OSX15

Operator's Manual

Battery Powered Order Picker Truck

Additional copies of this manual may be purchased from
YOUR AUTHORIZED CLARK DEALER

[Do not remove this manual from the truck]

OSX 15

CLARK MATERIAL HANDLING COMPANY
700 Enterprise Drive • Lexington, Kentucky 40510 [www.clarkmhc.com]
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OM-842

Part No. 8083630
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Operator's Warning

IMPORTANT NOTICE

This is the "SAFETY ALERT SYMBOL" . This symbol is used to call your attention to items or operations that could be dangerous to you or other persons using this equipment. Please read these messages carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this truck.

Before operating truck:

1. The operator must be instructed on safe and correct use of this truck.

2. The operator must read and understand the Operator's Manual for this truck.

WARNING

BEFORE OPERATING TRUCK
STUDY OPERATOR'S MANUAL SAFETY MESSAGES.
READ ALL SAFETY DECALS ON TRUCK.
CLEAR THE AREA OF OTHER PERSONS.

LEARN AND PRACTICE USE OF
CONTROLS BEFORE OPERATING.

IT IS YOUR RESPONSIBILITY TO UNDERSTAND AND FOLLOW MANUFACTURER'S INSTRUCTIONS ON TRUCK OPERATION AND TO OBSERVE PERTINENT LAWS AND REGULATIONS. OPERATOR MANUALS, PARTS MANUALS, AND SERVICE MANUALS MAY BE OBTAINED FROM YOUR EQUIPMENT DEALER.

Warning INJURY OR DEATH TO YOU OR OTHER PERSONNEL COULD OCCUR IF YOU DO NOT FOLLOW THESE INSTRUCTIONS AND MESSAGES.

Foreword

It is important that you read and understand this Operator's Manual for your own safety and the safety of those who work with you!

Before you start to use this truck it is of extreme importance that you have read the contents of the entire Operator's Manual to be able to use the truck in a safe and efficient manner.

This Operator's Manual contains information on how you should use the truck and how to keep the truck in a safe condition by following daily service routines.

Only personnel that have been trained as a truck operator, for this type of truck, are permitted to use this truck.

It is your employer's responsibility to ensure that you have been trained to use your truck safely. Contact your supervisor if you feel uncertain about how to use this truck.

Always follow the warnings given in this Operator's Manual and on the truck to avoid accidents.

NOTICE: The descriptions and specifications in this manual were current at the time of printing. CLARK Material Handling reserves the right to make improvements and changes to specifications and /or design, without notice and without incurring obligation.The examples, illustrations, and explanations in this manual should help you improve your skill and knowledge as a professional operator and take full advantage of the capabilities and safety features of your new vehicle. Please check with your authorized CLARK dealer for information regarding possible updates or revisions to the information contained herein.

Foreword

Standard Compliance

This truck complies with the following standards and regulation in effect on the date the truck was manufactured:

- American Society of Mechanical Engineers (ASME) B56.1
- Underwriters Laboratory (UL) # 583
- Occupational Safety and Health Administration (OSHA)

Dimensions and capacities

The dimensions and capacities shown in this manual have been converted from their original measurements and rounded for convenience. Metric dimensions and capacities are shown in brackets.

Modification of the truck prohibited

Unauthorized modification of the truck is not permitted, and, in case that a problem has occurred due to a modification without permission, the warranty service shall not be provided.

For instance, the modifications which may void the warranty include those that may negatively affect the performance, durability and safety of the truck due to addition of unauthorized electrical devices (lamp, black box, electrical instrument, communication equipment, etc.), braking system, steering system, vision improvement system and detachable attachment device that were not mounted when the equipment was shipped out of the factory.

Contents of this Manual

SAFETY STARTS WITH YOU (Safety Video)

2840951

Safety Regulations

Warning symbols

Always follow the warnings given in this Operator's Manual and on the truck to avoid

accidents from occurring.

Warning levels

Warning text is given in four levels and provides information on the risks, describe the

consequences, and instruct how to avoid accidents.

Warns that an accident will occur if you do not follow the instructions.The consequences are serious personal injury or possibly death, and/or extremely severe material damage.

WARNING

Warns that an accident can occur if the instructions are not followed. The consequences are serious personal injury or possibly death, and/or severe material damage.

CAUTION

***Warns that an accident can occur if the instructions are not followed. The consequences are personal injury and/or material* damage.**

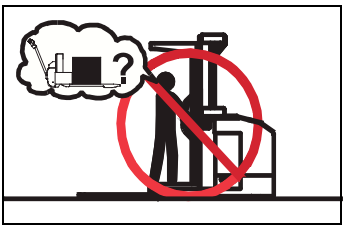
NOTICE

Marks the risk of an accident or breakdown if the instructions are not followed.

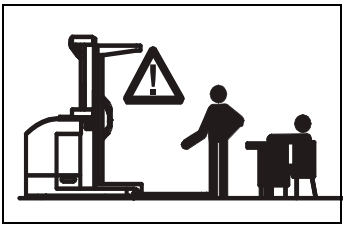
General

- Do NOT operate or work on this truck unless trained, qualified, and authorized to do so and have read the Operator's Manual.

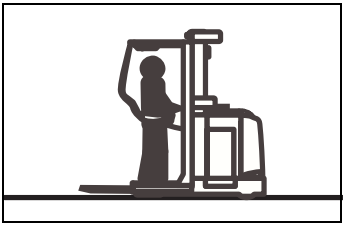
- Know the truck controls and what they do.



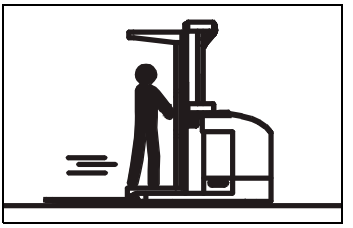
- Do NOT operate truck if it needs repair or if it is in any way unsafe.



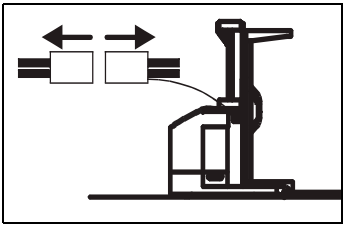
- Do NOT operate the truck unless you are wearing the safety harness, and securely tethered to the truck.



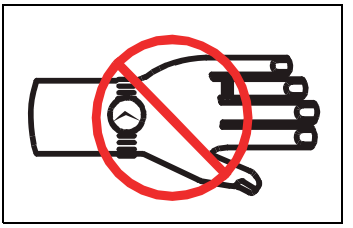
- Operate truck from the position of the Operator.



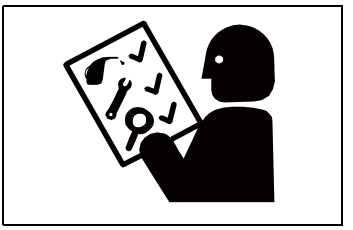
- Before working on this truck, always turn the key switch to OFF and disconnect truck's battery connector (unless this manual states otherwise).



- Do NOT wear watches, rings, or jewelry when working on the truck.

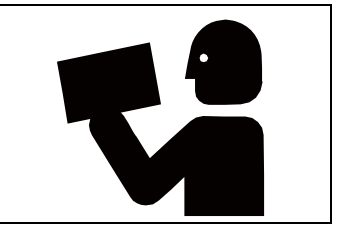


- Follow the scheduled lubrication, maintenance, and inspection steps.

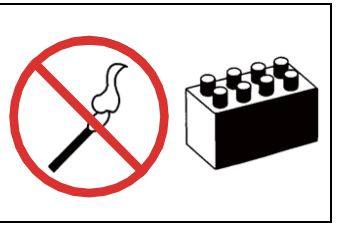


Safety Regulations

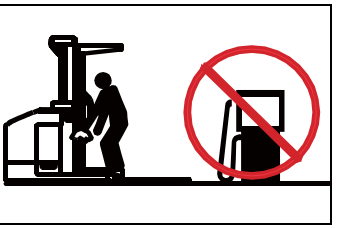
- Follow exactly the safety and repair instructions in this manual. Do NOT take "short-cuts".



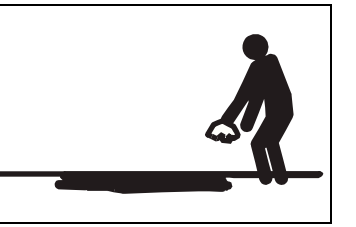
- Do NOT use an open flame near the truck.



- Do NOT use gasoline or other flammable liquids for cleaning parts.

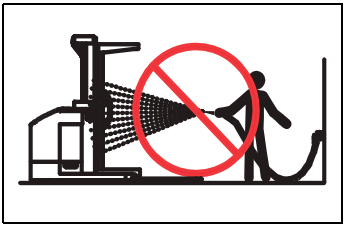


- Clean up any hydraulic fluid, oil, or grease that has leaked or spilled on the floor.

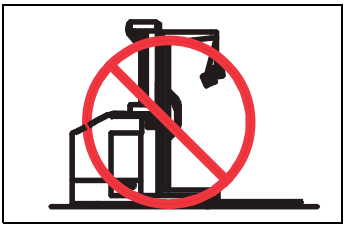


- Always operate and park truck indoors.

- Do NOT wash truck with a hose.



- Do NOT add to or modify truck without wrtten approval from the company.



Battery Safety

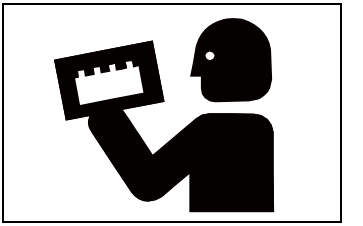
WARNING

As a battery is being charged, an explosive gas mixture forms within and around each cell. If the area is not properly ventilated, this explosive gas can remain in or around the battery for several hours after charging. Be sure there are no open flames or sparks in the charging area. An open flame or spark can ignite this gas, resulting in serious damage or injury.

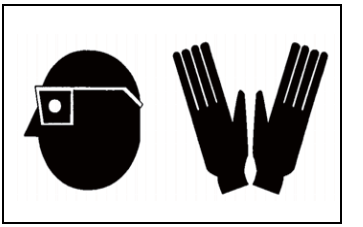
WARNING

Battery electrolyte is a solution of sulfuric acid and water. Battery acid causes burns. Should any electrolyte come in contact with clothing or skin, flush the area immediately with cold water. Should the solution get on your face or in the eyes, flush the area with cold water and receive medical attention immediately.

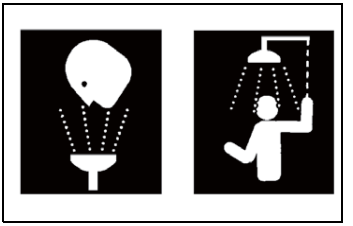
- Read, understand, and follow procedures, recommendations and specifications in the battery and battery charger manuals from the supplier.



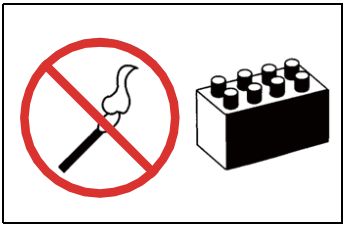
- Wear personal protective equipment to protect eyes, face, and skin when checking, handling, or filling batteries. This equipment includes goggles or face shield, rubber gloves (with or without arm shields), and a rubber apron.



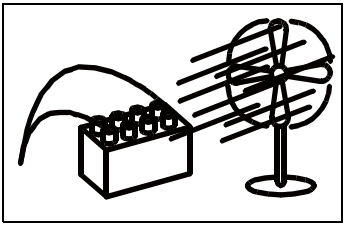
- Make sure a shower and eye-wash station are nearby in case there is an accident.



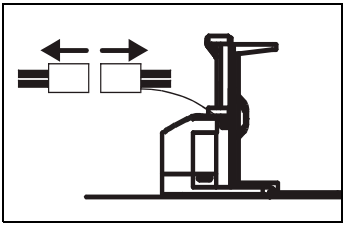
- A battery gives off explosive gases. Never smoke, use an open flame, or use anything that gives off sparks near a battery.



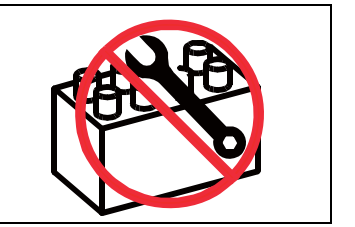
- Keep the charger area well-ventilated to avoid hydrogen gas concentration.



- Turn the key switch off before disconnecting the battery from the truck at the battery connector. Do NOT break live circuits at the battery terminals. A spark often occurs at the point where a live circuit is broken.

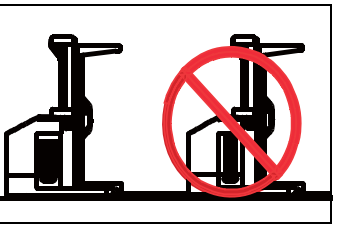


- Do NOT lay tools or metal objects on top of the battery. A short circuit or explosion could result.

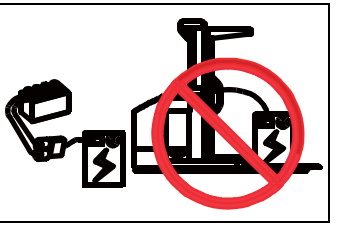


- Keep batteries clean. Corrosion causes shorts to the frame and possibly sparks.
- Keep plugs, terminals, cables, and receptacles in good condition to avoid shorts and sparks.
- Keep filler plugs firmly in place at all times except when the electrolyte level is checked, when water is added to the cells, or when the specific gravity is checked.
- Make sure vent holes in filler plugs are open to allow gas to escape from the cells.
- Do NOT allow cleaning solution, dirt, or any foreign matter to enter the cell.

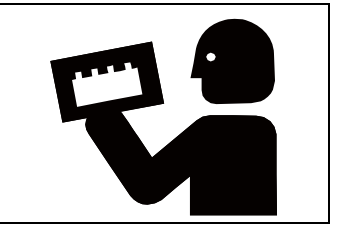
- Make sure to install the correct size battery. A smaller or lighter weight battery could seriously affect truck stability. See the truck's specification (data) plate for more information.



- Never plug a battery charger into the truck's battery connector. Plug the battery charger into the battery connector from the battery.



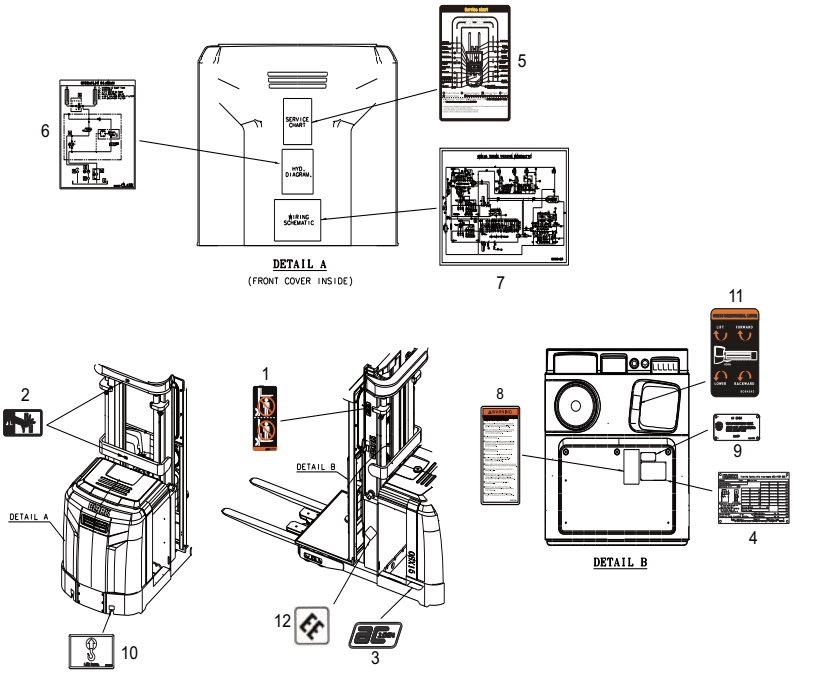
- Follow the charging procedures in the "Battery Instruction Manual" and in the "Battery Charger Instruction Manual".



Warning and information decals

The figure below shows the position and significance of the decals location on the truck.

1. Decal - Fork Safety
2. Decal - Hand Safety
3. Decal - Power AC
4. Name Plate
5. Decal - Service Chart
6. Decal - Hydraulic Diagram
7. Decal - Wiring Schematic
8. Label - Warning
9. Plate - UL
10. Decal - Lifting
11. Decal - Directional Lever
12. Decal - EE



Warning decals

- Clean or replace all safety and instruction decals that cannot be read.
- When you clean decals use only a cloth, soap, and water. DO NOT use solvent, gasoline, etc.
- You must replace a decal if the decal is damaged, missing, or cannot be read.
- If a decal is on a part that is replaced, make sure you install a new decal on the new part. New warning decals can be obtained from your CLARK dealer.

Presentation of truck

This order picker is intended for picking to a pallet indoors. This truck is operated in a standing position. The truck has available different fork lengths and lifting heights. Refer to the truck's data plate for this information.

The trucks are equipped with a 24 volt (or 36 volt) electrical system. Travel and lifting speeds are transistor controlled to provide smooth operations. In addition, the travel function and the different hydraulic functions have additional controls which further enhance these features. Different speeds can be set.

Application area for CLARK order picker trucks

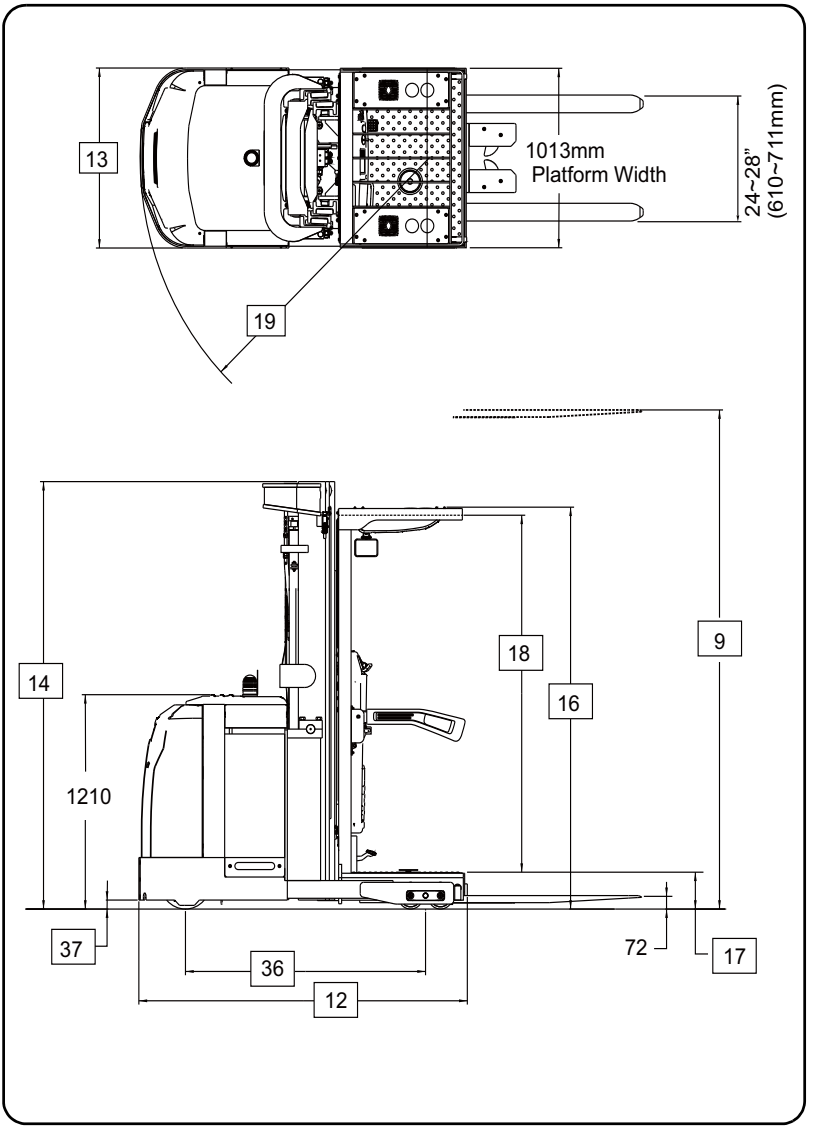
CLARK trucks are solely designed and manufactured to handle goods. This truck should be fitted with the appropriate accessories relevant to the application.

Prohibited applications for CLARK order picker trucks

This truck is designed for handling goods indoors. It is not permitted to use this truck for other purposes including the following:

- Do not operate in areas that contain gases which can cause fires or explosions
- Do not use as a towing truck for trailers
- Do not tow other lift trucks
- Do not transport or lift passengers
- Do not drive on gravel or grass

Truck Dimensions



Presentation of truck

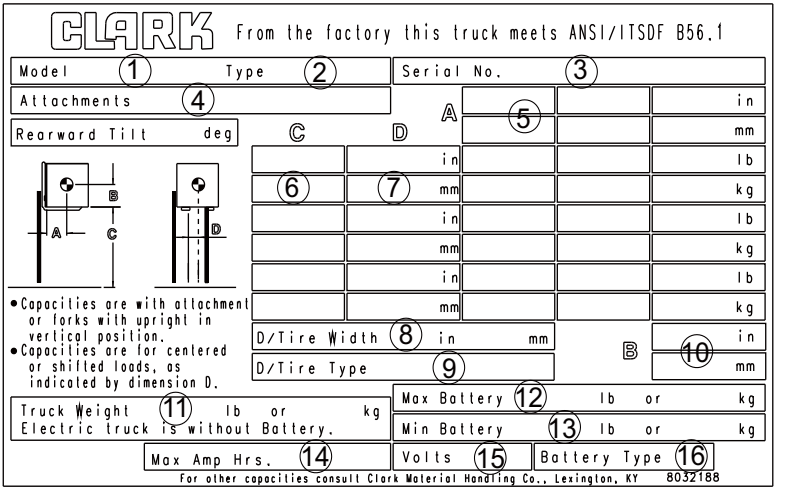
General Information	1	Manufacturer			CLARK	CLARK
	2	Model	Manufacturer's Designation		OSX15	OSX15
	3	Load Capacity		lbs(kg)	3000 (1360)	3000 (1360)
	4	Load Center	Fork Face to Load CG	in(mm)	24 (600)	24 (600)
	5	Power Type	Electric		24 volt	36 volt
	6	Operator Type			Stand	Stand
	7	Tire Type	Front & Rear		Polyurethane	Polyurethane
	8	Wheels (x=driven)	Front / Rear		1x / 4	1x / 4
Basic Dimensions	9	Upright[1]	Maximum Lift Height, Unload	in(mm)	210(5334)	210(5334)
	10		Freelift	in(mm)	11(279)	11(279)
	11	Fork	Std. Fork Size (T x W x L)	in(mm)	1.50x4x42 (40x100x1070)	1.50x4x42 (40x100x1070)
	12	Overall Dimensions	Length to Fork Face (TSU)[2]	in(mm)	78.2 (1986)	78.2 (1986)
	13		Width [4]	in(mm)	40 (1016)	40 (1016)
	14		Height, Upright Lowered	in(mm)	95 (2413)	95 (2413)
	15		Height, Upright Extended	in(mm)	294 (7468)	294 (7468)
	16		Height, Overhead Guard	in(mm)	89.4 (2270)	89.4 (2270)
	17	Step Height	Ground to Top of Floor Plate	in(mm)	8.2 (208)	8.2 (208)
	18	Head Clearance	Top of Floor Plate to Bottom of OHG	in(mm)	79.3 (2015)	79.3 (2015)
	19	Turning Radius		in(mm)	68.9 (1751)	68.9 (1751)
	20	Right Angle Stack Aisle	Add Load Length and Clearance[2]	in(mm)	76.7 (1948)	76.7 (1948)
	21	Battery Roller Height	Ground to Top of Rollers	in(mm)	7.4 (188)	7.4 (188)
Performance	22	Stability	Accroding to ANSI		Yes	Yes
	23	Speeds	Travel Speed, Max, With Load	mph(kph)	7.5 (12.0)	7.5 (12.0)
	24		Travel Speed, Max, Without Load	mph(kph)	7.5 (12.0)	7.5 (12.0)
	25	Lift Speeds, Loaded	Triple Stage Upright	fpm(mps)	53 (0.27)	63 (0.32)
	26	Lift Speeds, Unloaded	Triple Stage Upright	fpm(mps)	66 (0.34)	92 (0.47)
	27	Lower Speeds, Loaded	Triple Stage Upright	fpm(mps)	84 (0.43)	81 (0.41)
	28	Lower Speeds, Unloaded	Triple Stage Upright	fpm(mps)	79 (0.40)	77 (0.39)
Weights[3]	29	Service Weight, TSU	W/Min Battery Weight	lbs(kg)	6548 (2970)	6613 (3000)
	30	Axle loading	With Load, Front	lbs(kg)	1940 (880)	2028 (920)
	31		With Load, Rear	lbs(kg)	7628 (3460)	7606 (3450)
	32		W/O Load, Front	lbs(kg)	3726 (1690)	3792 (1720)
	33		W/O Load, Rear	lbs(kg)	2822 (1280)	2822 (1280)
Chassis	34	Tires	Number, Front/Rear		1 / 4	1 / 4
	35		Size, Front	in(mm)	12 x 5 (305x127)	12 x 5 (305x127)
			Size, Rear	in(mm)	6 x 3.625 (152 x 92)	6 x 3.625 (152 x 92)
	36	Wheelbase		in(mm)	57 (1448)	57 (1448)
	37	Ground Clearance	At Center of Wheelbase, Loaded	in(mm)	2 (51)	2 (51)
	38	Service Brake	Type		Foot/EM	Foot/EM
	39	Parking Brake	Type		Electro-Magnetic	Electro-Magnetic
	40	Steering	Type		Power	Power
Drive Line	41	Battery	Type		Lead-Acid	Lead-Acid
			Max Capacity (6 hr. Rate)	kWh		
			Weight, Min	lbs(kg)	1520 (689)	1600 (726)
	42	Motors, Controls	Drive Motor, Diameter	in(mm)	7.87 (200)	7.87 (200)
			Hydraulic Motor, Diameter	in(mm)	6.69 (170)	6.69 (170)
			Drive Motor Control		AC	AC
			Speed Control		MOSFET	MOSFET
			Hydraulic Motor Control		AC	AC
	43	Hydraulic Pressure				
	44	Sound Level	EN 12053	dB(A)	55.2	56.6

Notes : 1 See upright table for other available uprights.
2 Dimensions are for TSU uprights
3 Specifications are given with preferred triple stage upright
4 Overall width increases with upright height, see chart
5 Actual lift speed prior upright staging. Measured on standard MFH upright after break-in period.

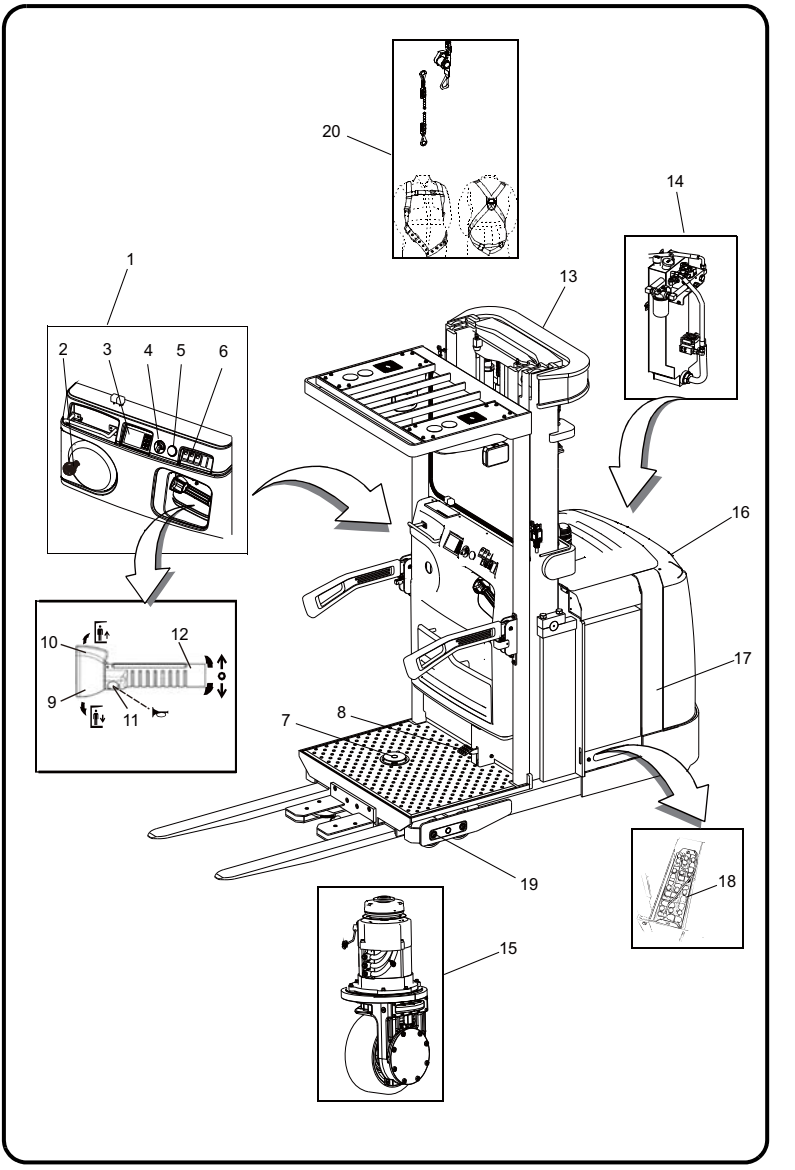
Data plate

Know the rated capacity on the data plate and understand areas 1 through 16 as shown in the illustration.

1. Truck model name
2. Truck type (E or EE)
3. Truck serial number
4. Attachment
5. Load center (Horizontal)
6. Mast MFH and capacity
7. Side shifter value
8. Truck width
9. Tire type
10. Load center (Vertical)
11. Weight less battery
12. Maximum battery weight
13. Minimum battery weight
14. Battery maximum Amp hours
15. Truck voltage
16. Battery type UL class



Main components



Presentation of truck

1. **Driver controls:**
   The steering wheel, instrument panel, and switches (key, emergency stop, and light/fan cluster) are on the console cover. The travel speed and direction, hydraulic function, and horn are controlled through the control handle.
2. **Steering wheel:**
   Steers the truck in the direction of travel.
3. **Dash display:**
   All information about condition of the truck is shown.
4. **Key switch:**
   Shuts off electrical power to the control system.
5. **Emergency power off (EPO) switch:**
   Stops control functions.
6. **Lamp switch**
   This functions to turn on various lamps.
7. **Brake pedal:**
   The brake is applied when in the up position.
8. **Pallet clamp:**
   Applies clamping to retain pallets to the operator platform.
9. **Lower switch:**
   The operator platform and forks will lower when switch is rotated or until lower stops are reached.
10. **Raise switch:**
    The operator platform and forks will raise when switch is rotated or until lift stops are reached.
11. **Horn:**
    The horn sounds to warn others of your position.

12. **Travel speed / direction selection:**
    To select direction, rotate in the desired direction to travel. The further you rotate in that direction the faster you travel.

13. **Mast:**
    The mast is a clear view model.

14. **Hydraulic unit:**
    Pump motor and pump are an integrated unit.

15. **Drive unit with brake:**
    Drive motor, gears, drive wheel, and electric brake are combined in the drive unit.

16. **Cover and shields:**
    Easily removed and hinged to provide good access for servicing.

17. **Electronics**
    All the electronics are collected in a protected compartment.

18. **Battery:**
    24V(or 36V) battery with different capacities and weights.

19. **Load wheel:**
    Load wheel lube location.

20. **Safety harness and tether:**
    Worn by the operator and attached to the trucks overhead guard.

Controls and instruments

Guards and shields have been provided on the unit for your protection.

WARNING

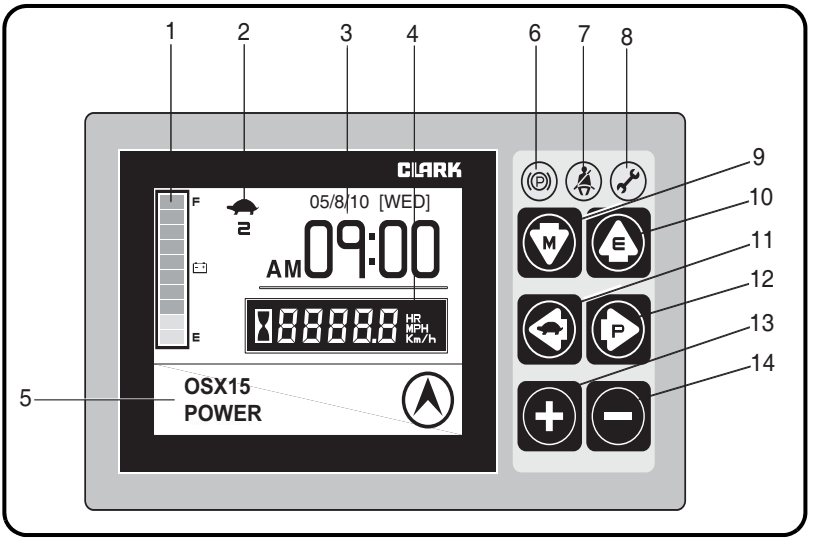
DO NOT operate this equipment unless all factory installed guards and shields are properly secured in place.

Decals are also provided to warn of potential danger as well as to display special operating procedures.

WARNING

Read and observe all warnings on this truck before operating it.

Dash Display



Controls and instruments

The primary design of the Dash Display is to provide the operator with an easily understandable, visual feedback of the status of the truck and it's system components.

1. Battery discharge Indicator
2. Slow-speed icon (Turtle shaped)
3. Date & Time
4. Hourmeter & Speed
5. Message display & Travel direction icon
6. Parking brake LED
7. Seat belt LED
8. Error LED
9. Down arrow button (Mode button)
10. Up arrow button (Enter button)
11. Left arrow button
12. Right arrow button (Power button)
13. Plus button
14. Minus button

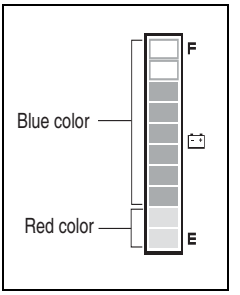
Keep an eye on the warning lights and LC display, while you work with your truck.

Get your truck attended to immediately, if the warning lights or LC display show an irregularity.

Seat Belt : At start up this symbol displays along with an audio alarm for 4 seconds. This display reminds you to fasten your seat belt.

Parking Brake : The symbol is displayed and "-01" status code appears on the numeric display when parking brake is applied. Release parking brake to operate truck.

Battery discharge Indicator

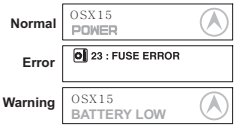


It displays the battery discharge condition of truck.
Each bar indicates 10% charging condition.
If the battery is charged more than 20% (8 bars or more), a blue LED is displayed, but it is less than 20% (2 bars or less), a red LED is displayed. If it is less than 10% (1 bar), it will flicker and a buzzer will sound.

Hourmeter & Speed

- It displays the accumulated operating hours and travel speed of the truck.
- When the traveling speed is less than 0.5km/h, it displays the accumulated operating hours.
- When the traveling speed is more than 0.5km/h, it displays the traveling speed.

Message display



The model name, POWER selection, travel direction, warning and error message are displayed.

• In normal operating condition: Model name / POWER / Travel direction.

When several messages are simultaneously displayed, they will be displayed in the order of Error, Warning and Normal condition.

23 : FUSE ERROR
56 : FET SHORT

• If many error conditions simultaneously occurr, the priority 2 Errors will be displayed. (The priority means Error number)

Travel direction icon

• It displays the traveling direction or angle of the steering wheel.

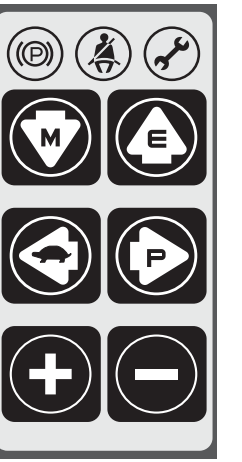
• The direction icon rotates in 10 degree increments. (Total 36 icons)

Error icon

When an error occurs, this icon is displayed to easily distinguish the condition. When an error message is displayed, this icon is simultaneously displayed.

MODE SELECTION BUTTON

- 6 mode selection buttons are located on the right side of the LCD.
- Each button has a specific function, and some have multiple functions.



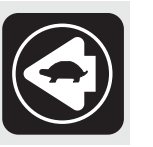
Down arrow button (Mode button)

1. Pressing this button in normal operating condition, it will move to Menu mode.
2. Pressing it in Menu mode, it will move to lower menu.
3. Pressing it in the lowest mode, there will be no change.

Up arrow button (Enter button)

1. Pressing this button, it will move to the upper menu.
2. It will also take the role of an "Enter" button when confirming a changed password or main parameter.

Left arrow button (Left selection button)



1. Pressing this button, it will move to left menu.

Right arrow button (Power selection button)

1. Pressing this button, it will move to right menu.
2. In normal operating condition, it will select / release Power.

– Power mode is composed of 3 steps, and it can be adjusted by use of "+/-" buttons. After adjusting the speed, press "Enter" (Up arrow) button to store it.

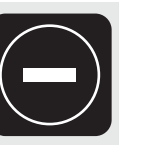
– Power mode
In the order of Economy → Normal → Power : Pressing "+" button to move right, and "-" left.
  • Economy : It is a slow speed mode to reduce battery consumption by minimizing the acceleration function.
  • Normal : It is the normal operating mode, and smooth acceleration can be done.
  • Power : More powerful acceleration is possible and the work ability will be improved.

Plus(+) button

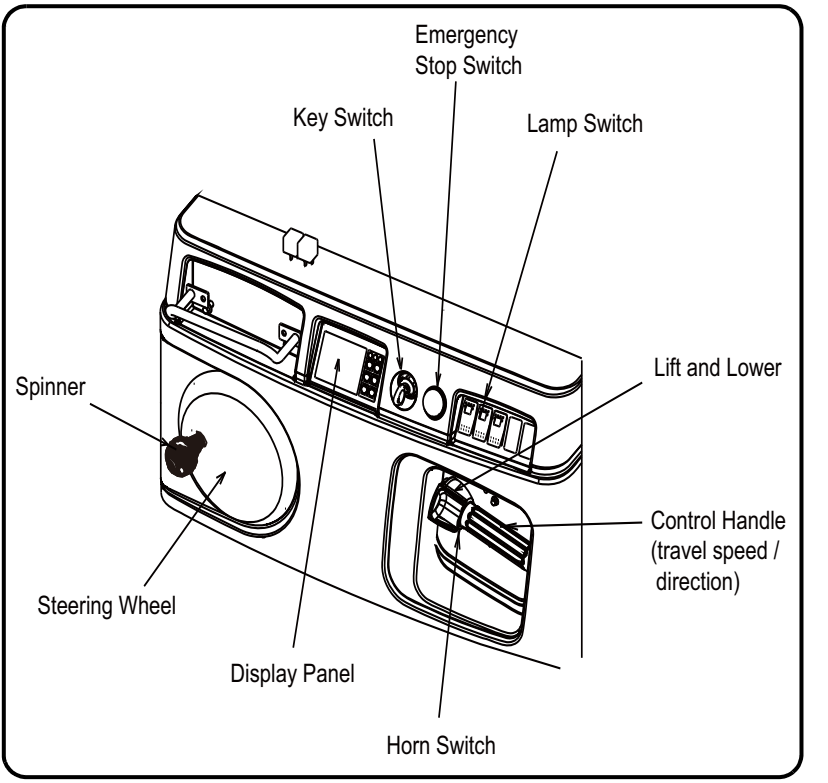
1. Increase the data value in the current Menu mode.

Minus(-) button

1. Decrease the data value in the current Menu mode.



Code	Condition	Likely Corrective Action
-061 -065 -140 -203 -207	Overheat of motor and controller	Restart after cooling down
-066 -208	Low battery voltage	Replace with a charged battery
-079	Started with wrong sequence	Before starting, place the Forward/ Reverse handle to N position
		Before starting, release the accelerator handle.
-217 -245	Wrong set battery	Replace the battery with a correct battery
-255	Parking brake applied	Release the parking brake
Other	Truck needs service.	Call service technician.



Emergency stop

The truck is fitted with an emergency stop button which is located to the right of the key switch on the control console.

Pressing the emergency stop will cut the control power supply.

Battery disconnect

In an emergency, first push the emergency stop to OFF. This will disable electrical controls. Then disconnect the battery connector, this will cut all electrical power to the truck. Perform all repairs before reconnecting the battery.

Key switch

The key switch is the main power switch for the control circuit.

When the key switch is turned to the OFF position, the power is OFF and the display is not lit (however, there is still voltage to some parts of the electronics).

When key switch is turned to the ON position, the display will light and current is fed to all electronic components.

Horn switch

The horn sounds as long as the switch is pressed.

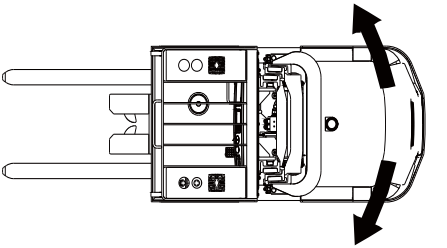
Travel / Direction control handle

With key switch in the ON position and start-up complete, the truck is ready for travel. To move the truck, rotate the control handle in the direction you want to move. The more rotation of the control handle, the faster the truck travels.

Stopping is accomplished by two methods. The preferred method, plugging, is achieved by moving the control handle through neutral to the opposite direction of travel. The further the control handle is moved in the opposite direction, the faster the truck will slow. The second method is using the brake pedal. For detailed information see “Brake pedal” on page 3.14.

Steering wheel

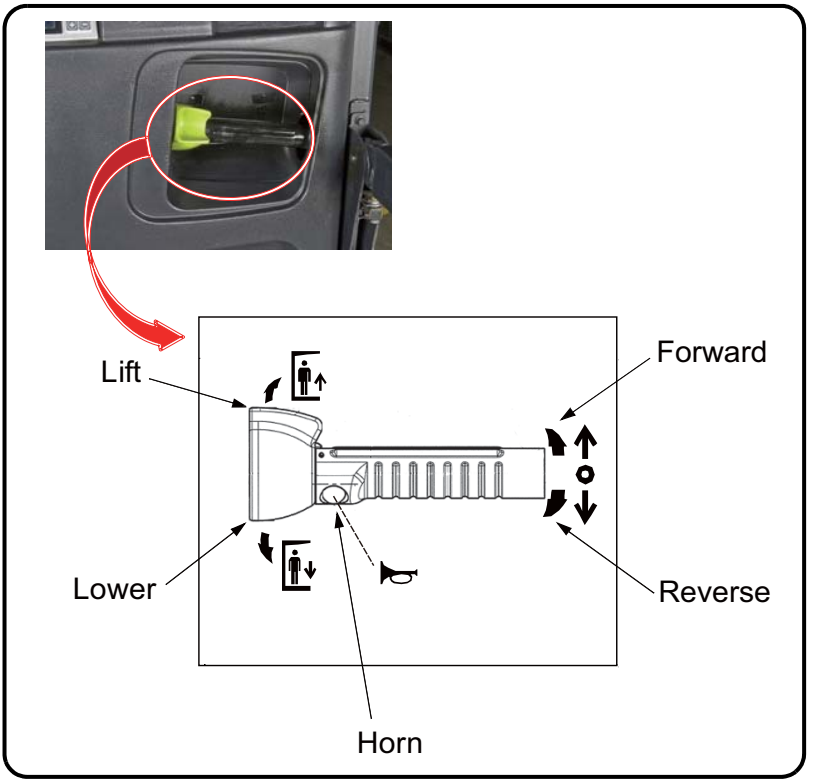
- Steer by means of the steering wheel.
- If the truck gets caught against an obstacle try to free the truck by carefully driving forwards and backwards.



WARNING

Risk of slipping.
You can lose control of the truck if your hands or shoes are oily. Always dry your hands and shoes before driving.

Hydraulic controls



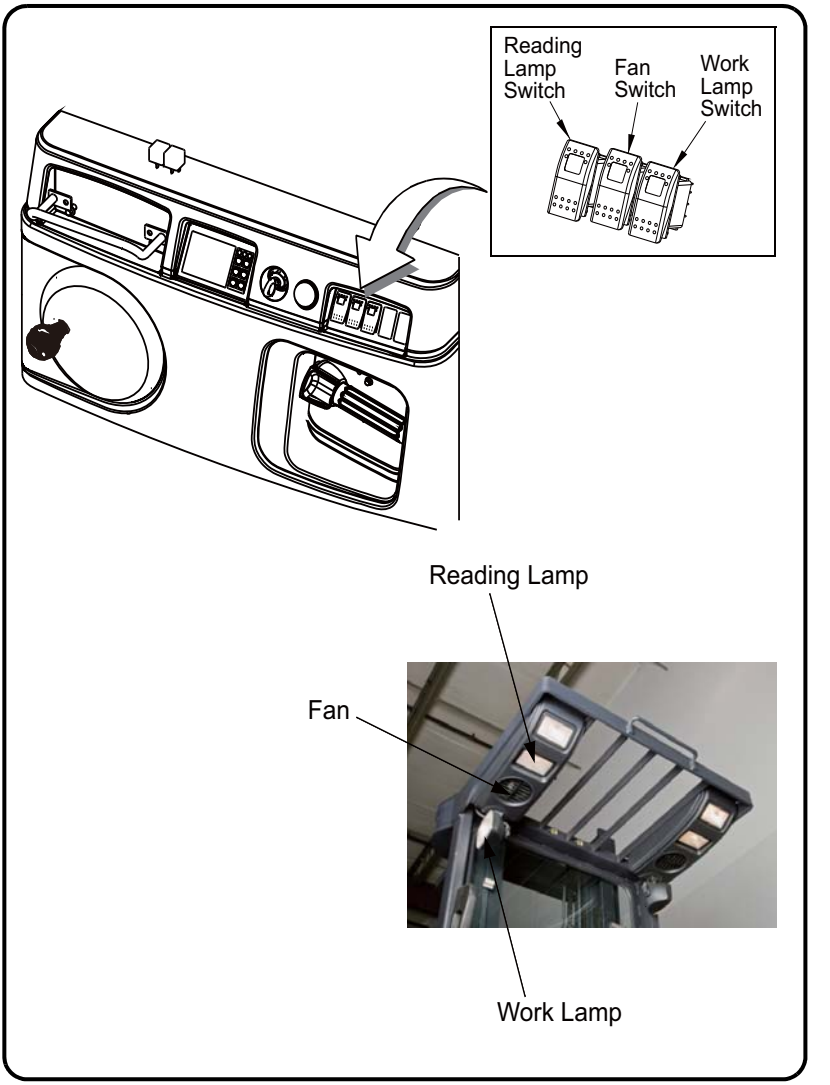
The lift and lower forks thumb knob is on the end of the control handle. Rotating the thumb knob up will lift the forks and rotating the thumb knob down will lower the forks.

NOTE

No hydraulic functions can be used if the key switch is in the OFF position or if the operator has not depressed the parking brake pedal.

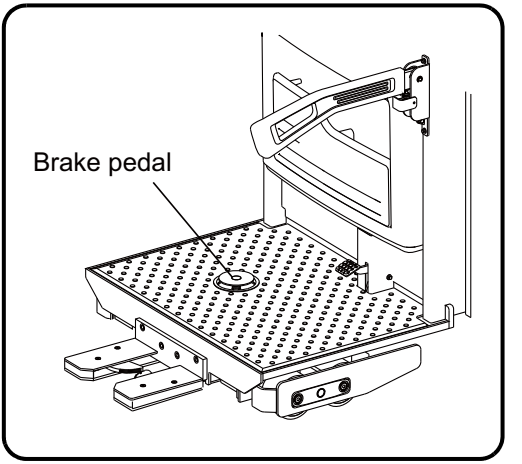
Switches - Lamps and fans

Switches for the lights and fan are located on the control console for easy operator access.



Brake pedal

Place your foot on the brake pedal to release the brake.



WARNING

Risk of crushing exists if any part of the body is outside of the operator's compartment. Always have your entire body inside the operator's comparaatment.

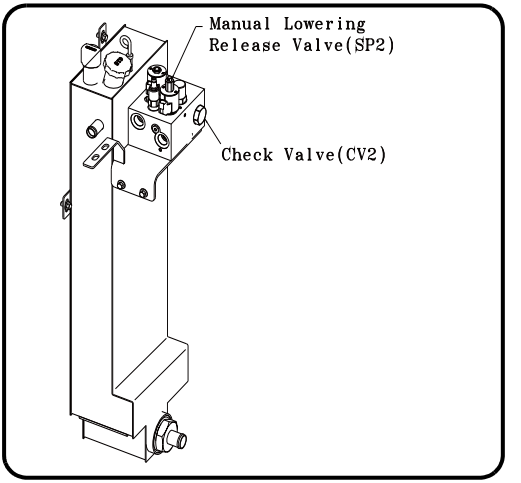
This truck is equipped with two **stopping methods**. The preferred method, plugging, involves simply reversing the directional/speed control handle to the opposite direction **without** applying the brake. This will cause the truck to come to a stop smoothly. For detailed information on this method of plugging see *"Travel / Direction control handle"* on page 3.10.

The second **braking method** is achieved by releasing the brake pedal. This is the emergency truck stopping method and should not be used as the way to stop the truck during regular operations.

Hydraulic manual release valve

NOTE

The operator should stay on the platform. Another qualified person in the area should manually release the valve.



This truck is equipped with a hydraulic manual release valve located on the hydraulic control valve. When electrical functions do not operate, the platform can be lowered manually. To lower the platform manually, remove the rear cover and twist the release valve 180° counterclockwise. The valve will then pop out and the platform will safely lower to the floor

NOTE

After safely lowering the platform, push in the valve and twist 180° clockwise to retighten the valve.

Pallet clllet clamp foot pedal controls

This pallet clamp only works on pallets with a center brace.

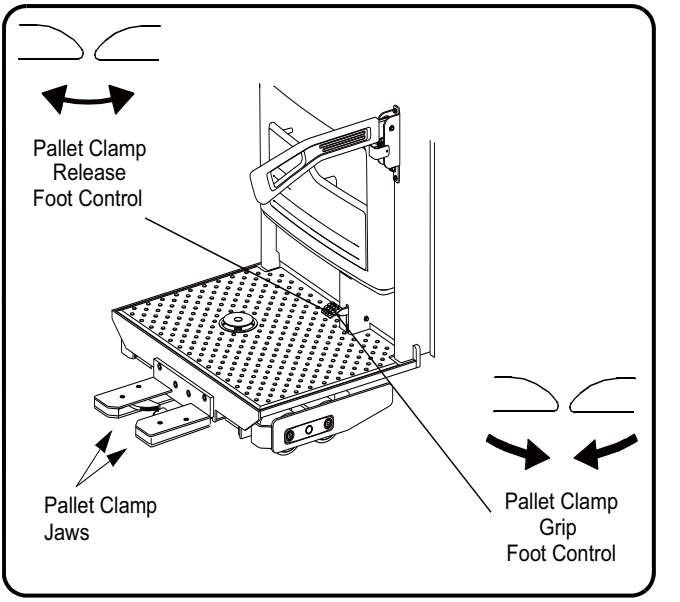
The pallet clamp control is used to secure a pallet to the platform. The pallet clamp jaws are physically located between the forks on the platform.

The pallet clamp grip and release foot control pedal is located in the front and center of lift platform.

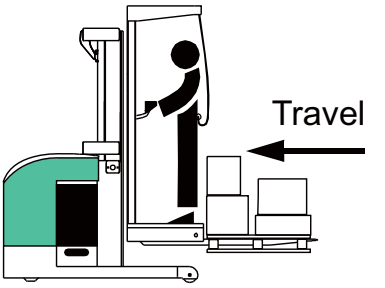
To operate pallet clamp controls

When you press the pedal with the jaws spread, insert the jaws in a pallet, and then release the pedal, the pallet is clamped by the jaws.

When you press the pedal with the pallet clamped, the jaws are spread, the pallet is released from clamping, and then the jaws are extracted out of the pallet.



Driving



There are certain hazards that cannot be avoided solely by mechanical means in the everyday use of material handling trucks. Only intelligence, good sense, and care of the operator, along with proper maintenance, will assure that the trucks are operated properly. It is important to have trained, reliable personnel operating your units. If, at any time, the operator finds that the unit is not performing properly, discontinue operation of the truck and report the condition to your supervisor for correction.

The proper operator position for this truck is shown and described below.

Proper operation of this unit is with forks trailing when possible. Steering the truck is easier with the forks trailing. Always look in the direction of travel.

This unit has been designed for level floor operation and should be operated in accordance with instructions.

Operate the unit from the operator's position after assuring that the operation will not endanger the operator or any other person. Do not operate a truck in hazardous areas. Make sure that the forks and/ or load have clearance to lower and do not "hang-up".

Driving

Starting the truck

- Make sure both battery stops are securely in place and the battery cannot move more then 0.5 inch (12.7 mm) in any horizontal direction.
- Connect the battery to the truck.
- Put the safety harness on and adjust the straps per the manufacturers instructions. Make sure the safety harness fits snugly before operating the truck. Attach one end of the tether to the bar on the overhead guard and the opposite end to the safety harness. Check that all connections are secure before operating the truck.
- Make sure the emergency stop is not pressed in.
- Turn the key switch to the **ON** position (making sure your foot is off the brake pedal for about 2-3 seconds). The instrument lighting should come on.
- Depressing the brake pedal instructs the electrical controller to run a self check. After the checks have been performed the truck is ready to operate.
- Make sure the battery indicator indicates a sufficient charge level.

NOTE

Low charge level. Prolonged operation with a low battery charge level can result in damage to the battery. Do not drive without first recharging the battery.

WARNING

Risk of crushing exists if any part of the body is outside of the operator's compartment. Always have your whole body inside the operator's compartment.

Driving

WARNING

Always complete the daily operator's checks before starting the day's work.

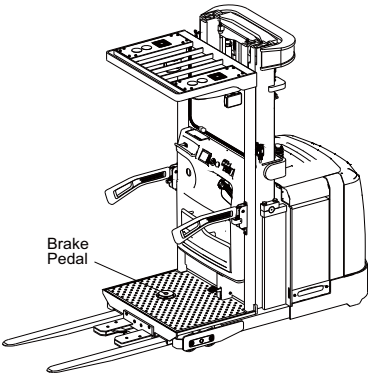
WARNING

Accidents can occur. Always drive with care, good judgment, and responsibility.

- To stop the lift truck in an emergency, release the brake pedal immediately. Releasing the pedal disables travel and applies the parking brake to stop the lift truck in the shortest possible distance.

Braking

The brake is applied when the pedal is in the raised position. Depressing the pedal releases the brake and closes the control circuit allowing operation of the truck. Operation of the brake should always be checked before operating the truck.



This truck is equipped with two **stopping methods**. The preferred method, plugging, involves simply reversing the directional / speed control handle to the opposite direction **without** applying the brake. This will cause the truck to come to a stop smoothly.

Refer to *"Travel / Direction control handle"* on page 3.10 for detailed information on this method. The second **stopping method** is achieved by releasing the brake pedal. Refer to *"Brake pedal"* on page 3.14 for detailed information.

Steering

The steering signal is transmitted to an electric steering motor mounted in the motor compartment. The steering motor moves the transmission by means of gears.

WARNING

The truck and/or load can become unstable if the steering is turned quickly at high speed.

WARNING

Risk of slipping. Control of the truck can be lost if your hands or shoes are oily. Always dry your hands and shoes before driving.

Parking the truck

- Stop the truck carefully and make sure that all motion has stopped.
- Lower the forks/platform to the floor.
- Apply the parking brake by releasing the brake pedal. The parking brake is automatically applied.
- Turn the key switch to the **OFF** position and remove the key.

WARNING

Unauthorized use. Accidents can happen. Always remove the key from the key switch when truck is left unattended.

Cold storage application truck (option)

A cold storage / freezer vehicle is a battery operated type of equipment designed and manufactured to perform loading operations in extreme cold temperature conditions. When the equipment enters a cold storage area or freezer, the sudden drop in the temperature can lead to the formation of condensation on the body and components of the vehicle. If the truck remains in the cold temperature for some time, the condensation can freeze and cause malfunctions. Therefore it is necessary to obey the correct working guidelines whe operating in a cold storage / freezer area for a long time. In addition do not leave the equipment parked alone in the cold environment.

CS type equipment is for use in -35 degree C temperatures and can operate both in and outside of cold store and freezer areas. The maximum working time in the cold area is 30 minutes each time. In addition, if after working in a cold area, and moving to a warmer area, it is necessary to spend more time in the warm area than was spent in the cold area.

Low temperature hydraulic oil and hoses

Hydraulic oils used here show excellent performance at low temperatures. Thus, when replacing the oil, please use the type of oil described in the following table.

Oil	CS type
Hydraulic oil	EQUMS46 III (S-OIL)
Gear oil	75W-90 class oil

Also, hydraulic hoses have excellent performance in low temperatures. When replacing then, please used genuine CLARK parts for optimum operation.

Electrical components and rust proofs specs

Due to the temperature difference, moisture in the connectors of all wiring can cause corrosion. To prevent this, electrical grease has been applied. In addition, in the cable connection unit, silicon is applied to prevent corrosion caused by the same moisture. Various switches and electrical parts are water and rust proofed in order to show good performance at low temperatures. If it is necessary to replace any parts due to the malfunctions of electrical parts, please, use the designated parts, and perform rust proofing with the specs shown below.

Rust proof spec	Spraying location	CS type (ultra low temperature)	Part No
Electrical Grease	Wiring connector unit	Nyogel 760G	2824625
Silicon	Cable connection unit	DOW CORNING #4	2802205

Battery management and charging

The charger for your cold storage truck should be installed and used outside of the cold area. If the battery is charged at a low temperature, it can decrease its lifetime and cause insufficient charging.

A battery can show a decrease in its lifetime and duration of use if the temperature is too low. Therefore it is desirable to store the equipment is a warm place. Prior to any work in a cold storage / freezer application, it is preferred to first perform some working operations outside the cold area, to warm up the truck. In addition, immediately after operating in a cold environment, the trucks should be removed from the area to help maintain a long lifetime for the battery and equipment.

Driving

CAUTION

1. Prior to the works in a freezing storage, operate your vehicle outside for more than 10 minutes.
2. A charger must be installed outside a freezing storage.
3. Do not exceed the max permitted hours of operation in a cold / freezer storage area.
4. After operating in a cold / freezer area, obey the external working hour recommendations.

Transporting loads

General

The weight of the load should be within the truck's permitted lifting capacity. See *"Data plate"* on page 2.4

WARNING

Risk of overturning. The lifting capacity is reduced if additional equipment is attached to the truck. Always check the truck data plate for the truck's overall lifting capacity.

- Only handle loads that are stable and arranged safely. Take particular care when handling high and long loads.

WARNING

Lost stability. High loads can fall when cornering at high speed or cause the truck to tip over. Drive slowly and carefully when cornering and travel with loads in lowered position.

WARNING

Protruding loads. The load can collide with personnel, fixed or moving objects. A truck with a protruding load requires more room when cornering.

- Drive the truck in the forks-trailing direction when the load impairs the line of vision.
- If necessary, when the operator's vision is impaired, ask someone to direct operations so that transportation can take place without the risk of causing personal injury or material damage.

WARNING

Risk of overturning. A truck can overturn when attempting to turn on an incline. Never operate a truck on an incline.

Use of Pallets on Lift Trucks

When a pallet is used for order picking, the attached pallet is not a work platform, but rather a place to temporarily set materials being retrieved or stored. When placing material on a pallet, it is often necessary for the operator to place one foot on the pallet to reach the back surface.

Allowable pallet types:

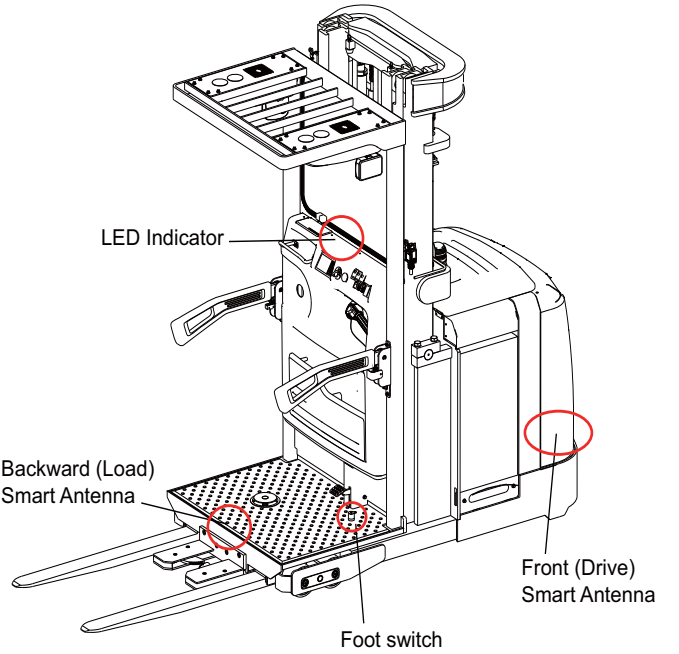
- Double-faced pallet with a center stringer that allows the pallet clamp to securely fasten the pallet to the platform.
- Pallet that is in good repair, having no broken or missing boards and no loose connections or fasteners between pallet components
- Wood or plastic pallets that conform to the above

Operator procedures:

- The pallet clamp has securely fastened the pallet to the lift truck.
- The operator must always wear the safety harness and ensure the tether is securely attached to the truck.

When stepping on the pallet, the operator places one foot on that portion of the pallet location between the fork blades, not on the edge of the pallet.

Wire Guidance System(WG) - Option



Wire Guidance system description

1. The system is Automatically configured as the truck passes over the in-floor rail (wire) along which the vehicle is to be guided. The antenna installation will recognize the wire at the beginning and end.

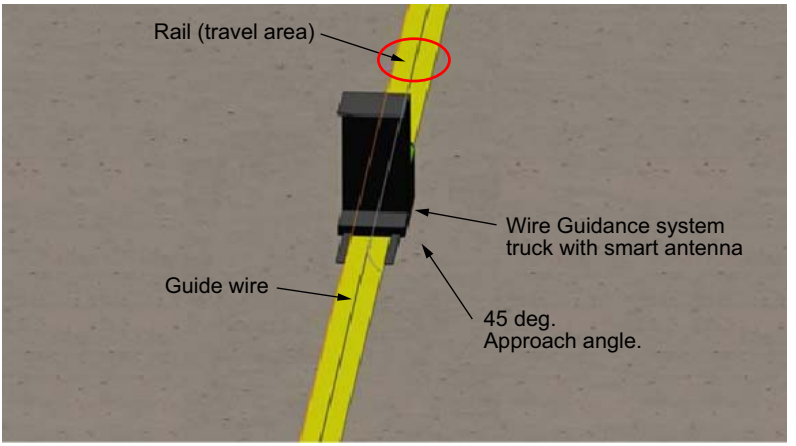


Figure 1

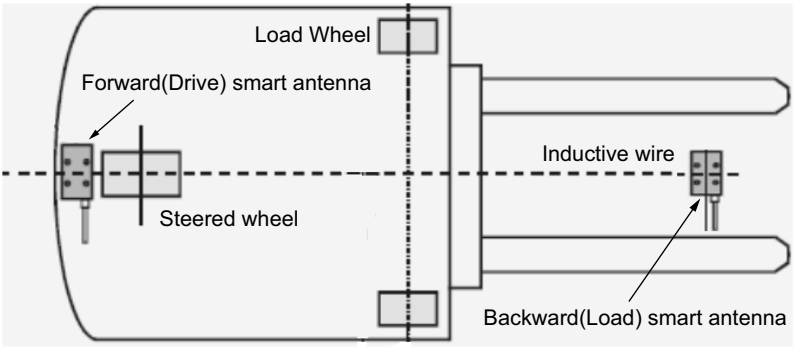
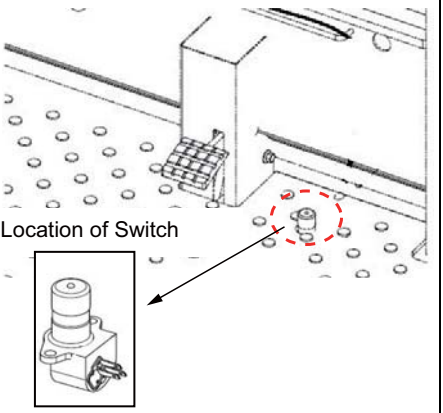
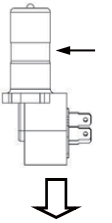
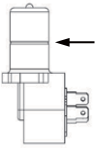
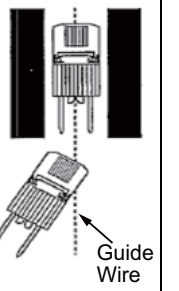
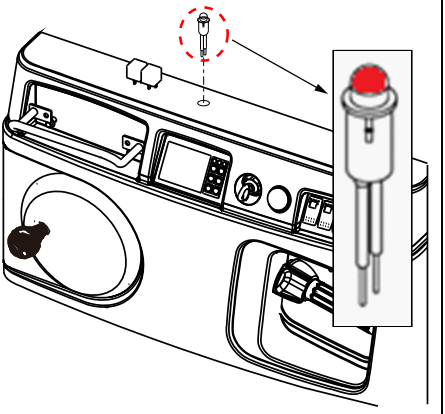
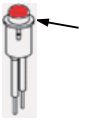
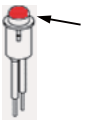
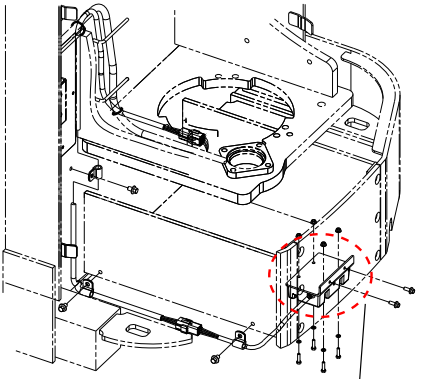
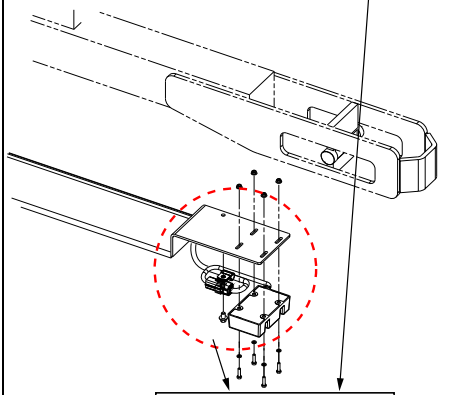


Figure 2

2. To use the WG system, the operator presses the WG switch to ON (foot push switch).
   After that, the truck will move along the wire rail and will steer itself automatically.

Wire Guidance system operating component description.

Control	Operator Action	Truck Response
Foot Switch ON/OFF (With Optional wire guidance)  	Foot Switch OFF  Foot Switch ON 	 Truck "Alignment" on guide wire – steering is automatic.
LED Indicator (Flashing or Always ON) Located on the Dash front cover 	**LED indicator is Flashing :** 1. "Approach" condition  **LED indicator is always ON :** 1."Inside Wire Guidance field" 2."Rotate to alignment" 3."Alignment" 	Refer to 4.14 page "Wire Guidance system operating description"

Control	Operator Action	Truck Response
Front (Drive) Smart Antenna  Backward (Load) Smart Antenna  Smart Antenna (Drive and Load)	Refer to 4.14 page “Wire Guidance system operating description”	Refer to 4.14 page “Wire Guidance system operating description”

Wire Guidance system operating description

1. **This is the “Approach” condition view.**

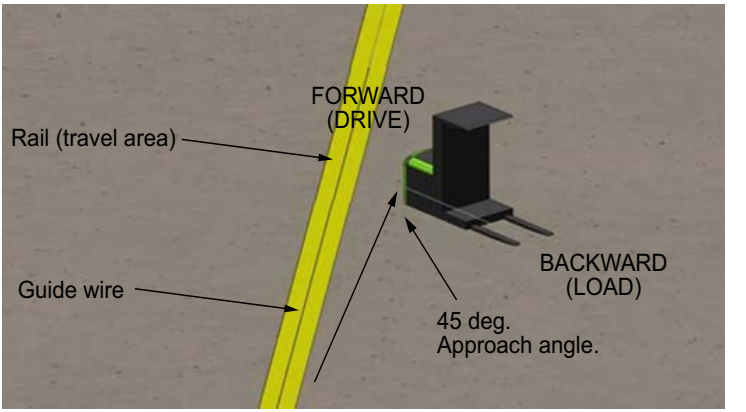


Figure 1

1). Forward conditions.

- Wire guidance Foot Switch : Closed (ON)
- Truck Speed : Max 1.0 mph (0.45 m/s)
  Truck speed controlled by operator.
- Front (Drive) Smart Antenna : No signal detected.
- Backward (Load) Smart Antenna : No signal detected.
- Steering : manual controlled by operator.
- LED Indicator : Flashing

2). Backward conditions.

- Wire guidance Foot Switch : Closed (ON)
- Truck Speed : Max 1.0 mph (0.45 m/s)
  Truck speed controlled by operator.
- Front (Drive) Smart Antenna : No signal detected.
- Backward (Load) Smart Antenna : No signal detected.
- Steering : manual controlled by operator.
- LED Indicator : Flashing

2. This is the “Inside Wire Guidance Field” condition view.

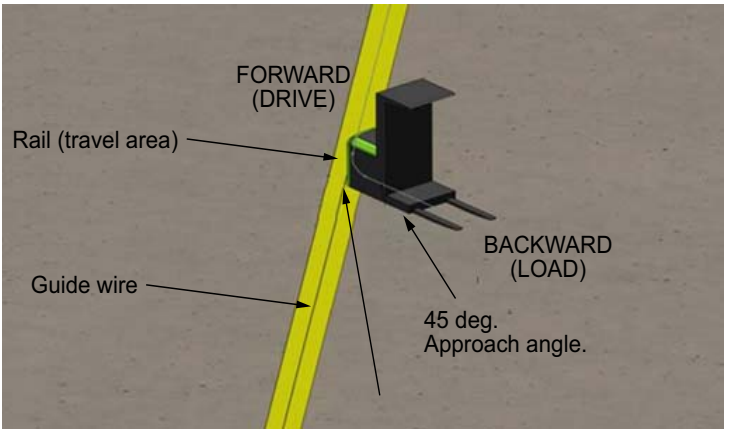


Figure 2

1). Forward conditions.

- Wire guidance Foot Switch : Closed (ON)
- Truck Speed : Max 1.0 mph (0.45 m/s)
  Truck speed controlled by operator.
- Front (Drive) Smart Antenna : Signal from wire detected
- Backward (Load) Smart Antenna : No signal detected.
- Steering : Wire Guidance system is in control,
  Operator has no control
- LED Indicator : Always ON

2). Backward conditions.

- Wire guidance Foot Switch : Closed (ON)
- Truck Speed : Max 0.3 mph (0.13 m/s)
  Truck speed controlled by operator.
- Front (Drive) Smart Antenna : No signal detected.
- Backward (Load) Smart Antenna : Signal from wire detected
- Steering : Wire Guidance system is in control,
  Operator has no control
- LED Indicator : Always ON

3. This is the "Rotate to Alignment" condition view.

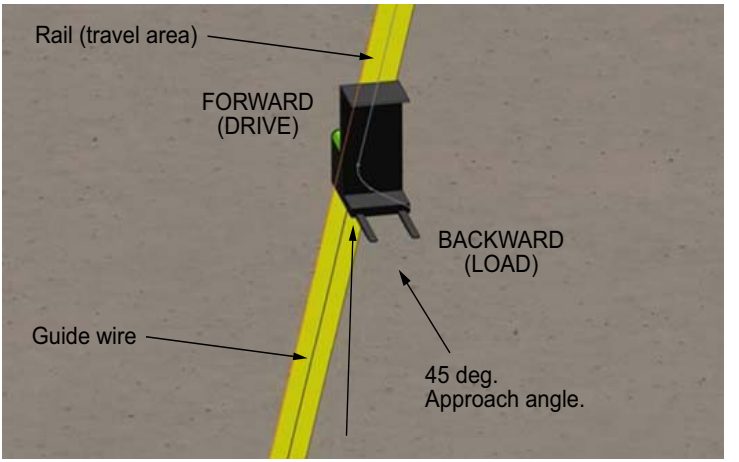


Figure 3

1). Forward conditions.

- Wire guidance Foot Switch : Closed (ON)
- Truck Speed : Max 1.0 mph (0.45 m/s)
  Truck speed controlled by operator.
- Front (Drive) Smart Antenna : Signal from wire detected
- Backward (Load) Smart Antenna : No signal detected.
- Steering : Wire Guidance system is in control,
  Operator has no control
- LED Indicator : Always ON

2). Backward conditions.

- Wire guidance Foot Switch : Closed (ON)
- Truck Speed : Max 0.3 mph (0.13 m/s)
  Truck speed controlled by operator.
- Front (Drive) Smart Antenna : No signal detected.
- Backward (Load) Smart Antenna : Signal from wire detected
- Steering : Wire Guidance system is in control,
  Operator has no control
- LED Indicator : Always ON

4. This is the “Alignment” condition view.

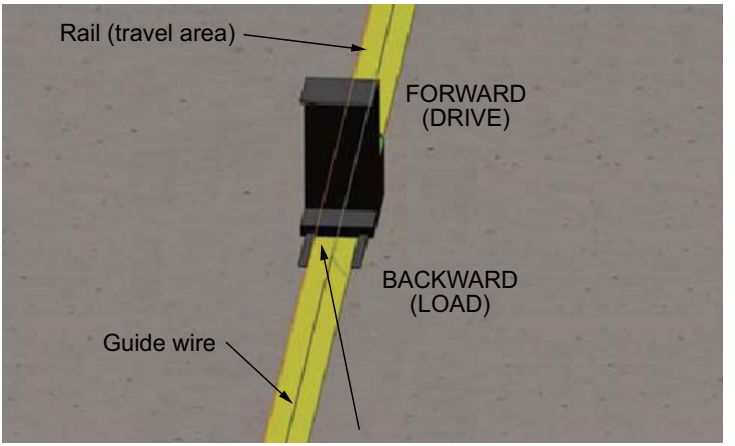


Figure 4

1). Forward conditions.

- Wire guidance Foot Switch : Closed (ON)
- Truck Speed : Full speed (Max) ← defined as truck full speed in aligned position.
  Truck speed controlled by operator.
- Front (Drive) Smart Antenna : Signal from wire detected
- Backward (Load) Smart Antenna : Signal from wire detected
- Steering : Wire Guidance system is in control,
  Operator has no control
- LED Indicator : Always ON

2). Backward conditions.

- Wire guidance Foot Switch : Closed (ON)
- Truck Speed : Full speed (Max) ← defined as truck full speed in aligned position.
  Truck speed controlled by operator.
- Front (Drive) Smart Antenna : Signal from wire detected
- Backward (Load) Smart Antenna : Signal from wire detected.
- Steering : Wire Guidance system is in control,
  Operator has no control
- LED Indicator : Always ON

Wire Guidance system error condition.

No.	DESCRIPTION	ERROR CODE	STEERING	TRUCK CONDITION
1	When the truck is entering wire.	229	Manual control by operator or Operator has no control (According to truck position)	Continue
2	When the truck has been taken away (smart antenna front / rear) from the wire.	230	Truck stop after Manual control by operator	Stop
3	When the truck distance range is too far from the wire.	231	Truck stop after Manual control by operator	Stop
4	When the truck angle range is too great to connect with the wire.	232	Truck stop after Manual control by operator	Stop
5	When the truck distance range is too far from the wire.	233	Operator has no control	Continue
6	When the truck angle range is too great to connect with the wire.	234	Operator has no control	Continue

Maintenance

Daily service / safety checks

- The operator is responsible for the daily service and care of the truck.
- Carry out the daily service at the start of the each day or shift, before the truck is used. The daily service is a simple safety and function control check indicated in the list below.
- No tools are needed to carry out the service checks.
- Failure to carry out the daily service can affect the safety and reliability of the truck.

WARNING

Never neglect the daily service and safety checks, accidents can occur. Always report any faults or damage to your supervisor without delay. Never use a truck that does not function properly.

Check points	Action
Hydraulic system	Check for oil leakage, hoses and floor.
Lifting device	Check for damage, noise function.
Battery cables and connections	Check for breakage, cutting or damage.
Battery retainer plates	Check correct location.
Chassis and upright	Check for damage, remove dirt and debris.
Overhead guard & safety guards	Check for damage, ensure placement.
Drive unit	Inspect abnormal noises and leakage.

Check points	Action
Wheels	Check for damage, remove oil, metal chips and debris.
Decals	Check for damage ensure decals can be read.
Safety harness and tether	Check for damage or wear.
Brake pedal	Check function.
Direction / accelerator	Check function.
Control handle	Check functions. Check for freedom of movement.
Hydraulic function	Check function.
Control functions	Check function.
Parking brake	Check function.
Horn	Check function.
Running time	Inform your supervisor if your truck is ready for a schedule maintenance check. See *"Maintenance"* on page 5.3
Emergency stop	Check function.
Steering	Check function.
Windshield	Check for damage
Special equipment (i.e. travel alarm, lights, wire guidance, etc.)	Your truck may have been fitted with optional or special equipment that requires a routine check to ensure safe operation. Consult with your supervisor and CLARK representative about routine checks.

If any of the functions fail to operate properly, inform your supervisor or maintenance personnel to have the truck repaired.

WARNING

DO NOT operate the truck when it is not functioning properly.

Maintenance

General

- Ensure the truck is given a regular maintenance service after every 1000 driving hours. The truck's safety, efficiency, and service life is dependent on the service and maintenance it is given.
- Only use CLARK approved spare parts when service and repair work are carried out.
- Contact your CLARK dealer to setup a service and maintenance agreement to ensure the truck is operating properly.

Safety regulations with maintenance work

- Only personnel that have been trained in the service and repair of this type of truck are authorized to carry out service and repair work.
- Do not carry out any maintenance work on the truck unless you have the correct training and knowledge to do so.
- Keep the area where you carry out service clean. Oil or water makes the floor slippery.
- Never wear loose objects or jewelry when working on the truck.

WARNING

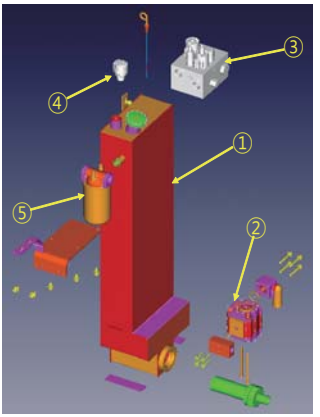
Short-circuiting/burns. When working with the truck's electrical system, short circuiting/ burns can occur if a metal object comes into contact with live electrical connections. Remove watches, rings, or other types of metal jewelry.

- Always switch **OFF** the truck's power supply before opening the covers on the drive unit or electrical systems.
- Always disconnect the battery by pulling out the battery connector when carrying out maintenance work on the truck unless otherwise stated in this publication.
- Lower operator's platform to the ground and relieve the system pressure slowly before starting work on the truck's hydraulic systems.
- Use paper or a rigid sheet of cardboard when checking for oil leakage. Never use your hand.
- Bear in mind that the oil in the transmission or the hydraulic system can be hot.

WARNING

Risk of burns. Hot transmission and hydraulic oil. Let the truck cool before changing the oil.

Only fill the hydraulic system with new, clean oil which meets cleanliness specification See "Lubrication chart" on page 5.15. Contact your CLARK representative for assistance or more information.



WARNING

The hydraulic system and hydraulic components can be damaged if the oil is contaminated. Always use new and clean oil in the hydraulic system.

- Store and dispose of changed oil in accordance with local regulations.
- **Do not** dump solvents used for cleaning or washing into drains that are not intended for this purpose. Follow the local regulations that apply for disposal.

WARNING

Risk of crushing. A badly supported truck can fall. Never work under a truck.

Maintenance work that can be carried out by the driveronnel

The **Daily service / Safety checks** as set out in the check list.

Maintenance points with intervals **1 day**, **1 week**, and **1 month** as set out in the **Maintenance chart** may be carried out by the driver without more knowledge than that provided by the **Operator's Manual**. (See *"Maintenance chart"* on page 5.9.)

Other maintenance points as set out in the **Maintenance chart** may only be carried out by personnel who have completed maintenance training for this type of truck.

Maintenance work that may be carried out by trained maintenance personnel

All maintenance points as set out in the **Maintenance chart**.

If you are uncertain regarding working procedures, consult the **Service Manual** for the truck.

Other service and repair work

In addition to the maintenance points in the **Maintenance chart**, all service and repair work should be carried out by personnel with special training for this type of truck.

Cleaning and washing

General

Cleaning and washing of the truck is important to ensure the truck will operate safely and reliability.

NOTICE

Risk of short circuiting. The electrical system can be damaged. Disconnect the battery before washing by pulling out the battery connector. Do not spray water directly into the electrical compartments of the truck.

External cleaning

- Remove debris, etc. from the wheels daily.
- Use a degreasing agent, diluted to a suitable concentration.

NOTICE

Mechanical components can be damaged. After washing, the truck should be lubricated. See *"Lubrication chart"* on page 5.15

Cleaning the motor compartment

- Cover the electric motors, electrical compartments, connectors, and valves before washing.
- Clean carefully using the minimum of water and detergent. **Never pressure wash** or **steam clean** in the compartments.

NOTICE

Risk of short-circuiting. The electrical system can be damaged. Electrical components must not be cleaned with a high pressure washing unit.

Electrical components

- Blow electric motors dry using compressed air.

WARNING

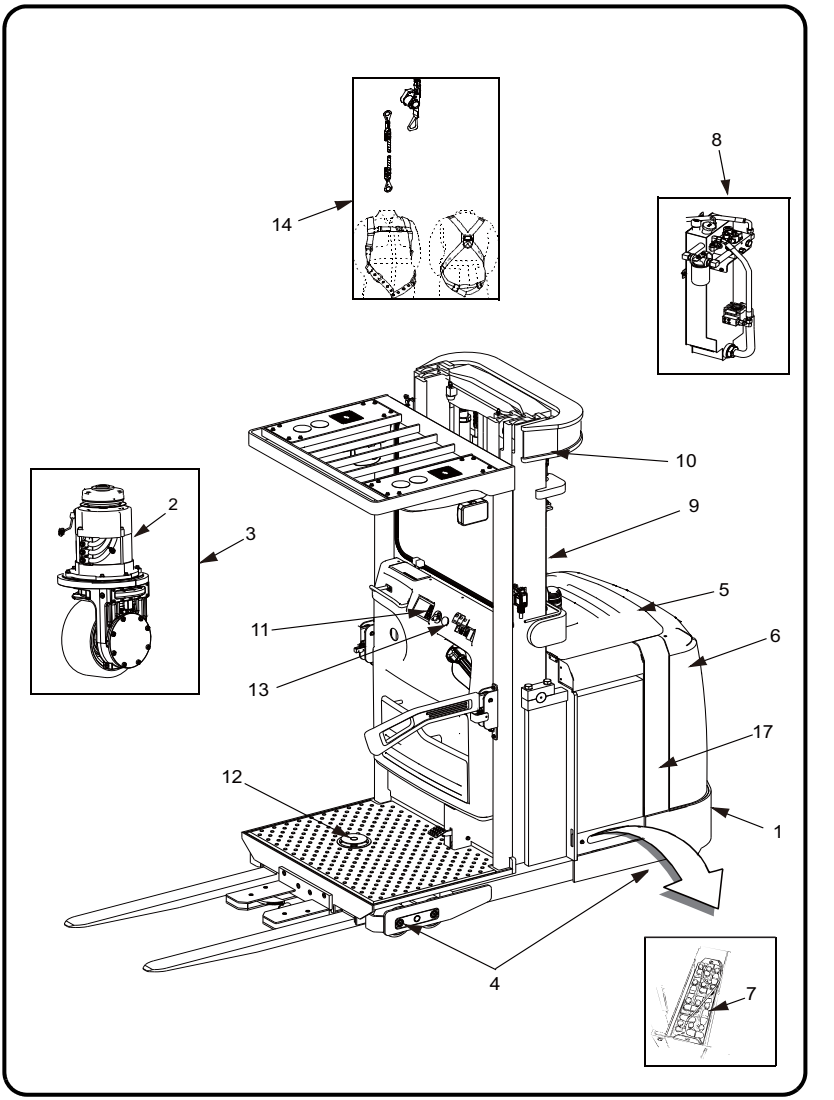
Compressed air used for cleaning MUST be reduced to less than 30 psi (206 kPa) and then only with effective chip-guarding and personal protective equipment.

- Clean the electrical panels, electronic boards, contacts, connector, solenoid valves, etc. using a damp cloth and a cleaning agent.
- **Do not spray or pressure wash** in the compartment.

NOTICE

Risk of short-circuiting. Electrical components can be damaged.
Do not break warranty seal on electronic components.

Maintenance chart



Picture for maintenance chart

Planed Maintenance Interval:

A=10 Hours or 1 Day
B=50 Hours or 1 Week
C=150 Hours or 1 Month
D=500 Hours or 3 Month
E=1000 Hours or 6 Months
F=2000 Hours or 12 Months
G=4000 Hours or 36 Months

No.	Action	A	B	C	D	E	F	G
1.0	Chassis							
1.1	Check that truck's data plate is legible	X						
1.2	Check door latch					X		
1.3	Check wear on battery stop					X		
1.4	Check for damage and crack formation					X		
1.5	Check forks frame mounting					X		
2.0	Motors							
2.1	Check for loose connections					X		
2.2	Clean motor blow out dust			X		X		
2.3	Check mounting bolts			X				
2.4	Check for abnormal bearing noise			X		X		
2.5	Check brush wear					X		
3.0	Drive unit							
3.1	Check for leakage				X			
3.2	Check oil level & status					X		

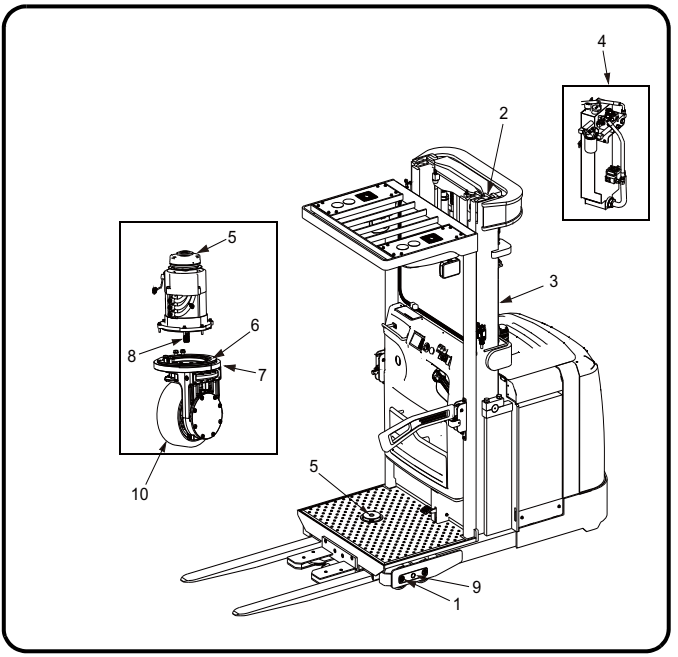
No.	Action	A	B	C	D	E	F	G
3.3	Check for noises					X		
3.4	Check the mounting bolts				X			
3.5	Change oil (Initial 150-350 hours)						X	
4.0	Wheels							
4.1	Remove string and debris	X						
4.2	Check drive wheel wear and nuts					X		
4.3	Check that the support arm wheels rotate and axles are fitted correctly					X		
4.4	Check support arm wheels for wear					X		
4.5	Dismantle and lubricate the support wheel bearing							X
5.0	Brake							
5.1	Clean					X		
5.2	Check for wear to the brake discs					X		
5.3	Check for play in released position					X		
5.4	Check brake wires for wear					X		
6.0	Electrical panel							
6.1	Clean and check the mounting					X		
6.2	Tighten cable connections					X		
6.3	Check contactor points					X		
6.4	Check the contactor’s movement					X		

No.	Action	A	B	C	D	E	F	G
6.5	Check connections and routing of harness					X		
6.6	Warning light	X						
7.0	Battery							
7.1	Check the electrolyte level 1/4 inch [10-15 mm] above cell plate		X					
7.2	Check the connections on battery, truck and charger		X					
7.3	Check cell and pole guard			X				
7.4	Check the fluid density and temperature			X				
7.5	Check power cables are not cut or frayed	X						
8.0	Hydraulic system							
8.1	Check hoses and couplings for leakage					X		
8.2	Check pipes and hoses for wear					X		
8.3	Check the hydraulic tank for leakage and its mountings					X		
8.5	Check oil level					X		
8.6	Change oil						X	
9.0	Cylinders							
9.1	Check for leakage					X		

No.	Action	A	B	C	D	E	F	G
10.0	Upright and platform							
10.1	Check for damage and cracks					X		
10.2	Check upright mounting bolt torque					X		
10.3	Check for play on the rollers					X		
10.4	Check the electrical limit switch function					X		
10.5	Check for wear and stretch on the chains and sheaves					X		
10.6	Check hoses and couplings for leakage cuts and other damage					X		
10.7	Check for wear to the forks and other lifting devices		X					
10.8	Check OHG for physical damage	X						
11.0	Control console							
11.1	Check for control handle freedom of movement and that it returns to neutral when released	X						
11.2	Check the micro switches and hydraulic function	X						
12.0	Pedal							
12.1	Check the pedal function	X						
13.0	Emergency stop switch							
13.1	Check the emergency stop switch	X						

No.	Action	A	B	C	D	E	F	G
14.0	Safety harness and tether							
14.1	Check for wear or damage	X						
15.0	Decals							
15.1	Check that all decals are readable	X						

Lubrication chart



Pos. No.	Service point	Interval/Running hours			Lubr-icant
		1000 h	2000 h	4000 h	
1	Wheel bearings			L	(A)
2	Upright Beam	L			(E)
3	Lifting chains	L			(D)
4	Hydraulic system	C	O		(B)
5	Brake	C			
6	Steering bearings		L		
7	Gear ring	L			(A)
8	Drive Motor shaft,spline			L	(G)

Pos. No.	Service point	Interval/Running hours			Lubricant
		1000 h	2000 h	4000 h	
9	Rocker plate			L	(F)
10	Drive axle		O		(C)

L=Lubrication **C**=Check **O**=Oil change

Approved oils and grease

1) Grease
   - Bearong and bushing ; CLARK spec. MS-6 or MS-107C (Lubricant A)
   - Mast rails ; In accordance with CLARK #3762516 (Lubricant E)
   - Drive motor shaft, spline ; Kluberflex BEM34-132 or Dow corning Molykote G-N plus paste (Lubricant G)

2) Hydraulic oil (Hydraulic system) (Lubricant B)
   a) Standard and Corrosion
      (Continuous Operation Above 40°F [5°C])
      ; AZOLLAZS32 (S-OIL)
   b) Cold Storage
      (Continuous Operation To 14°F [-10°C] Intermittent Operation To -4°F [-20°C])
      ; EQUMS46 III (S-OIL)

3) Drive axle oil (Lubricant C)
   - Gears ; Standard - 80w90 / Option - 75w90
   * Must meet the reguirements of API service GL-5 (Do not use oil that only meets GL-4)

4) Motor oil (Lubricant D)
   - Chain ; In accordance with CLARK #886396

Environmental Definitions	
Standard	Trucks parked in ambient temperature area when not in use and charging and maintenance work.
Corrosion	Where a damp, wet, or corrosive condition exits.
Cold Storage Continuous Operation	Trucks completely dry prior to entering the continuous-stay in the cold store. Park inside cold storage for operator breaks. Charging and maintenance work done outside cold storage. Truck completely dry before returning to continuous cold store.
Cold Storage Intermittent Operation	Surface condensation will occur, “wet” trucks should neither remain idle in cold store for longer than 10 minutes nor operate inside cold store for extended periods. Condensation must not be allowed to freeze on truck at any time. Park outside cold store for operator breaks Charging and maintenance work done outside cold store.
Freezer Condition	Truck parked inside freezer for operator breaks Trucks stays in freezer during battery charging or changeout. **If truck is removed from freezer for maintenance work or battery charging, it must be completely dry before reentering the continuous shift in the freezer**.

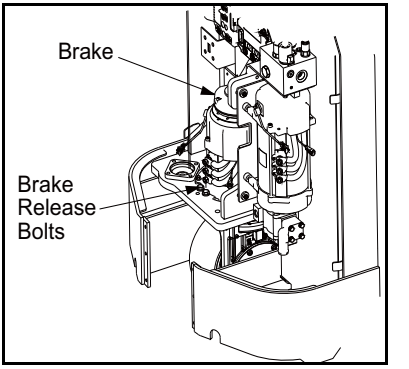
Transporting and Storing the Truck

Moving a disabled truck

WARNING

Be sure to remove the brake release bolts from the brake and return to their storage location before operating truck again.

To safely move a disabled truck.



1. Lower the operator platform and remove any load.
2. Turn the key switch to the OFF position and disconnect the battery connector.
3. Remove drive compartment cover and open door, install brake release bolts in the brake.
4. Tighten brake release bolts until brake is released. This will allow truck to be moved without damaging the drive tire.

Storing truck

Take the following action if the truck is not used for **one week** or more:

Battery

- Recharge the battery fully and carry out usual battery maintenance.
- Maintenance charge the battery every **3rd month** and check the fluid level.

Transporting and Storing the Truck

Hydraulic system

Change the oil in the hydraulic system when stored for periods longer than **1 year**, see the oil specification in the *"Lubrication chart"* on page 5.15

Drive unit

Block up the truck's drive section to take the load off the drive wheel and load wheels when storing for periods longer than **one week**.

Starting after a period of disuse

- Before the truck is put into operation after a period of disuse, it should undergo a function and safety check as stated in the *"Daily service / safety checks"* on page 5.1
- When stored for a period **greater** than **3 months,** carry out preventive maintenance as stated in the instructions, **500 hours interval**.