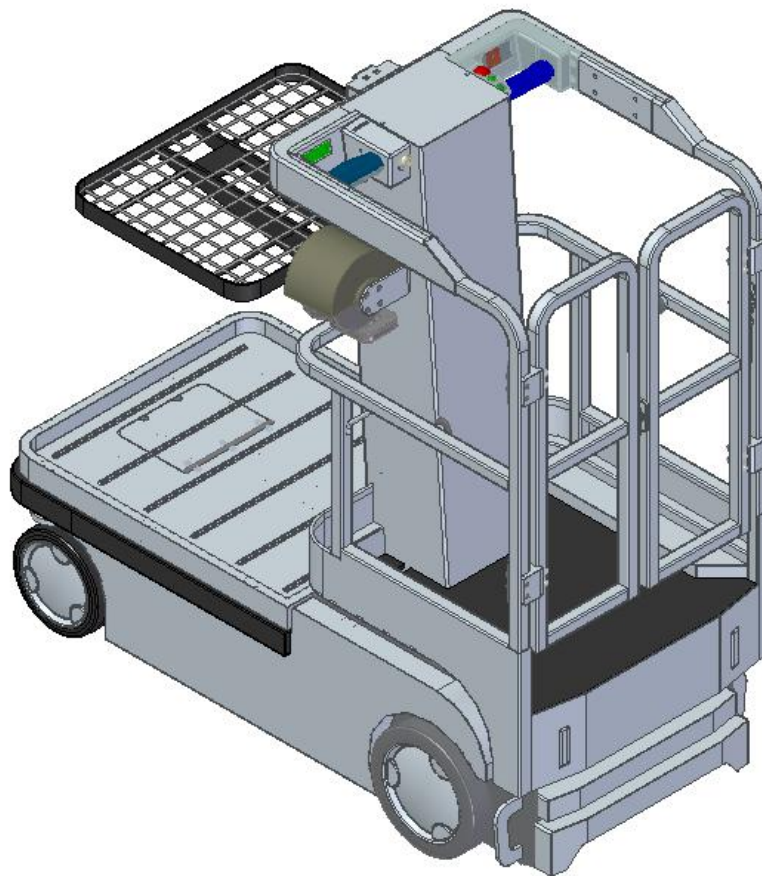


MULTI-FUNCTION ORDER-PICKING TRUCK

OPERATOR'S MANUAL

with Maintenance Information

For OPT0507



WARNING

THE MANUFACTURER SHALL NOT BE HELD LIABLE IN CASE OF FAULTS OR ACCIDENTS DUE TO NEGLIGENCE, INCAPACITY, INSTALLATION BY UNQUALIFIED TECHNICIANS AND IMPROPER USE OF THE MACHINE

DO NOT OPERATE THIS MACHINE UNTIL YOU READ AND UNDERSTAND ALL THE DANGERS, WARNINGS AND CAUTIONS IN THIS MANUAL

Part Number: SM0920111_Rev1.0

Zhejiang Dingli Machinery Co., Ltd.

First Edition, March 2020 Printing

Version of the Record

Version of the Record

Version Number

Create Date

SM0920111_Rev1.0 2020-07

Important

Read, understand and obey these safety rules and operating instructions before operating this machine.

Only trained and authorized personnel shall be permitted to operate this machine. This manual should be considered a permanent part of your machine and should remain with the machine at all times. If you have any questions, please call DINGLI Machinery.

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Owners, Users and operators:

Dingli appreciates your choice of our machine for your application. User's safety is our priority, so we hope you can:

- 1 Comply with employer, job site and governmental rules.
- 2 Read, understand and follow the instructions in this and other manuals supplied with this machine.
- 3 Use good safe work practices in a commonsense way.
- 4 Only have trained / certified operators, directed by informed and knowledgeable supervision, running the machine.

If there is anything in this manual that is not clear or which you believe should be added, please contact us.

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Safety Rules



Danger

Failure to obey the instructions and safety rules in this manual will result in death or serious injury.

Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.
- 1 Avoid hazardous situations.**
Know and understand the safety rules before going on to the next section.
- 2 Always perform a pre-operation inspection.
- 3 Always perform function tests prior to use.
- 4 Inspect the workplace.
- 5 Only use the machine as it was intended.
- ☒ You read, understand and obey the manufacturer's instructions and safety rules— safety and operator's manuals and machine decals.
- ☒ You read, understand and obey employer's safety rules and worksite regulations.
- ☒ You read, understand and obey all applicable governmental regulations.
- ☒ You are properly trained to safely operate the machine.

Decal Legend

DINGLI product decals use symbols, color coding and signal words to identify the following:



Safety alert symbol — used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER Red — used to indicate the presence of an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING Orange — used to indicate the presence of a potentially hazardous situation which, if not avoided, could result in death or serious personal injury.



CAUTION Yellow with safety alert symbol — used to indicate the presence of a potentially hazardous situation which, if not avoided, may cause minor or moderate personal injury.



NOTICE Blue without safety alert symbol — used to indicate the presence of a potentially hazardous situation which, if not avoided, may result in property damage.

Safety Rules

Definition

Lift truck fitted with an operator's platform which can be raised, allowing the operator to load or unload goods from racking to the load-carrying attachment.

Safety Sign Maintenance

Replace any missing or damaged safety signs. Keep operator safety in mind at all times.

Use mild soap and water to clean safety signs.

Do not use solvent-based cleaners because they may damage the material of safety sign.

⚠️ Electrocutation Hazard



This machine is not electrically insulated and will not provide protection from contact with or proximity to electrical current.

Maintain safe distances from electrical power lines and apparatus in accordance with applicable governmental regulations and the following chart.

Voltage Phase to Phase	Minimum Safe Approach Distance Meters
0 to 300V	Avoid Contact
300V to 50kV	3.05
50kV to 200kV	4.60
200kV to 350kV	6.10
350kV to 500kV	7.62
500kV to 750kV	10.67
750kV to 1000kV	13.72

Keep away from the machine if it contacts energized power lines. Personnel on the ground or in the platform must not touch or operate the machine until energized power lines are shut off.

Do not use the machine as a ground for welding.

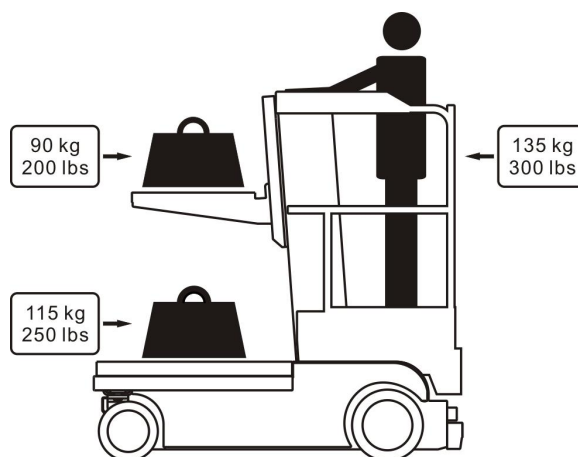
⚠️ Tip-over Hazard

Occupants and equipment must not exceed the maximum platform capacity of the corresponding platform.

Maximum occupants 1

Maximum capacity

Platform type	load
Load deck	115kg
Load Operator platform	135kg
Load tray	90kg



Work Area Safety

Do not raise the platform unless the machine is on a firm, level surface.

Do not drive over 1.6km/h with the platform raised.

Safety Rules



Do not use the platform controls to free a platform that is caught, snagged or otherwise prevented from normal motion by an adjacent structure. All personnel must be removed from the platform before attempting to free the platform using the ground controls.

Use extreme care and slow speeds while driving the machine in the stowed position across uneven terrain, debris, unstable or slippery surfaces and near holes and drop-offs.

Do not drive the machine on or near uneven terrain, unstable surfaces or other hazardous conditions with the platform raised.



Do not push off or pull toward any object outside of the platform.

Do not use the machine as a crane.

Do not place or attach fixed or overhanging loads to any part of this machine.

Do not push the machine or other objects with the platform.

Do not contact adjacent structures with the platform.

Do not alter or disable the limit switches.

Do not tie the platform to adjacent structures.

Do not place loads outside the platform perimeter.



Do not place ladders or scaffolds in the platform or against any part of this machine.

Do not use the machine on a moving or mobile surface or vehicle.

Be sure all tires are in good condition, and lug standard parts are properly tightened.

Do not alter or disable machine components that in any way affect safety and stability.

Do not replace items critical to machine stability with items of different weight or specification.

Do not use batteries that weigh less than the original equipment. Batteries are used as counterweight and are critical to machine stability. Each battery must weigh 33.3 kg.

Do not modify or alter an Order-Picking truck without prior written permission from the manufacturer. Mounting attachments for holding tools or other materials onto the platform, toe boards or guard rail system can increase the weight in the platform and the surface area of the platform or the load.

▲ Crushing Hazard

Keep hands and limbs out of masts.

Keep the normal judgment and planned operation while operating the machine by ground control box.

Maintain safe distance between operators, the machine and fixed objects.

Safety Rules

⚠ Operation on Slopes Hazard

Do not drive the machine on a slope that exceeds the slope and side slope rating of the machine.

Slope rating applies to machines only in the stowed position.

Model	Maximum slope rating stowed position	Maximum side slope rating stowed position
OPT0507	15%	15%

Note: Slope rating is subject to ground conditions and adequate traction.

⚠ Fall Hazard

The guard rail system provides fall protection. During operation, occupants in the platform must wear a full body harness with a lanyard attached to an authorized lanyard anchorage point. Attach only one (1) lanyard per lanyard anchorage point.



Do not sit, stand or climb on the platform guard rails. Maintain a firm footing on the platform floor at all times.

Do not climb down from the platform when raised.

Keep the gates closed when you are elevated. Don't climb on any part of the platform. Never add anything to the platform to stand or climb on

Never allow anyone to stand or ride anywhere on your vehicle

Do not enter or exit the platform unless the machine is in the stowed position.

⚠ Collision Hazard



Be aware of limited sight distance and blind spots when driving or operating.

Pedestrians always have the right of way. They can't control your vehicle. Start out slowly and don't drive too close to them. Be careful at intersections. Check around the vehicle and under the platform before lowering or driving.

Check the work area for overhead obstructions or other possible hazards.



Be aware of crushing hazards when grasping the platform guard rail.

Operators must comply with employer, job site and governmental rules regarding use of personal protective equipment.

Do not operate a machine in the path of any crane or moving overhead machinery unless the controls of the crane have been locked out and/or precautions have been taken to prevent any potential collision.

No stunt driving or horseplay while operating a machine.

Do not lower the platform unless the area below is clear of personnel and obstructions.

Limit travel speed according to the condition of the ground surface, congestion, slope, location of personnel, and any other factors which may cause collision.

Safety Rules

⚠ Component Damage Hazard

Do not use any battery or charger greater than 24V.

Do not use the machine as a ground for welding.

⚠ Explosion and Fire Hazard

Do not operate the machine or charge the battery in hazardous locations or locations where potentially flammable or explosive gases or particles may be present.

⚠ Damaged Machine Hazard

Do not use a damaged or malfunctioning machine.

Conduct a thorough pre-operation inspection of the machine and test all functions before each work shift. Immediately tag and remove from service a damaged or malfunctioning machine.

Be sure all maintenance has been performed as specified in this manual

Be sure all decals are in place and legible.

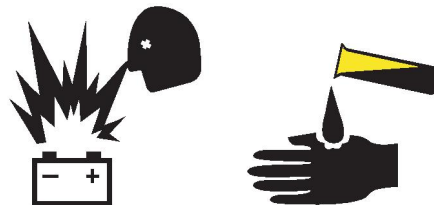
⚠ Bodily Injury Hazard

Do not operate the machine with a hydraulic oil or air leak. An air leak or hydraulic leak can penetrate and/or burn skin.

Improper contact with components under any cover will cause serious injury. Only trained maintenance personnel should access compartments. Access by the operator is only advised when performing a pre-operation inspection. All compartments must remain closed and secured during operation.

⚠ Battery Safety

⚠ Burn Hazard



Batteries contain acid. Always wear protective clothing and eye wear when working with batteries.

Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

⚠ Explosion Hazard



Keep sparks, flames and lighted tobacco away from batteries. Batteries emit explosive gas.

Do not contact the battery terminals or the cable clamps with tools that may cause sparks.

⚠ Component Damage Hazard

Do not use any battery charger greater than 24V to charge the batteries.

Pressure relief valves are used as breathable plugs. If open the pressure relief valves, the battery will be destroyed.

The battery must always be kept clean and dry in order to prevent leakage currents. Do not rinse with water or wipe with a wet towel.

Please do not change the location of the battery, and cannot be inverted. Do not block the vent hole of safety valve when placing.

Safety Rules

The series/parallel connection must be approved by Dingli. Only accessories approved by Dingli can be used for connection of battery blocks.

⚠ **Electrocution/ Burn Hazard**



Connect the battery charger to a grounded, AC 3-wire electrical outlet only.

Inspect daily for damaged cords, cables and wires. Replace damaged items before

operating.

Metallic parts of the battery cells are always electriferous. Therefore, no foreign objects or tools may be placed on the batteries.

Avoid electrical shock from contact with battery terminals. Remove all rings, watches and other jewelry.

⚠ **Tip-over Hazard**

Do not use batteries that weigh less than the original equipment. Batteries are used as counterweight and are critical to machine stability. Each battery must weigh 33.3 kg.

⚠ **Lifting Hazard**

Use the appropriate number of people and proper lifting techniques when lifting batteries.

Use the appropriate number of people and proper lifting techniques when lifting hooks must not cause any damage to cells, connectors and connecting cables.

⚠ **Environmental Hazard**

30°C battery temperature is considered the rated temperature. Higher temperatures reduce the service life, while lower temperatures reduce the available capacity. 45°C is the upper limit temperature and is not permissible as an operating temperature.

Batteries must not be exposed to sunlight

without protection.

⚠ **Transportation and storage Hazard**

Charge the battery as soon as receive the machine or after long distance transportation

When the battery is stored for a long time, it needs to be charged regularly. Failure to charge in time may permanently damage the battery.

⚠ **pollute Hazard**



Old batteries with this marking are recyclable goods and must be sent for recycling.

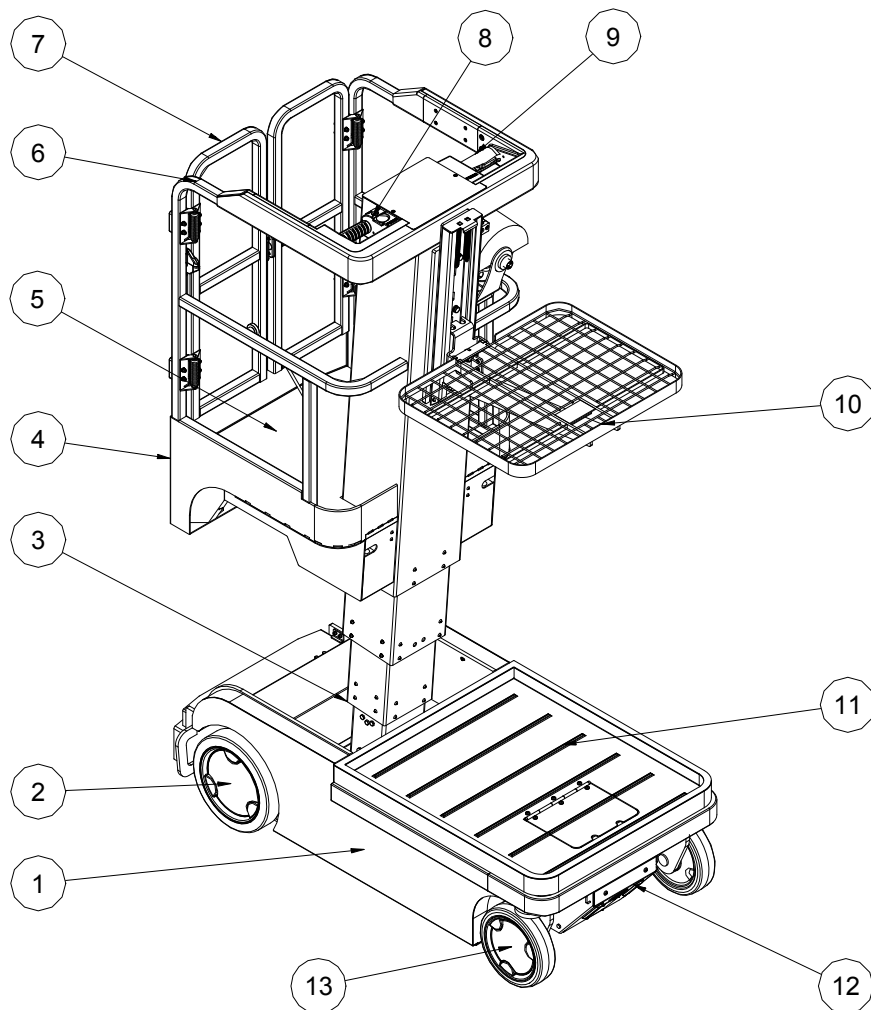
Used batteries which are not sent for recycling are to be disposed of as special waste under the relevant regulations

Lockout after Each Use

- 1 Select a safe parking location - firm level surface, clear of obstruction and traffic.
- 2 Lower the platform.
- 3 Turn the key switch to the off position and remove the key to secure from unauthorized use.
- 4 Push in the red Emergency Stop buttons to "off" position.
- 5 Push in the main power switch to "off" position
- 6 Chock the wheels.
- 7 Charge the batteries.

Legend

Legend



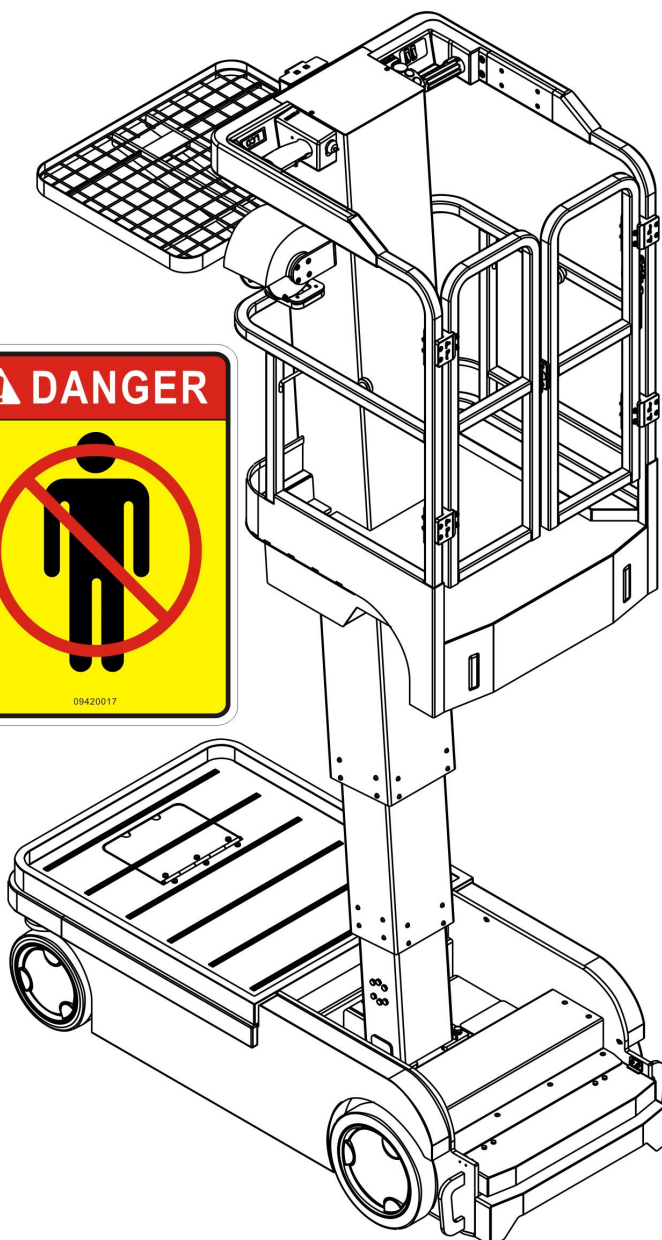
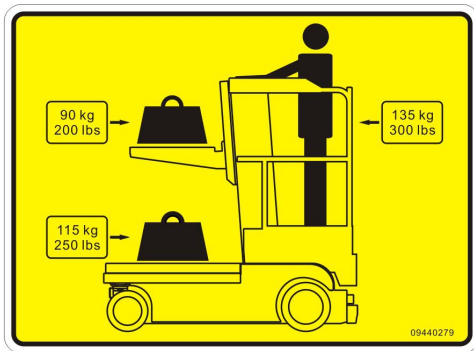
- | | | | |
|---|----------------------|----|-------------------------|
| 1 | Chassis | 8 | Platform right controls |
| 2 | Rear Wheel | 9 | Platform left controls |
| 3 | Masts Assembly | 10 | Load Tray |
| 4 | Platform | 11 | Load Deck |
| 5 | Platform Floorboard | 12 | Ground controls |
| 6 | Platform guard rails | 13 | Front Wheel |
| 7 | Platform entry gate | | |

Decals

Decal Inspection

Use the pictures on the next page to verify that all decals are legible and in place.

Below is a numerical list with quantities and descriptions.



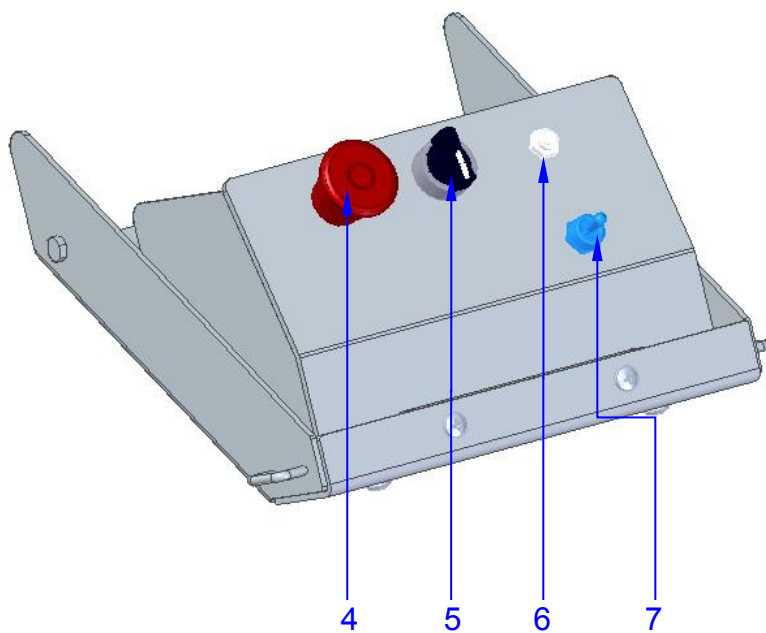
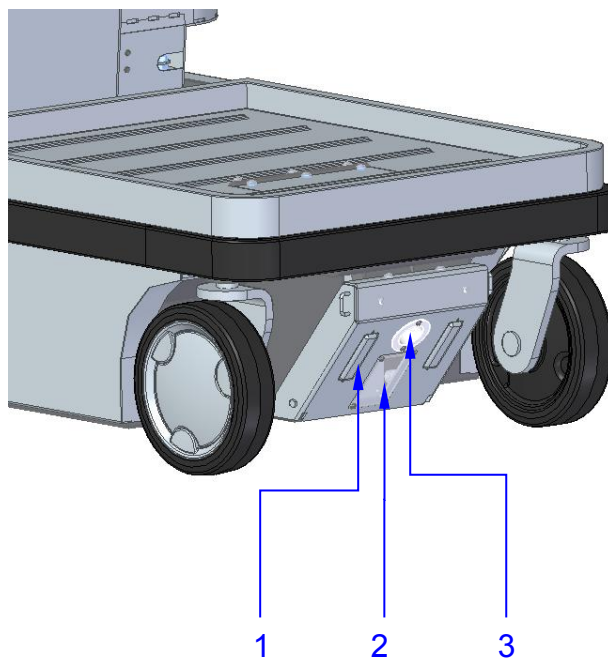
Specifications**OPT0507**

Height, working maximum	4.99m	Airborne noise emissions	<70dB
Height, platform maximum	2.99m	Maximum sound level at normal operating workstations (A-weighted)	
Platform Step Height	0.48m	Vibration value does not exceed	2.5m/s ²
Overall Extended Height	3.99m	Maximum slope rating Stowed position	15%
Overall Collapsed Height	1.48m	Maximum side slope rating Stowed position	15%
Height, stowed maximum	1.58m	Note: Slope rating is subject to ground conditions and adequate traction.	
Height, guard rails	1.04m		
Width	0.75m		
Length	1.58m	Drive speeds	
Load Operator platform	135kg	Stowed, Forward, open the door	8.0km/h
Load tray	90kg	Stowed, Reverse, open the door	3.2km/h
Load deck	115kg	Stowed, Forward, close the door	4.8km/h
Wheelbase	1.11m	Stowed, Reverse, close the door	3.2km/h
Turning radius (outside)	1.3m	Platform raised, maximum	1.6km/h
Turning radius (inside)	0m	Floor loading information	
Ground clearance	4cm	Tire load, maximum	400kg
Weight (See Serial Label)		Tire contact pressure	12.3kg/cm ² 1210kPa
Machine weights vary with option configurations		Occupied floor pressure	827kg/m ² 8.1kPa
Power source	2×12V 100Ah	Note: Floor loading information is approximate and does not incorporate different option configurations. It should be used only with adequate safety factors.	
Charger	30A	Continuous improvement of our products is a DINGLI policy. Product specifications are subject to change without notice or obligation.	
Controls	Proportional		
System voltage	24V		
Front Wheel	Φ254×63.5mm		
Rear Wheel	Φ305×63.5mm		

Control Panel

Ground Control Panel

Note: The ground controller is in the middle of the front wheel and can be operated by opening the hinge.



Control Panel

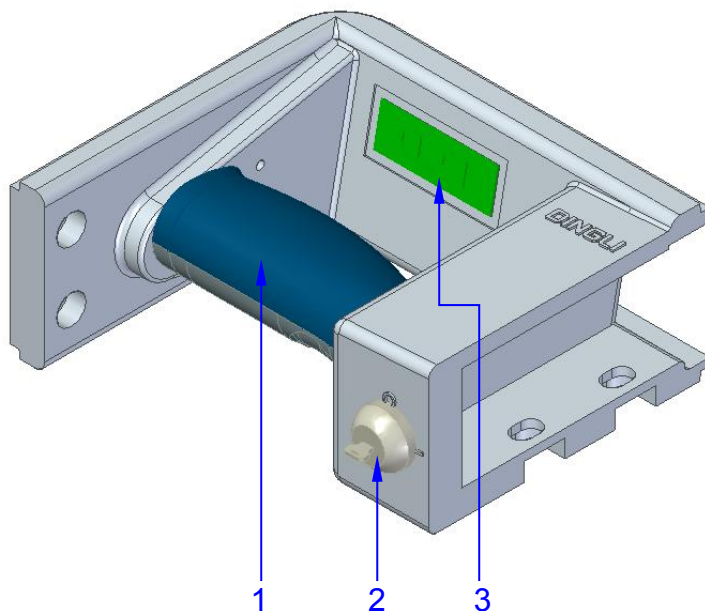
Ground Control Panel

- | | |
|--|---|
| <p>1 Beacons</p> <p>Flicker when operating machine or machine failure</p> | <p>5 Selected switch</p> <p>Turn the Selected switch to the platform position and the platform controls will operate. Turn the Selected switch to the base position and the ground controls will operate. Turn the Selected switch to the brake release position, After hearing the buzzer, release the switch and the machine will release the brake..</p> |
| <p>2 Observation window</p> <p>Observe the status indicator of the charger</p> | <p>6 Circuit breaker</p> <p>When the current was overloaded, the circuit breaker will cut off the circuit.</p> |
| <p>3 Power socket</p> <p>Socket for charging the machine</p> | <p>7 Platform up / down switch</p> <p>Move the switch up and the platform will raise. Move the switch down and the platform will lower.</p> |
| <p>4 Red Emergency Stop button</p> <p>Push in the red Emergency Stop button to the off position to stop all functions. Pull out the red Emergency Stop button to the on position to operate the machine.</p> | |

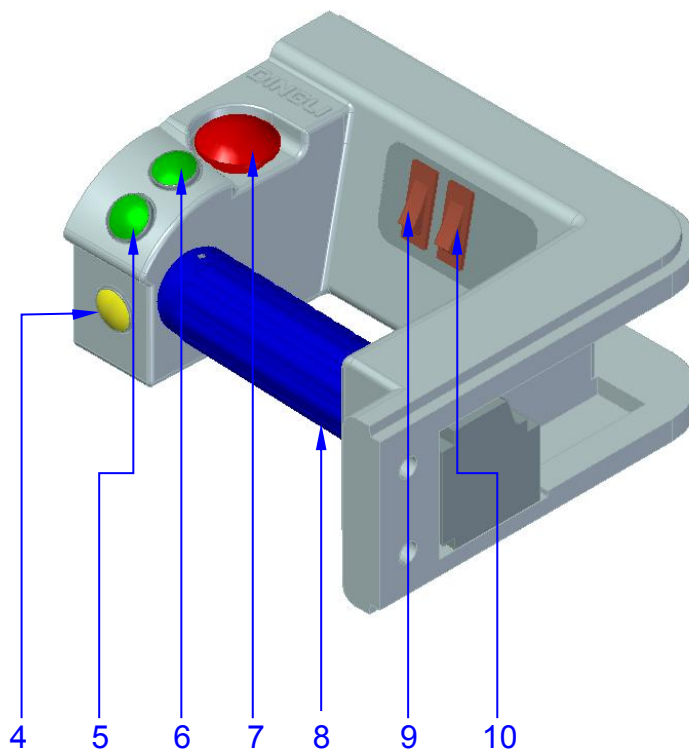
Control Panel

Platform Control Panel

Left Platform Control Panel



Right Platform Control Panel



Control Panel

Platform Control Panel

1 Steering Control handle

Squeeze the left side of the steering control handle. The front of the vehicle will turn to the left. Squeeze the right side of the steering control handle. The front of the vehicle will turn to the right

Your turning speed will vary depending on how far you squeeze the steering control.

2 Key switch

Turn the key switch to the "I" icon and turn on the vehicle

Turn the key switch to the "O" icon and turn off the vehicle

3 LED display screen



This page is used to display basic information about the machine.

The first line mainly shows the battery power percentage and control mode selection

The second line mainly shows the current machine running time

When the machine fails, the failure will automatically appear on the current page until the failure disappears.

4 Horn Button

Push the horn button and the horn will sound. Release the horn button and the horn will stop.

5 Platform down button

Press this button to lower the platform

6 Platform up button

Press this button to lift the platform

7 Red Emergency Stop button

Push in the red Emergency Stop button to the off position to stop all functions. Pull out the red Emergency Stop button to the on position to operate the machine.

8 Driving Control handle

Turn the handle forward and the vehicle should move forward.

Turn the handle backward and the vehicle should move backward.

The farther you rotate the grip from the center position, the faster your vehicle will travel

9 Travel speed switch

Push the bottom of the switch, by the "rabbit", to select faster travel speeds.

Push the bottom of the switch, by the "turtle", to select slower travel speeds.

10 Hand sensor override switch

If you need a hand free to steady a load, you can turn the hand sensors off by pushing the bottom of the switch, by the "xhandx" symbol. will come on to remind you the sensors are turned off. Push the top of the switch, by the "hand" symbol, to turn the sensors on.

Pre-operation Inspection



Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.

- 1 Avoid hazardous situations.
- 2 Always perform a pre-operation inspection.**

Know and understand the pre-operation inspection before going on to the next section.

- 3 Inspect the workplace.
- 4 Always perform function tests prior to use.
- 5 Only use the machine as it was intended.

Fundamentals

It is the responsibility of the operator to perform a pre-operation inspection and routine maintenance.

The pre-operation inspection is a visual inspection performed by the operator prior to each work shift. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests.

The pre-operation inspection also serves to determine if routine maintenance procedures are required. Only routine maintenance items specified in this manual may be performed by the operator.

Refer to the list on the next page and check each of the items.

If damage or any unauthorized variation from factory delivered condition is discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications. After repairs are completed, the operator must perform a pre-operation inspection again before going on to the function tests.

Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications and the requirements listed in this manual.

Pre-operation Inspection

Pre-operation Inspection

- ☐ Be sure that all decals are legible and in place. See Decals section.
- ☐ Electrical components, wiring and electrical cables
- ☐ Battery pack and connections
- ☐ Drive motors
- ☐ Rollers and slide blocks on masts
- ☐ Tires and wheels
- ☐ Lifting chains and idler wheels
- ☐ Mast and mast braces
- ☐ Limit switches, alarms and horn
- ☐ Nuts, bolts and other fasteners
- ☐ Platform entry gate and guard rail
- ☐ Beacons
- ☐ Platform Control Panel
- ☐ Ground Control Panel

Check entire machine for:

- ☐ Cracks in welds or structural components
- ☐ Dents or damage to machine
- ☐ Be sure that all structural and other critical components are present and all associated fasteners and pins are in right place and properly tightened.

Workplace Inspection



Do Not Operate Unless:

☒ You learn and practice the principles of safe machine operation contained in this operator's manual.

- 1 Avoid hazardous situations.
- 2 Always perform a pre-operation inspection.

3 Inspect the workplace.

Know and understand the workplace inspection before going on to the next section.

- 4 Always perform function tests prior to use.
- 5 Only use the machine as it was intended.

Fundamentals

The workplace inspection helps the operator determine if the workplace is suitable for safe machine operation. It should be performed by the operator prior to moving the machine to the workplace.

It is the operator's responsibility to read and remember the workplace hazards, then watch for and avoid them while moving, setting up and operating the machine.

Workplace Inspection

Be aware of and avoid the following hazardous situations:

- Drop-offs or holes
- Bumps, floor obstructions or debris
- Sloped surfaces
- Unstable or slippery surfaces
- Overhead obstructions and high voltage conductors
- Hazardous locations
- Inadequate surface support to withstand all load forces imposed by the machine
- The presence of unauthorized personnel
- Other possible unsafe conditions

Function Tests



Do Not Operate Unless:

☒ You learn and practice the principles of safe machine operation contained in this operator's manual.

- 1 Avoid hazardous situations.
- 2 Always perform a pre-operation inspection.
- 3 Inspect the workplace.
- 4 **Always perform function tests prior to use.**

Know and understand the function tests before going on to the next section.

- 5 Only use the machine as it was intended.

Fundamentals

The function tests are designed to discover any malfunctions before the machine is put into service.

The operator must follow the step-by-step instructions to test all machine functions.

A malfunctioning machine must never be used. If malfunctions are discovered, the machine must be tagged and removed from service. Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications.

After repairs are completed, the operator must perform a pre-operation inspection and function tests again before putting the machine into service.

Function Tests

- 1 Select a test area that is firm, level and free of obstruction.
- 2 Be sure the battery pack is connected.
- 3 Turn the platform key switch to the "I" position.

- 15 Open the platform entry gate Move up and hold the platform up / down switch

⊙ Result: The platform should stop and alarm will sound.

- 16 Turn the Selected switch to platform position, Closed the platform entry gate.

At the Ground Controls

- 4 Pull out the platform and ground red Emergency Stop button to the on position.
- 5 Turn the Selected switch to ground control.
- 6 Observe the LED readout screen on the platform controls.

⊙ Result: The LED indicator light should come on.

Test Emergency Stop

- 7 Push in the ground red Emergency Stop button to the off position.
- ⊙ Result: No functions should operate.
- 8 Pull out the red Emergency Stop button to the on position.

Test Up/Down Functions

- 9 Turn the Selected switch to platform position.
- 10 Platform entry gate remain closed.
- 11 Move up and hold the platform up / down switch.
- ⊙ Result: No function should operate.
- 12 Turn the Selected switch to ground control position.
- 13 Move up and hold the platform up / down switch.
- ⊙ Result: The platform should raise.
- 14 Move down and hold the platform up / down switch.
- ⊙ Result: The platform should lower.

At the Platform Controls

Note: when standing on the platform, people should keep the driving attitude. Stand with both feet on the yellow area of the platform bottom plate and hold the handle with both hands. The height of the equipment shall not be higher than 0.7m.

Test Emergency Stop

- 17 Push in the platform red Emergency Stop button to the off position.
- ⊙ Result: No functions should operate.
- 18 Pull the red Emergency Stop button out to the on position.
- ⊙ Result: The LED indicator light should come on.

Test the Horn

- 19 Push the horn button.
- ⊙ Result: The horn should sound.

Test Up/Down Functions

- 20 Press the platform up button.
- ⊙ Result: The platform should raise.
- 21 Press the platform down button.
- ⊙ Result: The platform should lower.

Test Drive and Braking

- 22 Turn the driving control handle forward.
- ⊙ Result: The machine should move forward.
- 23 Turn the driving control handle backward.

Function Tests

- ⊙ Result: The machine should move backward.

24 Release driving control handle

- ⊙ Result: The machine should stop moving

Note: The brakes must be able to hold the machine on any slope that is able to climb.

Test the Steering

25 Squeeze the left side of the steering control handle to the left as the machine moves forward.

- ⊙ Result: The machine should turn left.

26 Squeeze the right side of the steering control handle as the machine moves forward.

- ⊙ Result: The machine should turn right.

27 Release driving control handle and Squeeze the left side of the steering control handle

- ⊙ Result: The machine pivots to the left on the operator.

28 Release driving control handle and Squeeze the right side of the steering control handle

- ⊙ Result: The machine pivots to the right on the operator.

Test Limited Drive Speed

29 Press the platform up button. Raise the platform approximately 0.7 m from the ground.

30 Turn the driving control handle forward to the full drive position.

- ⊙ Result: The maximum achievable drive speed with the platform raised should not exceed 44 cm/s.

- ⊘ Result: If the drive speed with the platform raised exceeds 44 cm/s, immediately tag

and remove the machine from service.

31 Turn the driving control handle backward to the full drive position.

- ⊙ Result: The maximum achievable drive speed with the platform raised should not exceed 44 cm/s.

- ⊘ Result: If the drive speed with the platform raised exceeds 44 cm/s, immediately tag and remove the machine from service.

Test the Security Interlock Function

Test Door Interlock Function.

32 Fully lower the platform.

33 Open the platform entry gate

34 Press the platform up button.

- ⊙ Result: The platform should stop and alarm will sound.

35 Close the platform entry gate.

36 Press the platform up button. Raise the platform approximately 0.7 m from the ground.

37 Open the platform entry gate. Try to operate the drive, steering and lift functions of the machine.

- ⊙ Result: No functions should operate. And alarm will sound

Test Hand Sensing Function.

38 Fully lower the platform.

39 Press the hand sensor detection switch to the "on" position to activate this function.

40 Do not hold the driving control handle with your right hand.

41 Press the platform up button.

- ⊙ Result: No functions should operate. And alarm will sound.

42 Do not hold the steer control handle with your left hand.

Function Tests

- 43 Press the platform up button.
- ⊙ Result: No functions should operate. And alarm will sound.
- 44 Try driving or steering the machine with one hand.
- ⊙ Result: No functions should operate. And alarm will sound.
- 45 Stand with both feet in the yellow area and hold the handle with both hands, after pressing the platform lift button for 2 seconds. do not hold the handle with either hand.
- ⊙ Result: The platform stops rising and alarm will sound.
- 46 Fully lower the platform.
- 47 Press the hand sensor detection switch to the "off" position to turn off function.
- 48 Stand with both feet in the yellow detection area, Hold the handle with either hand. Drive the machine with one hand. After pressing the platform lift button for 2 seconds, remove your hand from the handle.
- ⊙ Result: The platform stops rising and alarm will sound.
- 49 Press the hand sensor detection switch to the "on" position to activate this function.

Test Foot Detection Function.

- 50 Stand with both feet in the yellow area and hold the handle with both hands, Press the platform up button.
- 51 Lift either foot.
- ⊙ Result: The platform stops rising and alarm will sound.
- 52 Try driving or steering the machine.
- ⊙ Result: No functions should operate. And alarm will sound.

- 53 Stand with both feet in the yellow area, loosen the handle with both hands, and then hold the handle again.
- ⊙ Result: All functions of the machine are normal.

Operating Instructions



Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.
- 1 Avoid hazardous situations.
- 2 Always perform a pre-operation inspection.
- 3 Inspect the workplace.
- 4 Always perform function tests prior to use.
- 5 **Only use the machine as it was intended.**

Fundamentals

It is the operator's responsibility to follow all the safety rules and instructions in the operator's, safety and responsibilities manuals.

Lift truck fitted with an operator's platform which can be raised allowing the operator to load or unload goods from racking to the load-carrying attachment. To an aerial work site is unsafe and dangerous.

Only trained and authorized personnel should be permitted to operate a machine. If more than one operator is expected to use a machine at different times in the same work shift, they must all be qualified operators and are all expected to follow all safety rules and instructions in the operator's, safety and responsibilities manuals. That means every new operator should perform a pre-operation inspection, function tests, and a workplace inspection before using the machine.

Operating Instructions

Emergency Stop

Push in the red Emergency Stop button to the off position at the ground controls or the platform controls to stop all machine functions.

Repair any function that operates when either red Emergency Stop button is pushed in.

Operation from Ground

- 1 Turn the Selected switch to ground control.
- 2 Pull out both ground and platform red Emergency Stop buttons to the on position.
- 3 Be sure the battery pack is connected before operating the machine.

To Position Platform

- 1 Move the up/down switch according to the markings on the control panel.

Drive and steer functions are not available from the ground controls.

Operation from Platform

- 1 Turn the Selected switch to platform control.
- 2 Pull out the ground and platform red Emergency Stop buttons to the on position.
- 3 Be sure the battery pack is connected before operating the machine.

To Position Platform

- 1 Press the platform up/down button.

To Steer

- 1 Press the steering switch on the steering control handle.

To Drive

- 1 Hold the driving control handle.
- 2 Increase speed: Slowly rotate the control

handle off center.

Decrease speed: Slowly rotate the control handle toward center.

Stop: Return the control handle to center or release the control handle.

Machine travel speed is restricted when the platform is raised.

Battery condition will affect machine performance.

To select drive speed

The drive controls can operate in two different drive speed modes. When the drive speed button light is on, slow drive speed mode is active. When the button light is off, fast drive speed mode is active.

Press the drive speed button to select the desired drive speed.

Note: When the platform is elevated, the drive speed button light is always on, indicating elevated drive speed.

Driving on a slope

Slope rating applies to machines only in the stowed position.

Determine the slope and side slope ratings for the machine and determine the slope grade.

Maximum slope rating, stowed position 15%,
Maximum side slope rating, stowed position 15%

Note: Slope rating is subject to ground conditions and adequate traction.

Press the drive speed button to the fast drive speed mode.

To determine the slope grade

Measure the slope with a digital inclinometer OR use the following procedure.

You will need:

Carpenter's level

Operating Instructions

Straight piece of wood, at least 1m long

Tape measure

Lay the piece of wood on the slope.

At the downhill end, lay the level on the top edge of the piece of wood and lift the end until the piece of wood is level.

While holding the piece of wood level, measure the distance from the bottom of the piece of wood to the ground.

Divide the tape measure distance (rise) by the length of the piece of wood (run) and multiply by 100.

Example:

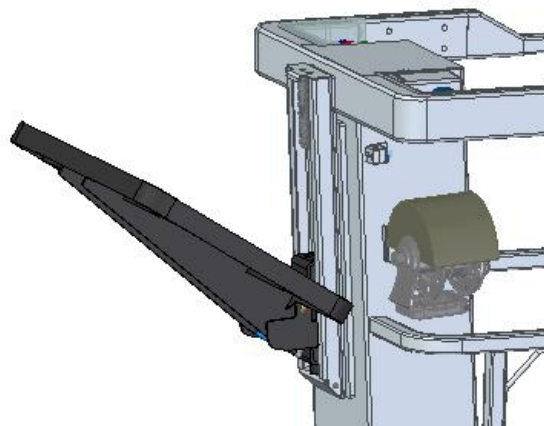
Run = 3.6 m

Rise = 0.3 m

$0.3 \text{ m} \div 3.6 \text{ m} = 0.083 \times 100 = 8.3\%$



If the slope exceeds the maximum slope or side slope rating, the machine must be winched or transported up or down the slope. See Transport and Lifting section.



Vertical tray storage

Tilt the load tray up and slide it down the mast as far as it will go. Move the tray back against the mast until it is latched.

⚠ WARNING The tray must be in the locked position before using the machine. If the tray is not locked, there is a risk of goods falling off the machine. Risk of injury to machinery.

Note: The tray has four gears, each with an adjusting distance of about 90mm.

Operation from Ground with Controller

Maintain safe distances between operator, machine and fixed objects.

Be aware of the direction the machine will travel when using the controller.

Vertical tray adjustment

Hold the load tray at the side edge with both hands to support the tray when released from its present height position. Tip the tray up until it is free to slide up or down on the mast. When you have it positioned at the best work height, return the tray to a level, latched position.

Operating Instructions

Error indicator readout

The LED readout screen displays fault codes that provide information about the machine operating status and about malfunctions. The fault codes listed in the following charts describe malfunctions and can aid in troubleshooting the machine by pinpointing the area or component affected.

List of Fault Codes		
Display	Description	Lift Reaction
08	Watch Dog Fault	Disables All Motion
17	Key voltage anomaly	Disables All Motion
28	Diode voltage of the Lift controller inverter is too low	Disables All Motion
29	Diode voltage of the Lift controller inverter is too high	Disables All Motion
30	Diode voltage of the driving controller inverter is too low	Disables All Motion
31	Diode voltage of the driving controller inverter is too high	Disables All Motion
37	Contactor Closed Error	Disables All Motion
38	Contactor Open	Disables All Motion
52	The feedback value of Lift motor current does not accord with the given value.	Warning Only
53	Static Current High	Disables All Motion
60	Long pre-charge time	Disables All Motion
62	Motor controller temperature high	Warning Only
65	Motor Temperature High	Warning Only
66	Battery Low	Warning Only
74	Short circuit of contactor or brake	Disables All Motion
75	contactor cannot operate normally	Disables All Motion
78	Handle voltage anomaly, do not hold the handle with your	Disables All Motion
79	The floor mat is not activated	Disables All Motion
149	1) Chain Slack Switch is Triggered - only lift up 2) Platform Door is open when the machine is above the lower limit – disables all motion 3) Anti-Extrusion Foot Switch is Triggered - only lift up	Warning Only
153	Encoder hardware anomaly	Disables All Motion

Operating Instructions

Display	Description	Lift Reaction
160	The temperature sensor is open	Disables All Motion
161	The actual speed exceeds the speed threshold	Disables All Motion
169	Encoder hardware configuration error	Disables All Motion
170	Abnormal high key voltage	Disables All Motion
175	The rate of speed change of the encoder is too fast	Disables All Motion
176	Lift motor encoder Z phase is not zero	Disables All Motion
177	Brake coil short circuit overload	Disables All Motion
180	Motor current overload	Disables All Motion
181	Encoder setting error	Disables All Motion
190	Diode voltage of the pump controller inverter mismatch	Warning Only
196	Motor phase sequence short circuit	Disables All Motion
202	Over voltage input	Disables All Motion
206	The UVW phase voltage is abnormally high	Disables All Motion
207	The UVW phase voltage is abnormally low	Disables All Motion
211	Motor stalling	Disables All Motion
212	Motor capacity does not accord with predetermined value	Disables All Motion
216	Brake open	Disables All Motion
218	motor temperature sensor open	Warning Only
220	Key signal connection error	Disables All Motion
223	Contactors short circuit	Disables All Motion
224	Loss of Node	Warning Only
226	Handle voltage beyond parameter modulation range	Disables All Motion
228	The foot was not activated for a long time and go into safe mode	Warning Only
230	Contactors open circuit	Disables All Motion
239	Motor controller and motor do not match	Disables All Motion
244	Alarm from the slave station controller	Warning Only

Operating Instructions

Display	Description	Lift Reaction
245	The torque current does not correspond to the predetermined value	Disables All Motion
246	The brake resistance is abnormally high	Disables All Motion
248	No can signal	Disables All Motion
250	Motor temperature sensor has too high current limit	Warning Only
251	Wrong battery voltage setting	Disables All Motion
253	The excitation current exceeds the limit	Disables All Motion
254	The brake resistance is abnormally low	Disables All Motion

For more information, please consult the appropriate Dingli Service Dept.

Operating Instructions



Battery and Charger Instructions

Observe and Obey:

- ☒ Do not use an external charger or booster battery.
- ☒ Charge the battery in a well-ventilated area.
- ☒ Use proper AC input voltage for charging as indicated on the charger.
- ☒ Use only a Dingli authorized battery and charger.
- ☒ Charge the battery as soon as receive the machine or after long distance transportation
- ☒ When the battery is stored for a long time, it needs to be charged regularly. Failure to charge in time may permanently damage the battery.

To Charge Battery

- 1 Be sure the batteries are connected before charging.
- 2 Open the battery compartment. The compartment should remain open for the entire charging cycle.

Maintenance - free battery

- 3 Connect the battery charger to a grounded AC circuit.
- 4 The charger will indicate when the battery is fully charged.

Standard Battery

- 5 Remove the battery vent caps and check the battery acid level. If necessary, add only enough distilled water to cover the plates. Do not overfill prior to the charge cycle.
- 6 Replace the battery vent caps.
- 7 Connect the battery charger to a grounded AC circuit.
- 8 The charger will indicate when the battery is fully charged.
- 9 Check the battery acid level when the charging cycle is complete. Replenish with distilled water to the bottom of the fill tube. Do not overfill.

Operating Instructions

Dry Battery Filling and Charging Instructions

than 15°C, stop charging to check whether the battery and charger are normal.

- 1 Remove the battery vent caps and permanently remove the plastic seal from the battery vent openings.
- 2 Fill each cell with battery acid (electrolyte) until the level is sufficient to cover the plates.

Do not fill to maximum level until the battery charge cycle is complete. Overfilling can cause the battery acid to overflow during charging. Neutralize battery acid spills with baking soda and water.

- 3 Install the battery vent caps.
- 4 Charge the battery.
- 5 Check the battery acid level when the charging cycle is complete. Replenish with distilled water to the bottom of the fill tube. Do not overfill.

Note: In order to achieve an optimal service life, discharge of over 60% of the rated capacity should be avoided. Discharge of over 80% of the rated capacity is a deep discharge and is not permissible. These significantly reduce the service life of the battery. Only those discharge state indicators that have been approved by the battery manufacturer may be used.

Discharged batteries must be charged immediately and must not remain in discharged state. This also applies to batteries in a state of deep discharge. Otherwise, the service life of the battery will be significantly reduced. The battery may freeze when in discharged state

Charge the battery immediately when the machine displays "36" or "68" alarm code during work.

During the charging process, if temperatures are consistently higher than 40°C or lower

Transport and Lifting Instructions



Observe and Obey:

- ☒ Common sense and planning must be applied to control the movement of the machine when lifting it with a crane or forklift.
- ☒ Only qualified aerial lift operators should move the machine on or off the truck.
- ☒ The transport vehicle must be parked on a level surface.
- ☒ The transport vehicle must be secured to prevent rolling while the machine is being loaded.
- ☒ Be sure the vehicle capacity, loading surfaces and chains or straps are sufficient to withstand the machine weight. See the serial label for the machine weight.
- ☒ The machine must be on a level surface or secured before releasing the brakes.
- ☒ Be sure the crane capacity, loading surfaces and straps or lines are sufficient to withstand the machine weight. See the serial plate for the machine weight.

Brake Release Operation

- 1 Chock the wheels to prevent the machine from rolling.
- 2 Pull out the red Emergency Stop button on both the ground and platform controls to the on position.
- 3 Turn the ground Selected switch to brake release position
- 4 The brake is released and the buzzer beeps.
- 5 If you want to close the brake release, just turn off the Selected switch in "ground" position.

The machine must be towed, do not exceed 3.2km/h.

Transport and Lifting Instructions

Securing to Truck or Trailer for Transit

Always chock the machine wheels in preparation for transport.

Turn the key switch to the off position and remove the key before transporting.

Inspect the entire machine for loose or unsecured items.

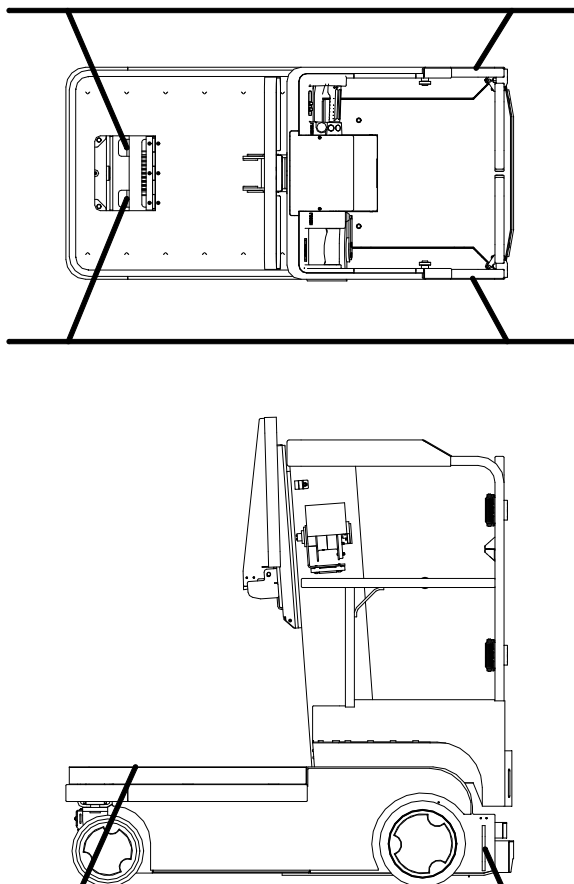
Load tray ensures storage location.

Open cover on the Load Deck to find the lifting position.

Use the tie-down points on the chassis for anchoring down to the transport surface.

Use a minimum of four chains or straps.

Use chains or straps of ample load capacity.



Lifting Instructions

Fully lower the platform. Be sure the extension decks, controls and covers are secure.

Remove all loose items on the machine.

Determine the center of gravity of your machine using the table and the picture on this page.

Load tray ensures storage location.

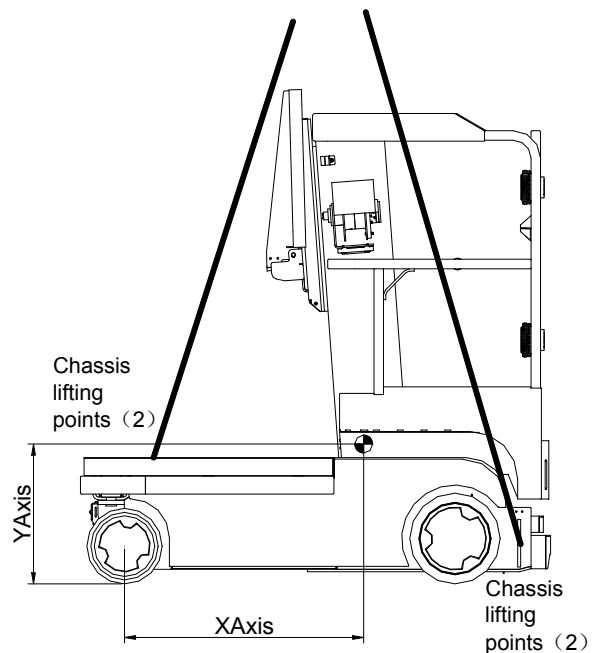
Open cover on the Load Deck to find the lifting position.

Attach the rigging only to the designated lifting points on the machine. There are two lifting points on each end of the machine.

Adjust the rigging to prevent damage to the machine and to keep the machine level.

Center of gravity

Model	X Axis	Y Axis
OPT0507	0.74m	0.49m





Observe and Obey:

☒ The storage of the machine shall be as follows, Incorrect storage may affect the performance and service life of the machine

- 1 The machine should be stored indoor coeditor and the ground should be firm and level. If be stored in outdoor condition the machine should be covered to prevent the water and dust.
- 2 Ensure the machine have been cleaned and the functional before stop to the storage. Repair an maintain it if necessary.
- 3 Stop the machine in suitable position so as the drive or move the machines conveniently.

Rust protection

- 1 Before the machine is stored into the storage. Inspecting the paint before the machine is stored into the storage repaint the machine partly all completely against the damage.
- 2 For moving parts grease can be applied to prevent rust, such as bearings, joints and sliding rails

⚠ CAUTION The machine be stored long time cannot be used to service until it has been inspected and maintained according to the daily check procedure.

How to store the batteries

- 1 When storing the machine for a long time (one month to six months) be sure to turn off the main power switch, key switch and emergency stop switch, fully charge. In order to ensure that these batteries stay ready for operation, the following charging procedures must be applied:
The machine or check the voltage of each battery on the machine once a month to ensure that the voltage of battery is not lower than 25.2V, otherwise please charge the machine immediately.
- 2 When storing the machine for a long time (half a year or more), should be fully charged state. The batteries should be removed from the machine. keep the batteries being clean and ensure nothing being placed on the top of batteries. The batteries connection should be disconnection as bellow. Disconnect the wire from the negative pole first the disconnect the wires from the positive pole. The batteries should be connected as bellow: First connect the positive power wires with the positive pole then connect the negative cable line to the negative pole finally. In order to ensure that these batteries stay ready for operation, the batteries should be charged one time in every quarter.
- 3 The following conditions can result in battery serious injuries:
 - The battery was not charged in time when the machine displays "36" or "68" alarm code during work.
 - Leave the Key Switch, Emergency Switch or Power Switch on.
 - Forget to charge the battery regularly when storing the machine for a long time.

Maintenance



Observe and Obey:

- ☒ Only routine maintenance items specified in this manual shall be performed by the operator.
- ☒ Scheduled maintenance inspections shall be completed by qualified service technicians, according to the manufacturer's specifications and the requirements specified in this manual.

Maintenance Symbols Legend

NOTICE

The following symbols have been used in this manual to help communicate the intent of the instructions. When one or more of the symbols appear at the beginning of a maintenance procedure, it conveys the meaning below.



Indicates that tools will be required to perform this procedure.



Indicates that new parts will be required to perform this procedure.



Indicates that dealer service will be required to perform this procedure.

Pre-delivery Preparation Report

The pre-delivery preparation report contains checklists for each type of scheduled inspection.

Make copies of the Pre-delivery Preparation report to use for each inspection. Store completed forms as required.

Maintenance Schedule

There are five types of maintenance inspections that must be performed according to a schedule— daily, quarterly, semi-annually, annually, and two year. The Scheduled Maintenance Procedures Section and the Maintenance Inspection Report have been divided into five subsections—A, B, C, D, and E. Use the following chart to determine which group(s) of procedures are required to perform a scheduled inspection.

Inspection	Checklist
Daily or every 8 hours	A
Quarterly or every 250 hours	A+B
Semi-annually or every 500 hours	A+B+C
Annually or every 1000 hours	A+B+C+D
Two year or every 2000 hours	A+B+C+D+E

Maintenance Inspection Report

The maintenance inspection report contains checklists for each type of scheduled inspection.

Make copies of the Maintenance Inspection Report to use for each inspection. Maintain completed forms for a minimum of 4 years or in compliance with your employer, jobsite and governmental regulations and requirements.

Maintenance**Pre-delivery Preparation Report****Fundamentals**

It is the responsibility of the dealer to perform the Pre-delivery Preparation.

The Pre-delivery Preparation is performed prior to each delivery. The inspection is designed to discover if anything is apparently wrong with a machine before it is put into service.

A damaged or modified machine must never be used. If damage or any variation from factory delivered condition is discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications.

Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications and the requirements listed in this manual.

Instructions

Use the operator's manual on your machine.

The Pre-delivery Preparation consists of completing the Pre-operation Inspection, the Maintenance items and the Function Tests.

Use this form to record the results. Place a check in the appropriate box after each part is completed. Follow the instructions in the operator's manual.

If any inspection receives an N, remove the machine from service, repair and re-inspect it. After repair, place a check in the R box.

Legend

Y = yes, completed

N = no, unable to complete

R = repaired

Comments

Pre-Delivery Preparation	Y	N	R
Pre-operation inspection completed			
Maintenance items completed			
Function tests completed			

Model

Serial number

Date

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company

Maintenance

Maintenance Inspection Report

Model
Serial number
Date
Hour meter
Machine owner
Inspected by (print)
Inspector signature
Inspector title
Inspector company

Instructions

- Make copies of this report to use for each inspection.
- Select the appropriate checklist(s) for the type of inspection to be performed.

☐ Daily or 8 hours Inspection:	A
☐ Quarterly or 250 hours Inspection:	A+ B
☐ Semi-annually or 500 hours Inspection:	A+B+C
☐ Annually or 1000 hours Inspection:	A+B+C+D

- Place a check in the appropriate box after each inspection procedure is completed.
- Use the step-by-step procedures in this section to learn how to perform these inspections.
- If any inspection receives an "N", tag and remove the machine from service, repair and re-inspect it. After repair, place a check in the "R" box.

Legend

Y = yes, acceptable
 N = no, remove from service
 R = repaired

Checklist A	Y	N	R
A-1 Inspect the decals			
A-2 Pre-operation inspection			
A-3 Function tests			
Perform after 40 hours:			
A-4 30 day service			
Perform every 100 hours:			
A-5 Lubricate front axle swing shaft			
Checklist B	Y	N	R
B-1 Batteries			
B-2 Electrical wiring			
B-3 Tires and wheels			
B-4 Emergency stop			
B-5 Lifting Chains			
B-6 Clean and Lubricate the Columns			
B-7 Test the Selected switch			
B-8 Horn			
B-9 Drive brakes			
B-11 Drive speed - stowed (Open the door)			
B-11 Drive speed - stowed (Close the door)			
B-12 Drive speed - raised			
B-13 Flashing Beacon			
B-14 Test the Motion Alarm			
Checklist C	Y	N	R
C-1 Inspection of the Condition of the Chains			
Checklist D	Y	N	R
D-1 Inspection of the Condition of the Electric Cylinder			

Checklist A Procedures

A-1

Inspect the Decals

In addition, maintaining all of the safety and instructional decals in good condition is mandatory for safe machine operation. Decals alert operators and personnel to the many possible hazards associated with using this machine. They also provide users with operation and maintenance information. An illegible decal will fail to alert personnel of a procedure or hazard and could result in unsafe operating conditions.

- 1 Open the operator's manual to the decals inspection section. Carefully and thoroughly inspect all decals on the machine for legibility and damage.

☉ Result: The machine is equipped with all required decals, and all decals are legible and in good condition.

☒ Result: The machine is not equipped with all required decals, or one or more decals are illegible or in poor condition. Remove the machine from service until the decals are replaced.

Note: Contact your authorized DINGLI distributor or DINGLI Industries if replacement decals are needed.

A-2

Perform Pre-operation Inspection

Completing a Pre-operation Inspection is essential to safe machine operation. The Pre-operation Inspection is a visual inspection performed by the operator prior to each work shift. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests. The Pre-operation Inspection also serves to determine if routine maintenance procedures are required.

Complete information to perform this procedure is available in the appropriate operator's manual. Refer to the Operator's Manual on your machine.

Maintenance

A-3

Perform Function Tests

Completing the function tests is essential to safe machine operation. Function tests are designed to discover any malfunctions before the machine is put into service. A malfunctioning machine must never be used. If malfunctions are discovered, the machine must be tagged and removed from service.

Complete information to perform this procedure is available in the appropriate operator's manual. Refer to the Operator's Manual on your machine.

A-5

Lubricate front axle swing shaft



DINGLI requires that this procedure be performed every 100 hours of operation.

Regular application of lubrication to the front axle swing shaft is essential to good machine performance and service life. Continued use of an insufficiently greased front axle swing shaft will result in component damage.

- 1 Open the chassis tray
- 2 Pump multipurpose grease into the front axle swing shaft until the front axle swing shaft is full and grease is being forced past the bearings.
- 3 Install the chassis tray.

Grease Specification

Chevron Ultra-duty grease, EP NLGI 1 (lithium based) or equivalent

A-4

Perform 30 Day Service



The 30 day maintenance procedure is a one time procedure to be performed after the first 30 days or 40 hours of usage. After this interval, refer to the maintenance tables for continued scheduled maintenance.

- 1 Perform the following maintenance procedures:
 - B-3 Inspect the Tires and Wheels.

Checklist B Procedures**B-1****Inspect the Batteries**

DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper battery condition is essential to good machine performance and operational safety. Improper fluid levels or damaged cables and connections can result in component damage and hazardous conditions.

⚠ WARNING Electrocuting / burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

⚠ WARNING Bodily injury hazard. Batteries contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

- 1 Put on protective clothing and eye wear.
- 2 Be sure that the battery cable connections are free of corrosion.

Note: Adding terminal protectors and a corrosion preventative sealant will help eliminate corrosion on the battery terminals and cables.

- 3 Be sure that the battery retainers and cable connections are tight.
- 4 Fully charge the batteries. Allow the batteries to rest 24 hours before performing this procedure to allow the battery cells to equalize.

Models without maintenance-free or sealed batteries:

- 5 Remove the battery vent caps and check the specific gravity of each battery cell with a hydrometer. Note the results.
- 6 Check the ambient air temperature and adjust the specific gravity reading for each cell as follows:
 - Add 0.004 to the reading of each cell for every 5.5° C above 26.7° C.
 - Subtract 0.004 from the reading of each cell for every 5.5° C below 26.7° C.
- ⊙ Result: All battery cells display an adjusted specific gravity of 1.277 or higher. The battery is fully charged. Proceed to step 10.
- ⊗ Result: One or more battery cells display a specific gravity of 1.217 or below. Proceed to step 7.
- 7 Perform an equalizing charge OR fully charge the batteries and allow the batteries to rest at least 6 hours.
- 8 Remove the battery vent caps and check the specific gravity of each battery cell with a hydrometer. Note the results.
- 9 Check the ambient air temperature and adjust the specific gravity reading for each cell as follows:
 - Add 0.004 to the reading of each cell for every 5.5° C above 26.7° C.
 - Subtract 0.004 from the reading of each cell for every 5.5° C below 26.7° C.
- ⊙ Result: All battery cells display a specific gravity of 1.277 or greater. The battery is fully charged. Proceed to step 10.

Maintenance

- ⊗ Result: The difference in specific gravity readings between cells is greater than 0.1 OR the specific gravity of one or more cells is less than 1.177. Replace the battery.

- 10 Check the battery acid level. If needed, replenish with distilled water to 3 mm below the bottom of the battery fill tube. Do not overfill.
- 11 Install the vent caps and neutralize any electrolyte with baking soda and water that may have spilled.

All models:

- 12 Check each battery pack and verify that the batteries are wired correctly.
- 13 Inspect the battery charger plug and pigtail for damage or excessive insulation wear. Replace as required.
- 14 Connect the battery charger to a properly grounded 110 - 230V / 50 – 60 Hz single phase AC power supply.

- ⊙ Result: The charger should operate and begin charging the batteries.

- ⊗ Result: If, simultaneously, the charger alarm sounds and the LEDs blink, correct the charger connections at the fuse and battery. The charger will then operate correctly and begin charging the batteries.

Note: For best results, use an extension of adequate size with a length no longer than 15m.

Note: If you have any further questions regarding the battery charger operation, please contact the DINGLI Service Department.

B-2

Inspect the Electrical Wiring



DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Maintaining electrical wiring in good condition is essential to safe operation and good machine performance. Failure to find and replace burnt, chafed, corroded or pinched wires could result in unsafe operating conditions and may cause component damage.

⚠ WARNING Electrocutation / burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

- 1 Inspect the underside of the chassis for damaged or missing ground strap(s).
- 2 Inspect the following areas for burnt, chafed, corroded and loose wires:

- Winding roll cable
- Platform controls
- Power to platform wiring
- Ground control panel
- Chassis cable

Maintenance

B-3

Inspect the Tires and Wheels (including castle nut torque)



DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Maintaining the tires and wheels in good condition is essential to safe operation and good performance. Tire and/or wheel failure could result in a machine tip-over. Component damage may also result if problems are not discovered and repaired in a timely fashion.

- 1 Check the tire surface and sidewalls for cuts, cracks, punctures and unusual wear.
- 2 Check each wheel for damage, bends and cracks.
- 3 Open the rear wheel cover Check each nut for proper torque.

Castle nut torque	475Nm
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B-4

Test the Emergency Stop

DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

A properly functioning Emergency Stop is essential for safe machine operation. An improperly operating red Emergency Stop button will fail to shut off power and stop all machine functions, resulting in a hazardous situation.

As a safety feature, selecting and operating the ground controls will override the platform controls, except the platform red Emergency Stop button.

- 1 Turn the Selected switch to ground control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.
 - 2 Push in the red Emergency Stop button at the ground controls to the off position.
- ⊙ Result: No machine functions should operate.
- 3 Turn the Selected switch to platform control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.
 - 4 Push down the red Emergency Stop button at the platform controls to the off position.
- ⊙ Result: No machine functions should operate.

Note: The red Emergency Stop button at the ground controls will stop all machine operation, even if the Selected switch is switched to platform control.

Maintenance

B-5

Tension the Lifting Chains



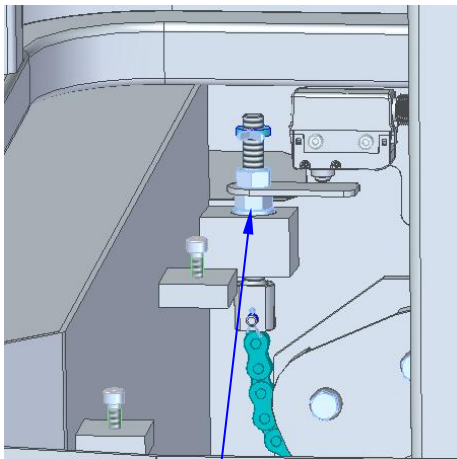
Tension chains are essential to good machine performance and safe operation.

The direct result of wearing the transmission chain is to stretch the total length of the chain. Measure the stretching rate of the used transmission chain by eye every three months. The mast connected to the elongated chain would be lower in position so that the top of each mast is obviously uneven in 'stored' position. It may lead to damage on guide roller if the problem is serious.

⚠ WARNING When slack chain or broken chain, please stop using the MEWP and contact the manufacturer immediately

NOTICE Every link of the transmission chain is associated with three links of the masts.

- 2 The same link of the mast is pulled by two chains and endures the raised weight loads at the same time. If one of the chains loses efficacy, the other will play an important safety role; therefore, try to make both chains as loose or tight as consistent each other when regulating the length of the chain. The methods of judge at site are as follows: Press the two chains by hands to compare their tautness under lifting status.



Nut

- 1 When regulating the length of the chain, please select the mast that needs increasing its height. Regulating the nut tightly makes the last link of the mast move upwards. The dual nuts should be connected with each other tightly after regulating the length of the chain.

Maintenance

B-6

Clean and Lubricate the Columns



Clean and properly lubricated columns are essential to good machine performance and safe operation. Extremely dirty conditions may require that the columns be cleaned and lubricated more often.

- 1 Raise the platform to the maximum height.
- 2 Visually inspect the inner and outer channels of the columns for debris or foreign material. If necessary, use a mild cleaning solvent to clean the columns.
- 3 Lubricate the lead rail with the calcium base grease in raising.

⚠ WARNING This procedure will require the use of additional access equipment. Do not place ladders or scaffold on or against any part of the machine. Performing this procedure without the proper skills and tools may result in death or serious injury. Dealer service is strongly recommended.

B-7

Test the Selected switch

DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper Selected switch action and response is essential to safe machine operation. The machine can be operated from the ground or platform controls and the activation of one or the other is accomplished with the Selected switch. Failure of the Selected switch to activate the appropriate control panel could cause a hazardous operating situation.

Perform this procedure from the ground using the platform controls. Do not stand in the platform.

- 1 Pull out the red Emergency Stop button to the on position at both the ground and platform controls.
- 2 Turn the Selected switch to platform control.
- 3 Check the platform up/down function from the ground controls.
 - ⊙ Result: The machine functions should not operate.
- 4 Turn the Selected switch to ground control.
- 5 Check the machine functions from the platform controls.
 - ⊙ Result: The machine functions should not operate.

Maintenance

B-8

Test the Automotive-style Horn

DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

The horn is activated at the platform controls and sounds at the ground as a warning to ground personnel. An improperly functioning horn will prevent the operator from alerting ground personnel of hazards or unsafe conditions.

- 1 Turn the Selected switch to platform control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.
- 2 Push down the horn button at the platform controls.

⊙ Result: The horn should sound.

B-9

Test the Drive Brakes



DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper brake action is essential to safe machine operation. The drive brake function should operate smoothly, free of hesitation, jerking and unusual noise.

Hydraulically-released individual wheel brakes can appear to operate normally when not fully operational.

Perform this procedure with the machine on a firm level surface that is free of obstructions, with the platform extension deck fully retracted and the platform in the stowed position.

- 1 Mark 2 test lines those are on the ground for reference.
- 2 Turn the Selected switch to platform control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.
- 3 Lower the platform to the stowed position and open the door.
- 4 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the test line.
- 5 Bring the machine to top drive speed before reaching the test line. Release the function enable switch or the joystick when your reference point on the machine crosses the test line.
- 6 Measure the distance between the test line and your machine reference point.

⊙ Result: The machine stops within the specified braking distance. No action required.

Maintenance

- ☐ Result: The machine does not stop within the specified braking distance.

Note: The brakes must be able to hold the machine on any slope it is able to climb.

- 7 Replace the brakes and repeat this procedure beginning with step 1.

Braking distance, maximum

High range on paved surface $90 \pm 30\text{cm}$

B-10

Test the Drive Speed - Stowed Position (Open the door)



DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper drive functions are essential to safe machine operation. The drive function should respond quickly and smoothly to operator control. Drive performance should also be free of hesitation, jerking and unusual noise over the entire proportionally controlled speed range.

Perform this procedure with the machine on a firm, level surface that is free of obstructions.

- 1 Create start and finish lines by marking two lines on the ground 12.2 m apart.
- 2 Turn the Selected switch to platform control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.
- 3 Lower the platform to the stowed position. And open the door.
- 4 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.
- 5 Bring the machine to top drive speed forward before reaching the start line. Begin timing when your reference point on the machine crosses the start line.
- 6 Continue at full speed and note the time when your reference point on the machine passes over the finish line. The time is less than 5.5sec.
- 7 Bring the machine to top drive speed backward before reaching the start line. Begin timing when your reference point on

Maintenance

the machine crosses the start line.

- 8 Continue at full speed and note the time when your reference point on the machine passes over the finish line. The time is less than 13.7sec.

B-11

Test the Drive Speed - Stowed Position (Close the door)



DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper drive functions are essential to safe machine operation. The drive function should respond quickly and smoothly to operator control. Drive performance should also be free of hesitation, jerking and unusual noise over the entire proportionally controlled speed range.

Perform this procedure with the machine on a firm, level surface that is free of obstructions.

- 1 Create start and finish lines by marking two lines on the ground 12.2 m apart.
- 2 Turn the Selected switch to platform control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.
- 3 Lower the platform to the stowed position. And close the door.
- 4 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.
- 5 Bring the machine to top drive speed forward before reaching the start line. Begin timing when your reference point on the machine crosses the start line.
- 6 Continue at full speed and note the time when your reference point on the machine passes over the finish line. The time is less than 9.2sec.
- 7 Bring the machine to top drive speed backward before reaching the start line. Begin timing when your reference point on

Maintenance

the machine crosses the start line.

- 8 Continue at full speed and note the time when your reference point on the machine passes over the finish line. The time is less than 13.7sec.

B-12

Test the Drive Speed - Raised Position



DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper drive functions are essential to safe machine operation. The drive function should respond quickly and smoothly to operator control. Drive performance should also be free of hesitation, jerking and unusual noise over the entire proportionally controlled speed range.

Perform this procedure with the machine on a firm, level surface that is free of obstructions.

- 1 Create start and finish lines by marking two lines on the ground 12.2 m apart.
- 2 Turn the Selected switch to platform control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.
- 3 Raise the platform approximately 0.7 m from the ground.
- 4 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.
- 5 Bring the machine to top drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.
- 6 Continue at full speed and note the time when your reference point on the machine passes over the finish line. The time is less than 27.4sec.

Maintenance

B-13

Test the Flashing Beacon

DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Flashing beacon is used to alert operators and ground personnel of machine proximity and motion.

- 1 Turn the Selected switch to ground control. Pull out the platform and ground red Emergency Stop button to the on position.
- 2 Activate any machine function from the ground control.
- ⊙ Result: The beacon should flash.
- 3 Turn the Selected switch to platform controls.
- 4 Activate any machine function from the platform control
- ⊙ Result: The beacon should flash.

Note: Beacon will flash only when you activate any machine function either from ground control or platform control.

B-14

Test the Motion Alarm

DINGLI requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Alarm is used to alert operators and ground personnel of machine proximity and motion.

- 1 Turn the Selected switch to ground control. Pull out the platform and ground red Emergency Stop button to the on position.
- 2 Raise the platform approximately 35 cm.
- ⊙ Result: When raising the platform, the motion alarm will sound.
- 3 Lower the platform to the stowed position.
- ⊙ Result: When lowering the platform, the motion alarm will sound.
- 4 Turn the Selected switch to platform control
- 5 Press the platform up or down button.
- ⊙ Result: The motion alarm will sound.
- 6 Press the steering switch on the steering control handle.
- ⊙ Result: The motion alarm will sound.
- 7 Turn the driving control handle
- ⊙ Result: The motion alarm will sound.

Checklist C Procedures**C-1****Inspection of the Condition of the Chains****You will need:**

- Standard tool kit
- Protective goggles
- Gloves
- Place barriers around the perimeter of the work area

Exclusively use tools and auxiliary average adapted. Always wear necessary safety clothing.

Preliminary operation

The operations of disassembling if they exist should be carried out only on the installations completely disconnected and must be entrusted only to people having the necessary technical training.

Respect, in addition to the instructions appearing in the present instructions, the legal tendencies generally applicable for safety accident prevention.

All the precautions must be done in work before intervening on and near the machine.

Model	Link width (2)	Length of 12 links (4)
LH0822	12.08mm	152.40mm
LH0844	12.08mm	152.40mm
LH0866	12.08mm	152.40mm
LH1066	15.1 mm	222.96 mm

After completion of work, all the covers and safety devices must be positioned back completely and operational.

Lubrication

Lubricant must be applied with a brush to the external chains at least every 250 hours or every 6 months. The frequency of application depends on surrounding conditions and conditions of use. The frequency of application must ensure that a sufficient quantity of fluid oil is present in the chain links.

If the chain has been exposed to corrosive fluids, clean the chain immediately and apply lubricant.

Note: Telescoping operations may be necessary to access elements.

Before applying new lubricant, remove any foreign particles from the chain.

When cleaning chains, follow regulations concerning the environment.

Check the condition of the chains

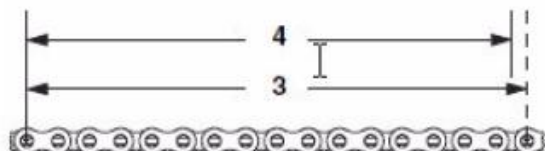
To carry out the following operations, perform a complete telescoping.

- Check that the lifting chains and safety chains are clean.
- Check that there are no foreign particles on the chains and guide.
- Check that there are no signs of corrosion on chain elements.

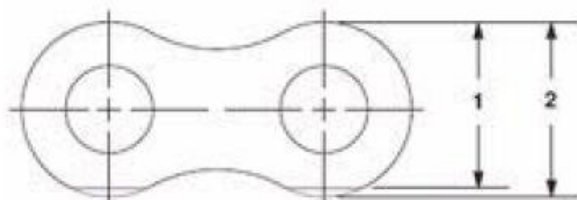
Chains with any of the defects described below must be replaced.

Maintenance

- Check for elongation wear:
- Elongation of up to 2 %, over 12 segments, of the original chain length is permitted.
- Measure the value of (3) using an appropriate method. Compare with the value of 4 indicated in the table below.

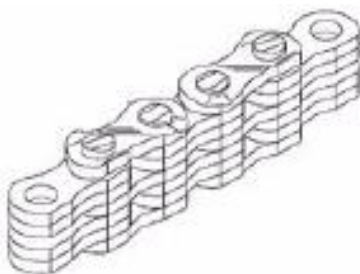


- Check for external wear on rollers and links
- External wear must not measure more than 2 % from the section of the original link (2), see table above.
- Measure the value of (1) using an appropriate method.



- Check that no line or element is damaged or missing.
- Check that links are not distorted, deformed or broken.

Distortion



Crack



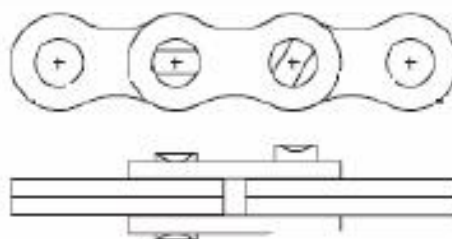
Break



Wedging



- Check the connection points of links (the lines must be parallel).



Replacing the chains

The chains must imperatively be changed every 10 years.

Contact Dingli Services for further advice

Checklist D Procedure

D-1

Inspection of the Condition of the Electric Cylinder

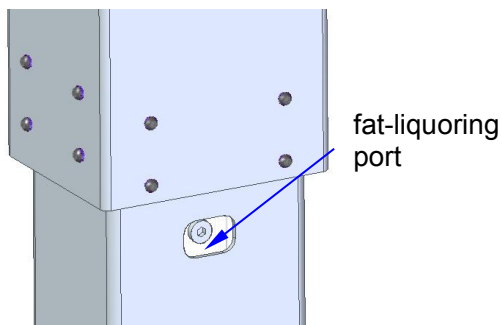


DINGLI requires that this procedure be performed every 1000 hours or every one year, whichever comes first.

The Electric Cylinder in good condition is essential to machine performance and service life. The Electric Cylinder which is not lubricated fully will influence machine performance. With continued use, Electric Cylinder can be damaged. This operation should be carried out more frequently under severe working conditions

If the Electric Cylinder sends out abnormal sound, please add the lubricating grease promptly.

- 1 Raise the platform to the position where the fat-liquoring port exposes completely.



- 2 Disconnect the battery pack from the machine, and let the machine stand for an hour at last.
- 3 Remove the plug from the fat-liquoring port.
- 4 Add moderate lubricating grease.
- 5 Clean the spilled lubricating grease.

- 6 Install the battery pack, then raise and descend the platform some times. Inspect the condition of the machine.

lubricating grease type	Mobil SHC22
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The diagram illustrates the electrical architecture of a vehicle control system. It features a 110-220VAC input connected to a charger and a battery (GB1, GB2). The Platform Control Module (PCU) is the central hub, receiving inputs from a JoyStick, Drive Joystick, and various sensors. It controls the Motor Control Unit (MCU), which in turn manages the DC Contactor and the DC-DC converter. The system also includes a DC Contactor, a DC-DC converter, and a DC-DC converter. The wiring is color-coded and labeled with pin numbers and component names.

[illegible]