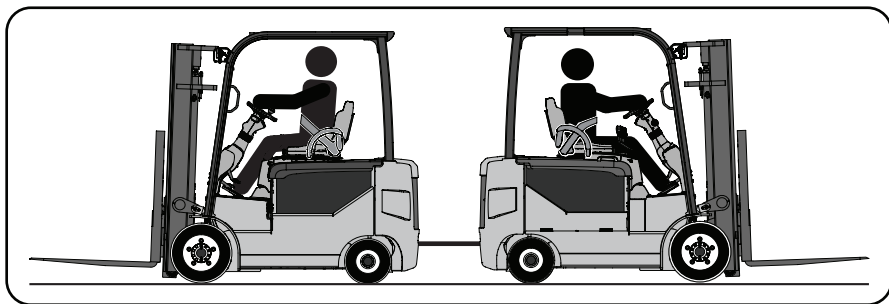
### Towing a Disabled Lift Truck:

1. Raise and secure the upright off of the ground.
2. Check that the counterweight is securely mounted.
3. Block the drive wheels.
4. Release the parking brake.

### CAUTION

If the lift truck is equipped with the optional automatic parking brake system, then the EM (electromagnetic) motor brake must be disengaged before attempting to tow or move the lift truck or damage to the lift truck will occur. Refer to the Service Manual for the correct EM brake release procedure.

5. Install an approved chain or strap to the tow pin on each lift truck.
6. Remove the wheel blocks and tow the disabled lift truck to a designated area.

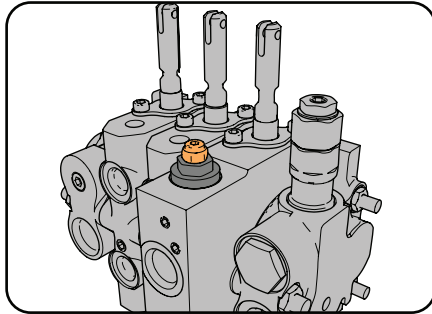


# Emergency Lowering

## Lowering the Upright (Standard)

The lift section of the hydraulic control valve is equipped with an override release which, during an emergency or failure situation, can be used to safely lower the upright.

1. Loosen the lock nut securing the release screw.
2. Loosen the release screw approximately one-half ( $1/2$ ) a turn.
3. Use the lift lever to lower the upright to desired height.
4. Tighten the release screw to resume normal operation.



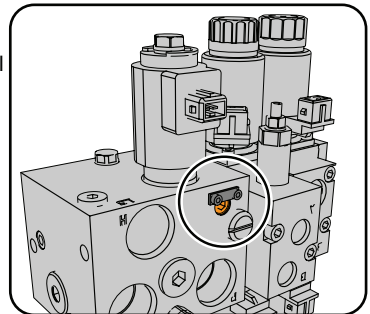
### WARNING

Do not stand under or near a raised upright. Make sure all personnel are a safe distance away before attempting to lower the upright.

## Lowering the Upright (Optional)

The lift section of the hydraulic control valve is equipped with an override release which, during an emergency or failure situation, can be used to safely lower the upright.

1. Remove the protective cover.
2. Loosen the emergency lowering poppet approximately one-quarter ( $1/4$ ) turn until the upright begins to lower in a slow and controlled manner.
3. Allow the upright to lower to the desired height.
4. Tighten the emergency lowering poppet and install the protective cover before resuming operation.



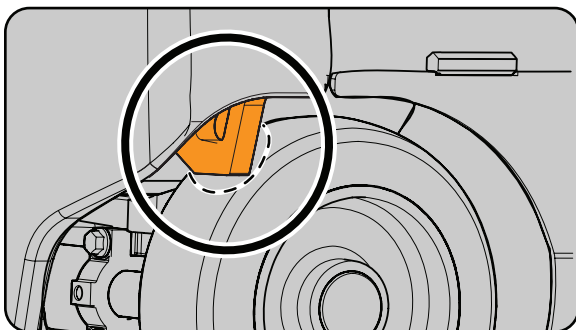
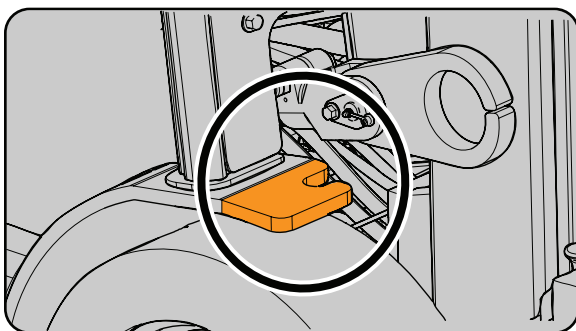
## Transporting

### Transporting the Lift Truck

The lift truck is equipped with four (4) integrated tie down points that are to be used whenever shipping or transporting the truck.

#### IMPORTANT!

In accordance with **USDOT 49 CFR § 393.130**, when transporting a lift truck that weighs 10,000 lb (4536 kg) or more, it must be restrained using the four (4) tie down points specifically designed for that purpose.



#### ! CAUTION

Only use DOT-approved chains and/or straps that are in good condition and properly rated for the load.

#### ! CAUTION

Always refer to the lift trucks data plate before attempting to transport the lift truck.



# Section 8. Specifications

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### **WARNING**

Always know the rated load capacity and lift truck weight for your specific lift truck by referring to the data plate attached to the lift truck.

If the data plate is missing, damaged, or modifications have been made to the lift truck that may affect the rated load capacity or weight of the lift truck, then it must be replaced. Contact your CLARK dealer if you require a new or updated data plate.



### **CAUTION**

CLARK products and their specifications are subject to improvements and change without obligation of prior notice.

### **NOTE**

Always use genuine CLARK replacement parts and fluids.

# SE20-35C

## IMPORTANT!

The **rated load capacities** shown below are based on lift trucks equipped with a triple stage upright (TSU) with a maximum fork height (MFH) of 4800 mm (189 in), standard forks, and a minimum weight battery.

## Rated Load Capacity

Model	Rated Load Capacity	
	Load Center: 24 in (610 mm)	
	<i>lb</i>	<i>kg</i>
SEC20	4000	1814
SEC25	5000	2268
SEC30	6000	2722
SEC32	6500	2948
SEC35	7000	3175

## IMPORTANT!

The **lift truck weights** shown below are based on lift trucks equipped with a triple stage upright (TSU) with a maximum fork height (MFH) of 4800 mm (189 in), standard forks, and a minimum weight battery.

## Lift Truck Weight

Model	Battery Compartment Length		Gross Weight (Loaded)		Service Weight (Unloaded)	
	<i>mm</i>	<i>in</i>	<i>kg</i>	<i>lb</i>	<i>kg</i>	<i>lb</i>
SEC20	775	30.5	6132	13519	4318	9519
SEC20	876	34.5	6265	13811	4451	9811
SEC25	775	30.5	7068	15582	4800	10582
SEC25	876	34.5	6944	15307	4676	10307
SEC30	775	30.5	7782	17155	5060	11155
SEC30	876	34.5	7767	17122	5045	11122
SEC32	876	34.5	8314	18328	5365	11828
SEC35	876	34.5	8987	19812	5812	12812

**IMPORTANT!**

The **drive axle weights** shown below are based on lift trucks equipped with a triple stage upright (TSU) with a maximum fork height (MFH) of 4800 mm (189 in), standard forks, and a minimum weight battery.

**Drive Axle Weight**

Model	Battery Compartment Length		Drive Axle (Loaded)		Drive Axle (Unloaded)	
	<i>mm</i>	<i>in</i>	<i>kg</i>	<i>lb</i>	<i>kg</i>	<i>lb</i>
SEC20	775	30.5	5373	11844	2162	4766
SEC20	876	34.5	5325	11739	2213	4877
SEC25	775	30.5	6109	13468	2096	4621
SEC25	876	34.5	6083	13410	2193	4833
SEC30	775	30.5	6910	15233	2084	4594
SEC30	876	34.5	6850	15100	2171	4786
SEC32	876	34.5	7377	16263	2280	5027
SEC35	876	34.5	7875	17361	2387	5261

**Battery Weight**

Model	Battery Compartment Length		Minimum Battery Weight	
	<i>mm</i>	<i>in</i>	<i>kg</i>	<i>lb</i>
SEC20	775	30.5	1180	2600
SEC20	876	34.5	1360	3000
SEC25	775	30.5	1180	2600
SEC25	876	34.5	1360	3000
SEC30	775	30.5	1180	2600
SEC30	876	34.5	1360	3000
SEC32	876	34.5	1406	3100
SEC35	876	34.5	1451	3200

**IMPORTANT!**

The **maximum operating grades** shown below are based on lift trucks equipped with a triple stage upright (TSU) with a maximum fork height (MFH) of 4800 mm (189 in), standard forks, and a minimum weight battery.

**Operating Grade**

Model	Maximum Operating Grade (Loaded)		Maximum Operating Grade (Unloaded)	
	%	deg	%	deg
SEC20	27	15.1	27	15.1
SEC25	22	12.4	23	12.9
SEC30	20	11.3	22	12.4
SEC32	19	10.7	22	12.4
SEC35	16	9.1	22	12.4

**Wheels and Tires**

Narrow			
Model	Drive Tire Size	Steer Tire Size	Type
SEC20-32	21 x 7 x 15	16 x 6 x 10.5	Electric / Non-Marking
Standard			
Model	Drive Tire Size	Steer Tire Size	Type
SEC20-32	21 x 7 x 15	16 x 5 x 10.5	Polyurethane
SEC20-32	21 x 7 x 15	16 x 6 x 10.5	Electric / Non-Marking
SEC20-32	21 x 8 x 15	16 x 6 x 10.5	Electric / Non-Marking
SEC20-32	21 x 9 x 15	16 x 6 x 10.5	Electric / Non-Marking
SEC35	22 x 9 x 16	16 x 7 x 10.5	Electric / Non-Marking
Wide Drive			
Model	Drive Tire Size	Steer Tire Size	Type
SEC20-32	21 x 7 x 15	16 x 5 x 10.5	Polyurethane
SEC20-30	21 x 7 x 15	16 x 6 x 10.5	Electric / Non-Marking
SEC20-32	21 x 8 x 15	16 x 6 x 10.5	Electric / Non-Marking
SEC35	22 x 9 x 16	16 x 7 x 10.5	Electric / Non-Marking



## Recommended Fluids

Type	Drive Axle		Brake System	Hydraulic System	
		SAE 80W-90	SAE 75W-90	SAE DOT 3 or 4	AW ISO 32
Capacity	9.0 L (9.5 qt)		0.5 L (1.0 pt)	28.0 L (7.4 gal)	
Temperature	Normal	Cold Storage	All	Normal	Cold Storage
Specification	API GL-5		SAE J1703	CLARK MS-68	
Part Number	1808014	VV870	1803831	1802155	VV70202

## Recommended Lubricants

Type	Part Number	Specification	Component
CLARK Innerslide Lubricant	886396	<del>CLARK MS-107C</del>	Upright rails
CLARK Chain & Cable Lubricant	886399	<del>CLARK MS-107C</del>	Lift chains
NLGI #2 EP General Purpose Grease	VV608	CLARK MS-107C	Upright and carriage rollers, tilt cylinder pins, upright trunnion bushings, steer axle linkage, steer axle wheel bearings

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OM-1205

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