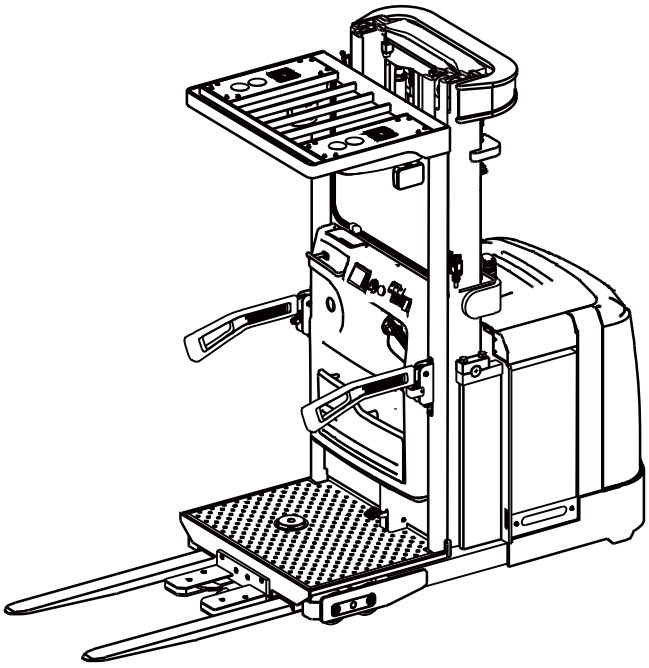
SERVICE MANUAL

OSX 15



Capacity : 1360 kg

Part No. 8089348
Book No. SM844 (Rev 2.5)
Nov. 2019

CLARK MATERIAL HANDLING INTERNATIONAL
215, Ojeong-ro, Bucheon-Si, Gyeonggi-do, Korea
Tel: 82-32-680-6300 [www.clarkmhc.co.kr]

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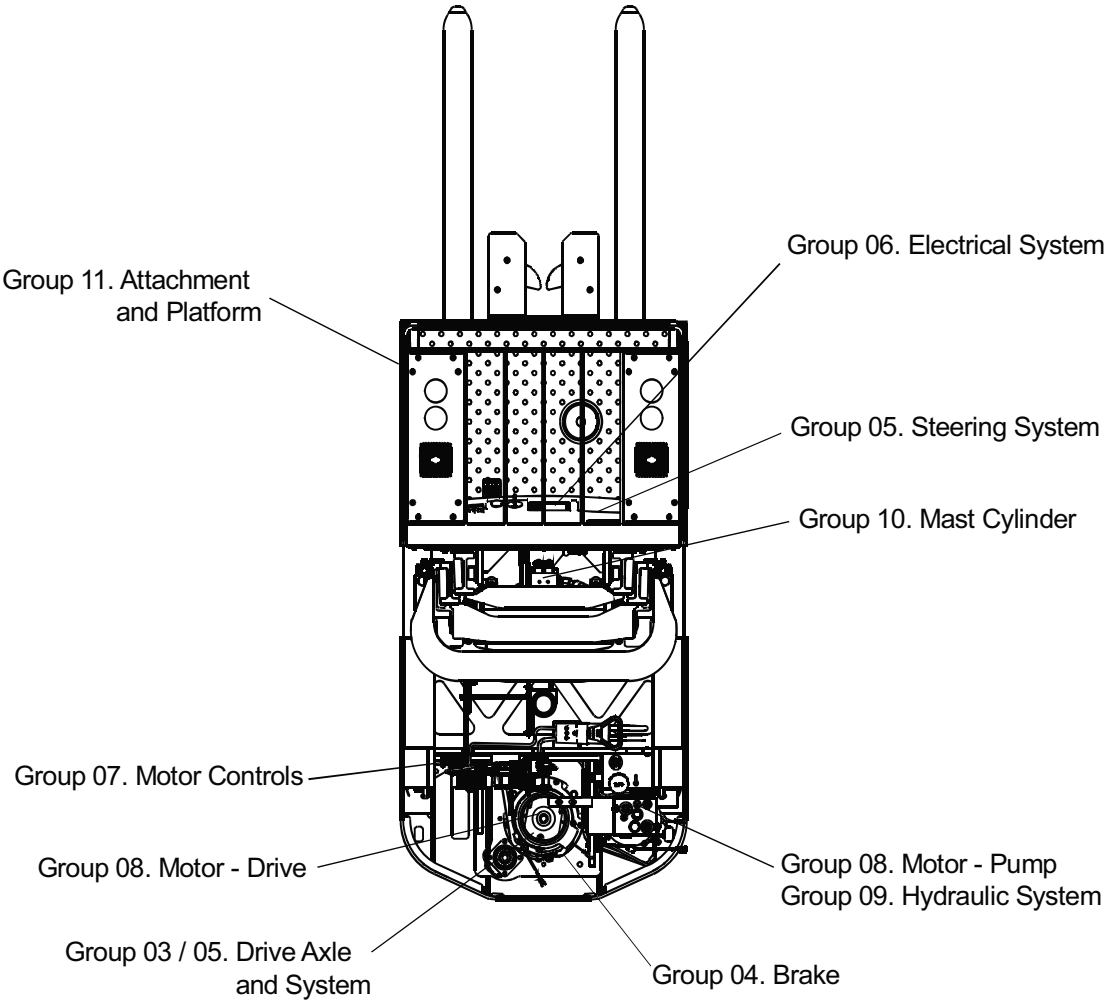


GROUP 00

GENERAL INFORMATION

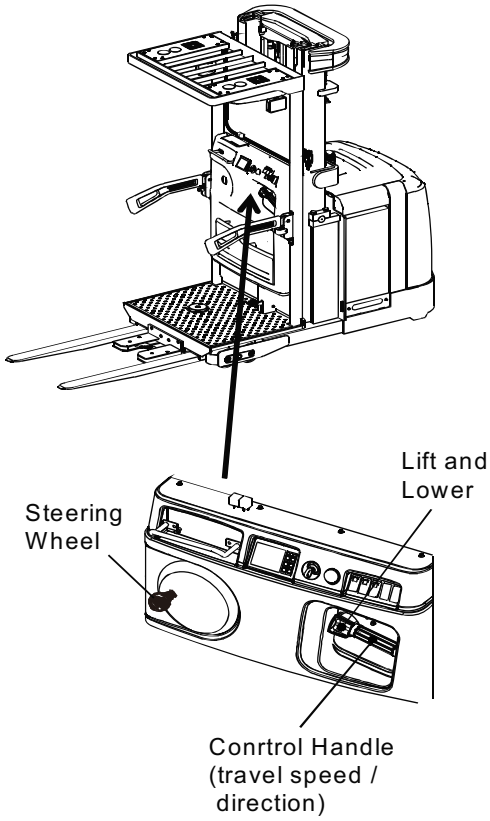
Section 1

General Product Information

Truck Presentation

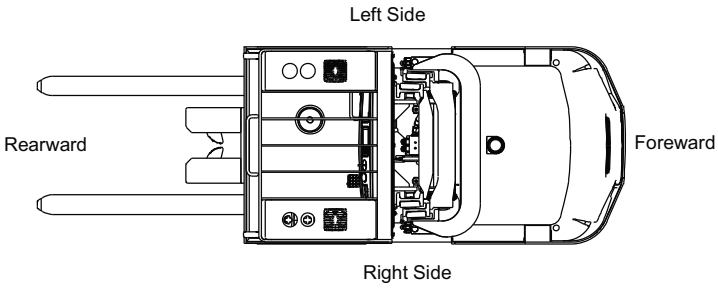
The **truck** is a battery powered order picker truck. The truck is intended solely to be operated indoors carrying pallets or similar load carriers. The truck is equipped with a steering wheel with all the controls for operating within easy access. The truck has a various maximum lifting capacities (review data plate on the truck to note the maximum lifting capacity).

The truck is equipped with a 24V(or 36V) electrical system and the speed is regulated by means of a traction power amplifier (TPA) [transistor controller] to provide gentle control of acceleration and speed while operating. The forks are raised by means of an electric powered hydraulic pump unit. 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. The truck can be specially equipped to work in cold conditions.



Truck Side Views

The terms right-hand and left-hand used indicate the right and left side of the truck as viewed from the operator's line of sight for proper operation of truck. Use this view when ordering parts to assure proper selection of parts.



Intended Truck Application

The truck is solely designed and manufactured to handle piece picked goods and not full pallets or loads. Truck should be fitted with the appropriate accessories relevant to the application.

Prohibited Truck Application

Caution

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

- As a towing tractor for trailers.
- To tow other trucks.
- To transport/lift passengers.
- To drive on gravel or grass.

Truck Data

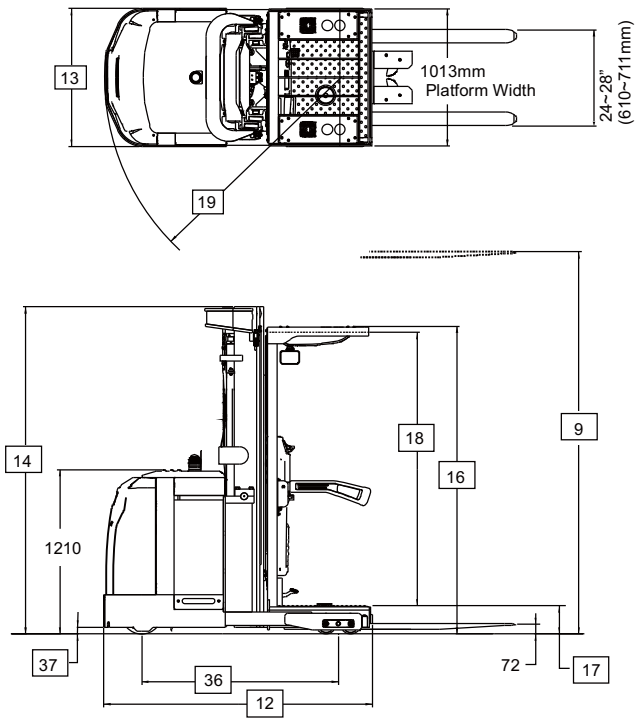
The following table provides information regarding technical data which is of value with daily use of the truck. Lifting capacity, lifting height, and weight of the truck can be found on the truck's data plate.

Metric dimensions and capacities are show in parenthesis. They have been converted from their original measurements and rounded for convenience.

Truck data	OSX15
Lifting capacity rated load	3000 lbs (1360 kg) at 24 inch (610 mm) load center to 240 inch (6096 mm)
Lift height, inches (mm)	3 stage - 195-366 inch (4953-9296 mm)
Service weight without battery	Approximate 5062 lbs (2296kg) with 210 inch (5334 mm) mast
Service weight including battery	See Sales Truck Specification Sheet for the most up-dated information.

Dimensions

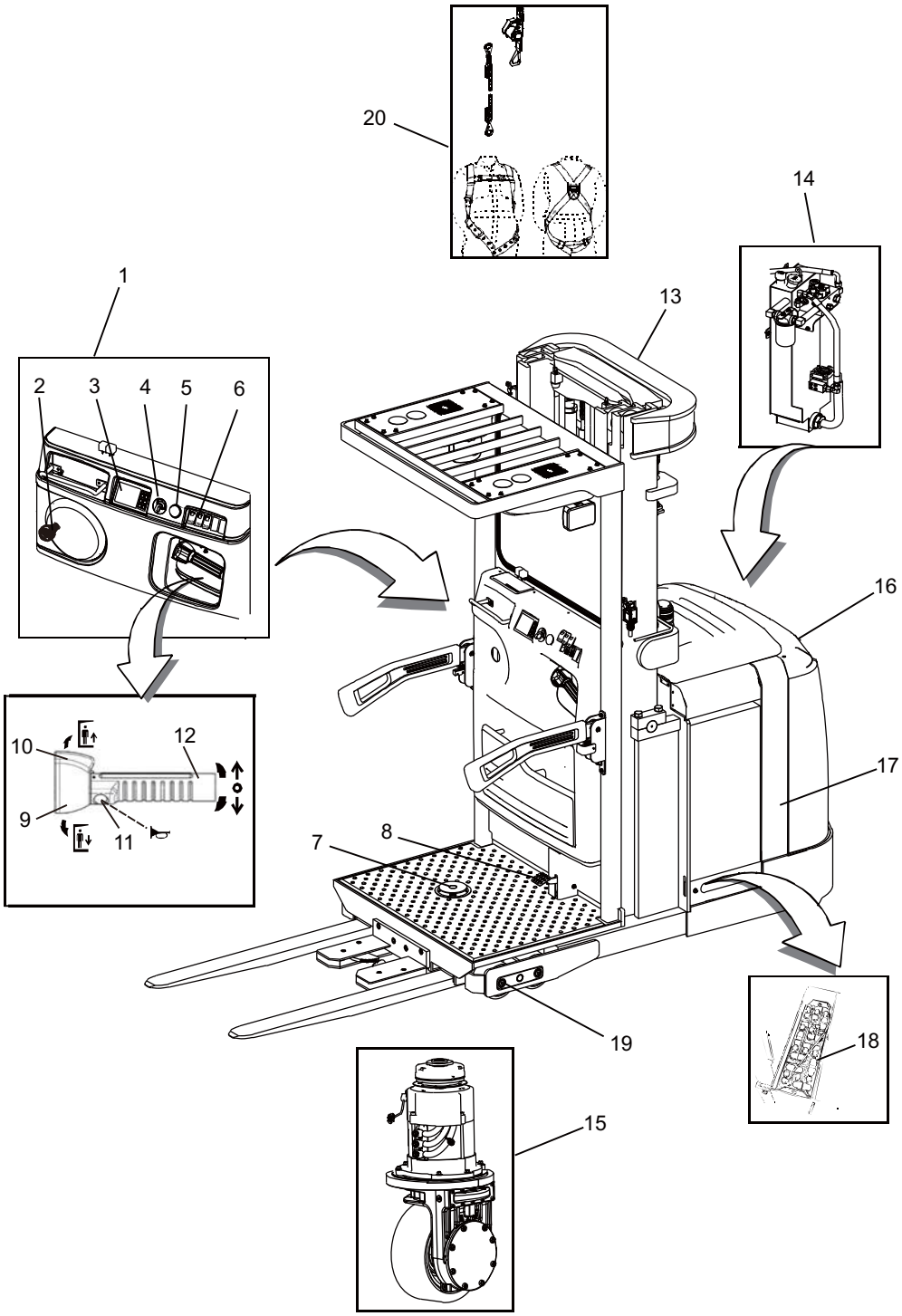
The following diagram shows external dimensions for the truck in its standard design.



9	Max. Lift Height	210 inch (5334 mm)
12	Overall Dimensions	78 inch (1981 mm)
13	Width	40 inch (1016 mm)
14	Height, Upright Lowered	95 inch (2413 mm)
16	Height, Overhead Guard	89.4 inch (2270 mm)
17	Step Height	8.2 inch (208 mm)
18	Head Clearance	79.3 inch (2015 mm)
19	Turning Radius	68.7 inch (1746 mm)
36	Wheelbase	57 inch (1448 mm)
37	Ground Clearance	2 inch (51 mm)

Main Components

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 to seen about condition of the truck.
4. **Key switch:**
   Shuts off electrical power to control system.
5. **Emergency power off (EPO) switch:**
   Stops control functions.
6. **Lamp switch**
   This functions to turn on various lamp.
7. **Brake pedal:**
   The brake is applied in the up position.
8. **Pallet clamp:**
   Applies clamping to retain pallets to 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 direction to travel. The further you rotate in that direction the faster you travel.
13. **Mast:**
    The mast is 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 combine 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. **Tether line, body harness:**



Inch (SAE) and Metric Fasteners

Introduction

Threaded fasteners such as bolts, nuts, cap screws, and studs are made to specifications that describe the mechanical strength and hardness of the fastener. A fastener used in a design application is selected in accordance with its specifications. Parts used on this truck are purchased from many countries. Many fasteners are similar but cannot be used as direct replacements.

Service technicians must use replacement fasteners that have the same specifications. Fasteners made to each specification have identification marks for that specification. This specification is commonly called “grade” for SAE standards and “property” for metric standards. This section describes the identification of some common fasteners.

Fastener Torque Values

Size and Pitch	Property, Class 8.8		Property, Class 10.9		Property, Class 12.9	
	N•m	in-lbs	N•m	in-lbs	N•m	in-lbs
M5 x 0.8	5-6	44-53	7-8	62-71	8-10	71-88
M6 x 1	8-10	71-88	12-14	106-124	14-16	124-142
M8 x 1.25	20-25	177-221	30-35	265-309	----------	----------
	N•m	ft-lbs	N•m	ft-lbs	N•m	ft-lbs
M8 x 1.25	----------	----------	29-35	22-26	34-40	26-30
M10 x 1.5	40-45	30-33	60-65	44-48	70-75	52-55
M12 x 1.75	70-80	30-33	100-110	74-81	115-130	85-96
M14 x 2	110-125	52-59	155-180	114-133	180-210	133-155
M16 x 2	170-190	125-140	240-270	177-199	280-320	207-236
M20 x 2.5	340-380	251-280	450-500	332-369	550-600	406-443
M24 x 3	580-650	428-479	800-900	590-664	900-1050	664-774
M30 x 3.5	1150-1300	848-959	1600-1800	1180-1328	1850-2100	1364-1549
M36 x 4	2000-2250	1479-1660	2800-3150	2065-2323	3250-3700	2397-2729

Jacking Truck Off The Floor

To perform maintenance that requires the truck to be lifted from the floor, observe the proper safety precautions as follows:

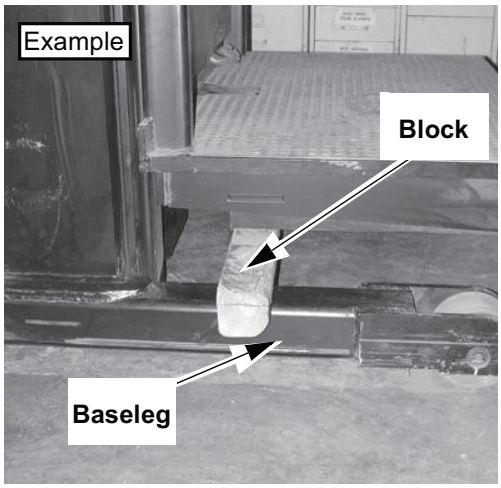
1. Lower forks completely. Remove any load.
2. Place all controls in neutral.
3. Block wheels to reduce risk of truck movement.
4. Disconnect battery connector from the truck.
5. Place the jack under the designated jacking points.

WARNING

Use extreme care whenever the truck is jacked up for any reason. Never block the truck between the mast column and floor. Use a suitable hoist to stabilize the mast. Keep hands and feet clear from beneath the truck while jacking. Use safety stands or solid blocks to support the truck. Do not rely on the safety stands or blocks alone to support the truck.

Operator Platform

1. Using the lift button, raise the operator platform to obtain sufficient clearance.
2. Place a stand or block between the platform and a baseleg and carefully lower the platform onto the safety stand.
3. Turn key switch OFF and depress emergency power off (EPO) switch. Disconnect battery connector from truck.



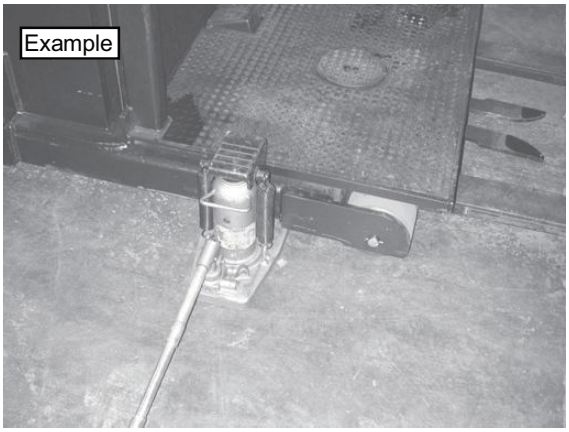
Operator Platform Blocking Point

Truck Frame

1. Place the jack at the designated jacking point to one side of the truck frame.
2. Jack one side of the truck frame so the drive wheel is off the floor approximately 1 inch (25.4 mm). Block that side of the truck in place.
3. Jack up the other side of the truck frame level with the first side.
4. Block that side of the truck in place.
5. With the truck frame securely blocked with the drive tire off the floor, functional tests may be performed to verify truck operation.

Baseleg

1. Place the jack at the designated jacking point.
2. Jack the baseleg until sufficient clearance to replace the load wheel.



Baseleg Jacking Points

Section 2

Service Schedule