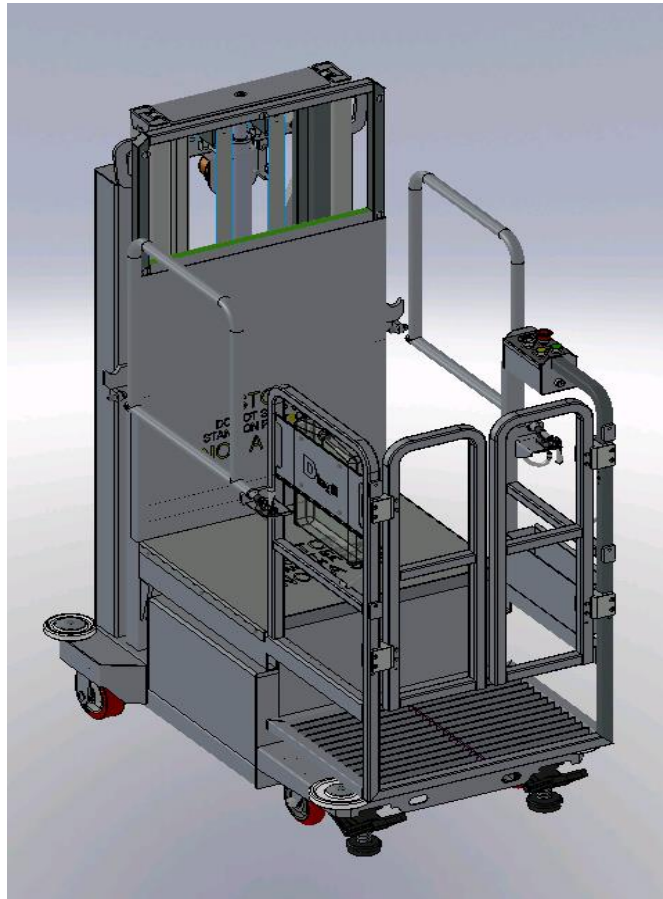


MOBILE STOCK PICKER OPERATOR'S MANUAL

with Maintenance Information

(For DYT2-2.7S)



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: SM0810113

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 Ballymore Company, Inc.

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Owners, Users and operators:

We appreciate your choice of our machine for your application. Our number one priority is user safety, which is best achieved by our joint efforts. We feel that you make a major contribution to safety if you, as the equipment users and operators:

- 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.

Contact us:

Ballymore Company, Inc.

501 Gunnard Carlson Dr.

Coatesville, PA 19320

Tel: 1-800-762-8327

Fax: 1-610-593-8615

Web: www.ballymore.com

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

Ballymore / 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 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 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

sloped or uneven surface.

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



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 enter platform until the floor locks have been properly applied.

Do not operate machine on soft footing that will allow the floor lock to settle into or break through surface.

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



Maximum allowable manual force 45 lbs.

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 modify or alter an aerial work platform 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

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 55lbs.

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 are properly tightened.

▲ 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.

Safety Rules



Never use the mast to gain access to or from the platform when raised.

Keep the platform floor clear of debris.

Close the entry gate before operating.

Do not operate the machine unless the entry gate is secured for operation.

▲ Collision Hazard

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

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



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

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.

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

▲ Component Damage Hazard

Do not use any battery or charger greater than 12V.

Do not use the machine as a ground for welding.

▲ Explosion and Fire Hazard

Do not operate the machine 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 a damaged or malfunctioning machine from service.

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

Be sure all decals are in place and legible.

Be sure the manuals are complete, legible and in the storage container located in the platform.

▲ Bodily Injury Hazard

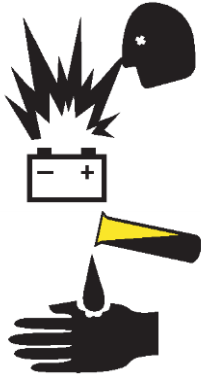
Do not operate the machine with a hydraulic oil or air leak. An air leak or hydraulic leak can penetrate and/or burn skin.

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.

Safety Rules

⚠ 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 12V to charge the batteries.

⚠ Electrocutation/ 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.

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 55 lbs.

⚠ Lifting Hazard

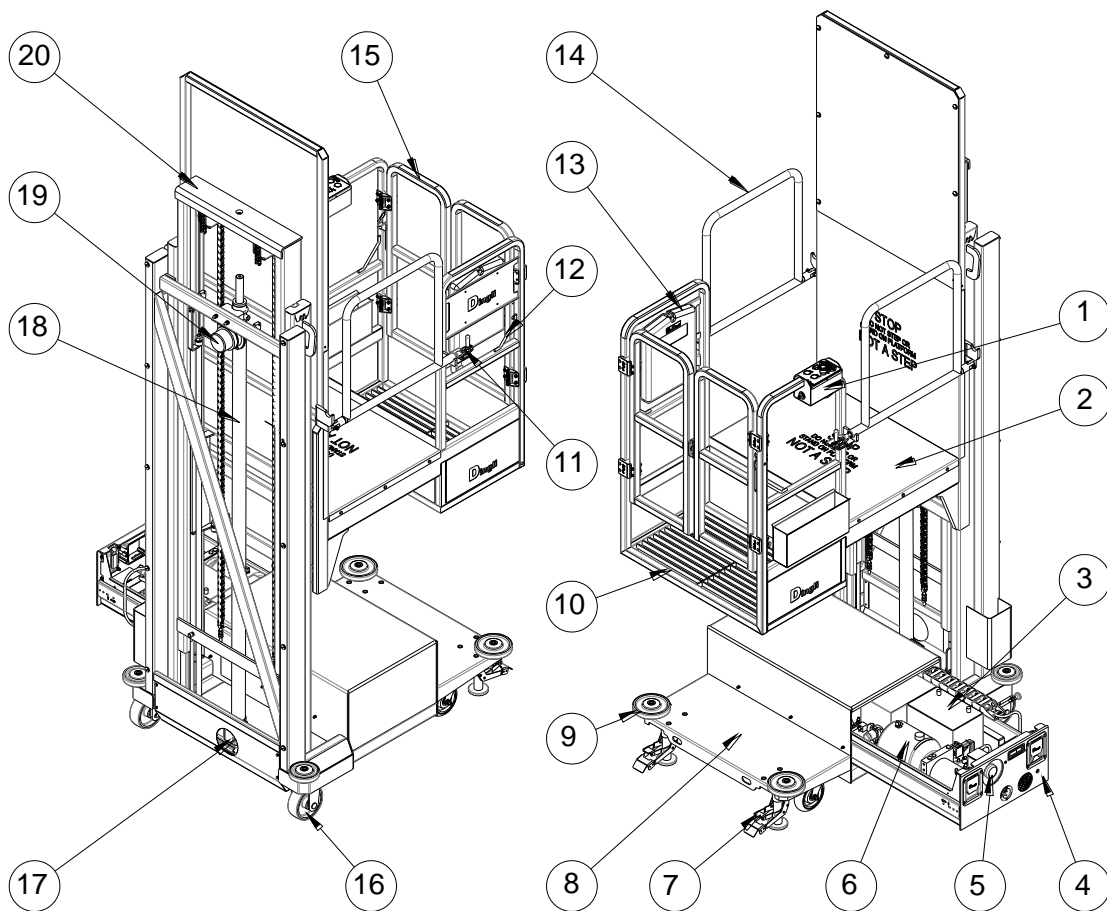
Use the appropriate number of people and proper lifting techniques when lifting batteries.

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. Chock the wheels.
5. Charge the batteries.

Legend

Legend



- | | |
|-----------------------------|-----------------------------|
| 1 Platform controller | 11 Latch |
| 2 Stock platform | 12 Lanyard anchorage point |
| 3 Battery | 13 Manual storage container |
| 4 Components tray | 14 Platform guard rails |
| 5 Red Emergency Stop button | 15 Platform entry gate |
| 6 Hydraulic pump unit | 16 Wheels and casters |
| 7 Floor Locks | 17 Emergency lowering knob |
| 8 Base frame | 18 Lift Cylinder |
| 9 Anti-crush wheel | 19 Beacon |
| 10 Operator platform | 20 Mast |

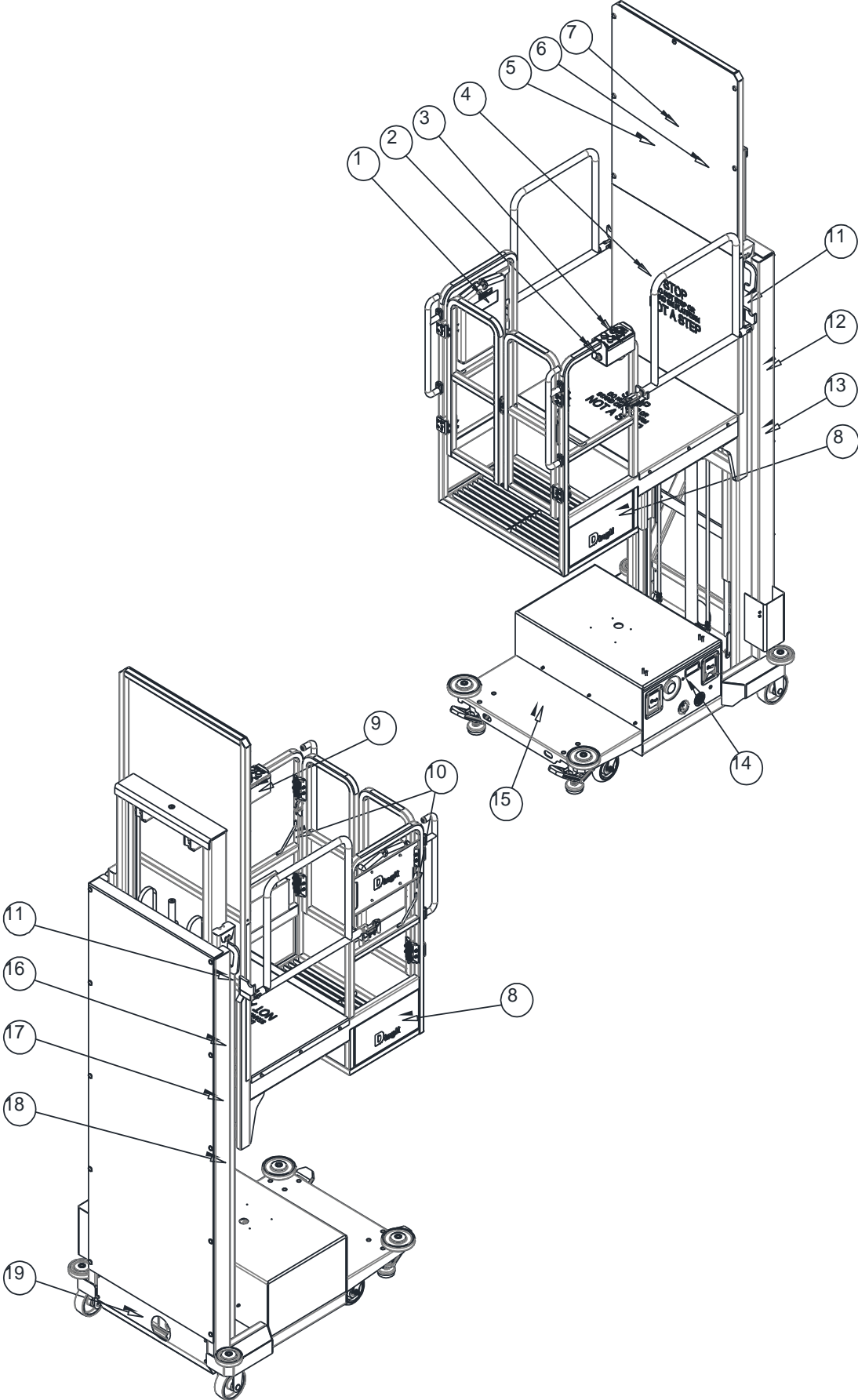
Decal Inspection

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.

No.	Part No.	Description	Qty.	Remark
1	9334011	Notice – Operator's Manual Storage	1	
2	9144021	Label – Platform Console Panel 1	1	
3	9144017	Label – Platform Console Panel 2	1	
4	9444057	Warning – Do not step or stand on platform	1	
5	9444053	Warning – Tip-over Hazard	1	
6	9444013	Label – Capacity 300kg	1	
7	9444051	Warning – Safety Rules	1	
8	9414111	Caution – Max. Manual Force: 200N	2	
9	9314013	Instructions – Refer the operator to the instructions for use	1	
10	9414123	Label – Lanyard Anchorage	2	
11	9311013	Instructions – Lift Point	2	
12	9514201	Cosmetic – CE	1	
13	9441013	Danger – Do Not Stand (Left)	1	
14	9311105	Notice – Main Power Switch Operation	1	
15	9421019	Danger – Do Not Stand	1	
16	9241013	Decal – Manufacturer's Plate	1	
17	9514301	Cosmetic – IPAF	1	
18	9441011	Danger – Do Not Stand (Right)	1	
19	9311017	Instructions – Emergency Lower	1	

Decals



Platform

① 9334011

NOTICE
KEEP THE OPERATION AND SAFETY MANUAL WITH THE MACHINE

② 9144021

OFF
ON ON
9144021

③ 9144017

SWITCH STOP SWITCH
Turn To Release
UP ↑ DOWN ↓
Dingli
9144017

④ 9444057

STOP
DO NOT STEP OR STAND ON PLATFORM
NOT A STEP

⑤ 9444053

WARNING
Tip-over Hazard
This machine is intended for USE INDOORS ONLY, and must not be used outdoors as wind forces may make it unstable.
MAX. allowed wind speed: 0 m/s.

⑥ 9444013

=300kg
0m/s
200N
9444013

⑦ 9444051

Don't put out platform when load the goods.
Apply the seat belt when lower the platform when operate.
Must be use lock device when support.

⑧ 9414111

CAUTION
Max. Manual Force
200N
9414111

⑨ 9314013

Refer the operator to the instructions for use.

⑩ 9414123

Restraint only 1 Occurrence

Chassis

⑪ 9311013

9311013

⑫ 9514201

CE
9514201

⑬ 9441013

DANGER
9441013

⑭ 9311105

NOTICE
Cut of the power when the machine is repaired or not used for long period.
ON OFF
9311105

⑮ 9421019

DANGER
9421019

⑯ 9514301

IPAF

⑰ 9441011

DANGER
9441011

⑱ 9311017

EMERGENCY LOWER
Pull knob to lower platform
9311017

⑲ 9241013

9241013
CE Mobile Stock Picker
Model
Serial No.
Voltage
Power
Rated Load
Max. Occupant
Max. Working Height
Max. Inclination
Max. Wind Speed
Max. Manual Force
Max. Work Pressure
Overall Dimension (L×W×H)
Gross Weight
IP
Date of MFG
Made in China
Zhejiang DingLi Machinery Co., Ltd
Addr: No.1255 Banyun South Road, Leidian Town, Deqing, Zhejiang, China
Tel: 0086-572-8681688, 8681689
Fax: 0086-572-8681690
E-mail: market@endingli.com
Http://www.endingli.com

Specifications

DYT2-2.7S

Working Height	4.7 m
Operator floor height	2.7 m
Height, stowed maximum	1.89 m
Width	0.92 m
Length, stowed maximum	1.35 m
Stock(cargo size)	0.66 x0.62m
Operator foot print	0.6 x0.44 m
Maximum load capacity	300 kg
Maximum wind speed	0 m/s
Wheelbase	0.82 m
Ground clearance	7.4cm
Weight	480kg
Machine weights vary with option configurations	
Lift motor	12VDC / 1.6kw
Battery	12V75AH
Integrated charger	12V 15A
Up/down speed	33/18Sec
Controls	Proportional
AC outlet in platform	Standard
Maximum hydraulic pressure (functions)	160bar
Back wheels	Φ152x55mm
Front wheels	Φ150mm
Airborne noise emissions	<70 dB
Maximum sound level at normal operating workstations (A-weighted)	

Maximum working	0°
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Tire load, maximum	220kg
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Note: Floor loading information is approximate and does not incorporate different option configurations. It should be used only with adequate safety factors.

Continuous improvement of our products is a Ballymore / DINGLI policy. Product specifications are subject to change without notice or obligation

Controls and indicators

Power Unit Control Station



- ① ② ③ ④ ⑤

1 Emergency Stop Button

In the event of an emergency involving the battery, or if maintenance is being performed on the power unit, push or kick in Emergency Stop Button to cut off power.

2 Timer

3 Battery Change

4 Counter

5 Lock

Manual Lowering Valve

The (black) knob located on the back of the machine provides for lowering of the platform in the event of an emergency or power failure. To operate; pull knob to lower platform, let go of knob to stop lowering.



Optional Safety Sensing System (if equipped)

The lift is equipped with a safety sensing system which will detect any intrusion up to approximately four feet away from the lift. This safety zone is illustrated below. Since the lift is used in the proximity of racking and other displays the exact size of the safety zone will vary.

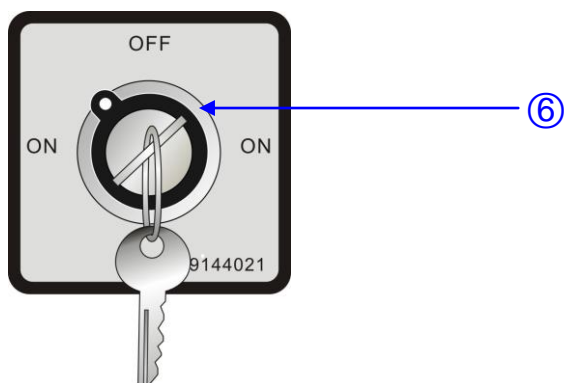
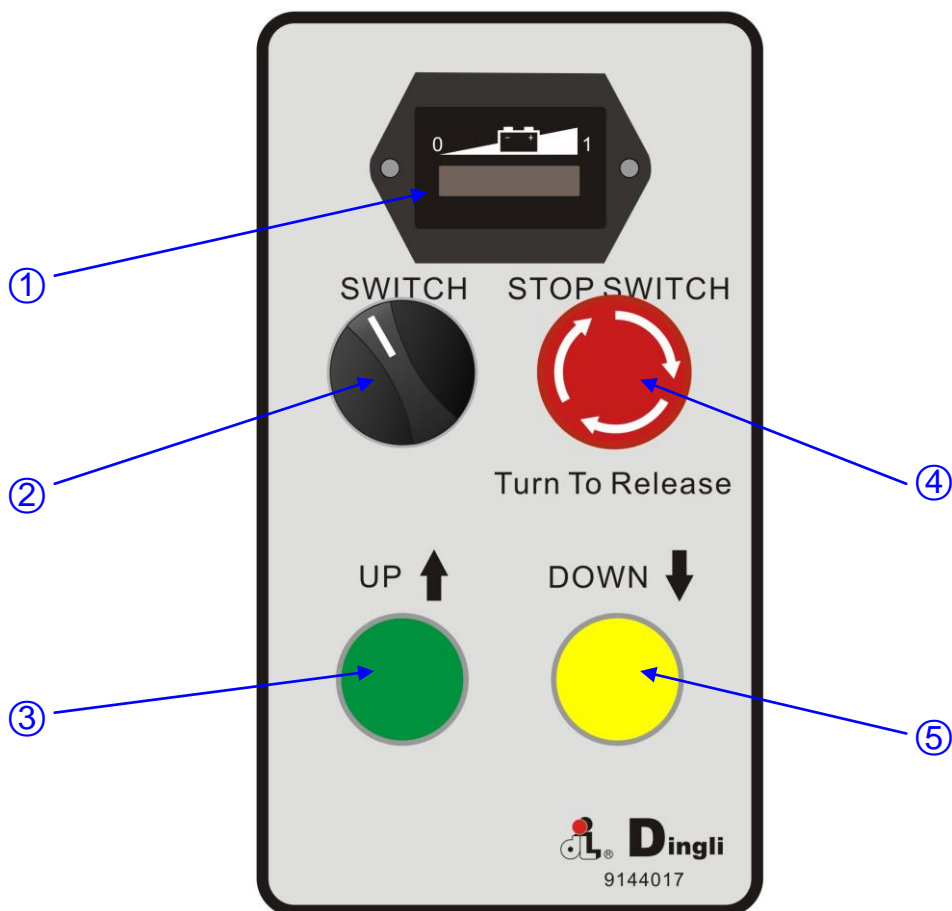
As the lift platform is raised more than two feet, the sensor activates and scans the area for objects within four feet of the lift. During this activation process, it will not alarm for any objects it detects. Any intrusion into the safety zone will trigger the alarm-a light will flash, the beeper will sound, and the lift will not descend. When the safety zone is clear of the intrusion for greater than five seconds the system will reset itself. The sensor can also be reset by turning the power key off and then back on.

Power management system

The lift has a built-in power management system. When the battery has been discharged approximately 80%, the system's logic will turn the battery off and the voltage meter will read Lu". The lift will not rise again once it has been lowered to the fully down position. It is important to stop using the lift and put in on charge immediately.

Controls and indicators

Platform Control Console



1 Voltage meter

2 Function enable switch

3 Platform up button

4 Red Emergency Stop button

5 Platform down button

6 Power ON/OFF key switch

Controls and indicators

1 Voltage meter

The voltage meter is used to determine the amount of power available in the battery. A fully charged battery will read approximately 12 volts on the meter. Charge may be necessary when showing 9. When the meter reads Lu the battery is drained and the lift is about to stop operating. Please lower the lift and put in on charge immediately.

2 Function enable switch

The black switch must be turned simultaneously with either the up or down platform function buttons in order to operate the platform.

3 Platform up button

This green button must be depressed simultaneously with the black switch to raise the platform.

4 Red Emergency Stop button

Red Emergency Stop button is provided in order to turn machine power on and off in the platform and also to turn off machine power in the event of emergency. Power is on when the switch is in the reset position (turned completely clockwise-out position). Power is off and all machine functions will stop, when button is depressed. The button must be released before lift is operational again.

5 Platform down button

This yellow button must be depressed simultaneously with the black switch to lower the platform.

6 Power ON/OFF key switch

A key operated on/off switch is located on the side of the platform control console. The machine will not operate without the key inserted and turned to the on position. When left unattended, remove key to prevent unauthorized machine use. Turning the power key on and off will reset the safety sensing system.

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 manual.

Pre-operation Inspection

Pre-operation Inspection

- Be sure that the operator's manual is complete, legible and in the storage container located in the platform.
- Be sure that all decals are legible and in place. See Decals section.
- Check for hydraulic oil leaks and proper oil level. Add oil if needed. See Maintenance section.
- Check for battery fluid leaks and proper fluid level. Add distilled water if needed. See Maintenance section.

Check the following components or areas for damage, improperly installed or missing parts and unauthorized modifications:

- Electrical components, wiring and electrical cables
- Hydraulic hoses, fittings, cylinders and manifolds
- Battery pack and connections
- Wheels and casters

Properly secured, wheels and casters turn freely and properly lubricated. Check for any visible damage.
- Floor locks

Properly secured to frame, no visible damage (cracks, distortion, etc.) and are functioning properly.
- Base frame

No visible damage; components properly secured, no loose or hanging wires below base.
- Power unit

The power unit is secured inside the locked drawer. There is no reason to open the drawer. Check to ensure there is no visible damage to the instruments on the front of the drawer.

- Manual lowering valve

(Located at the rear of the lift) properly secured, no loose or missing parts, no visible damage.
- Mast

Mast sections properly secured no visible damage to mast sections, no loose or missing parts. Mast chains and cables properly secured, lubricated and undamaged. Electrical cables properly secured, have no visible damage, no loose or missing parts and are lubricated. Polycarbonate shield is clean with no visible damage. All placards and labels are in place and legible.
- Lift controls

Up/down, and enable switch properly secured, no loose or missing parts, and no visible damage. Emergency shut-off button set for operation.
- Guard rail and side rail installation

All railings securely attached, no visible damage, and no missing parts. Platform gate working properly, no visible sign of damage.
- Limit switches
- Nuts, bolts and other fasteners
- Platform assembly

Secure to mast; no loose or missing parts, no visible damage to control and power cables.
- Platform control

Check entire machine for:

- Cracks in welds or structural components
- Be sure that all structural and other critical components are present and all associated fasteners and pins are in 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 The two floor locks must be in locked position.
- 3 Be sure the battery pack is connected.
- 4 Turn the main power key switch to "on" position.

Test Emergency Stop

- 5 Push in the platform Red Emergency Stop button to the off position.
 - ⊙ Result: No functions should operate.
- 6 Turn the Red Emergency Stop button out to the on position.
 - ⊙ Result: The LED indicator light should come on.

Test Function Enable and Up/Down Functions

- 7 Do not turn the function enable switch.
- 8 Press the platform up/down button.
 - ⊙ Result: No functions should operate.
- 9 Turn the function enable switch to "on" position.
- 10 Press the platform up/down button.
 - ⊙ Result: The platform should raising / lowering

Test the Emergency Lowering

- 11 Activate the up function and raise the platform approximately 2 feet.
- 12 Pull the emergency lowering knob.
 - ⊙ Result: The platform should lower.
- 13 Turn the key switch to platform control.

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.**

Machine description

Power stocker machines are manually propelled machines, with a platform mounted to an elevating mast mechanism. The mast is raised and lowered by a hydraulic cylinder extending between mast sections 1 and 2. The remaining mast sections are proportionally extend and retracted using steel chains. Hydraulic pressure is supplied to the lift cylinder by an electrically powered hydraulic pump. The platform may be raised only when lift is positioned on smooth, firm, level surface with the floor locks set. The power stocker personnel lifts intended purpose is to provide personnel access to areas above ground level.

The power stocker personnel lift has a primary operator control console in the platform. From this control console the operator can raise and lower the platform.

The unit is equipped with an emergency stop button and an emergency / manual lowering valve which enables the platform to be lowered to the ground in an emergency, if the operator in the platform is unable to do so, or if a power failure should occur.

Instructions and warnings are posted adjacent to operator control stations and at other places on the machine. It is extremely important that the operator know what instructions and warnings are placed on the machine in the manual, and that these instructions and warnings are reviewed periodically. The Ballymore / Dingli personnel lift is designed to provide efficient and safe operation when maintained and operated in accordance with instructions and warning on the machine, in the operation instructions and safety manual

Operating Instructions

and all jobsite and government rules and regulations.

As with any type of machinery, the operator is very important to efficient and safe operation. It is absolutely necessary that the Ballymore / Dingli lift is regularly maintained in accordance with this manual.

Any evidence of lack of maintenance, malfunction, excessive wear, damage or modification to the machine must be reported immediately to the machine owner, the jobsite supervisor or safety manager and the machine must be taken out of service until all discrepancies are corrected.

The Ballymore / Dingli power stocker personnel lift is not intended to be used to lift material other than hand-picked stock or supplies. Supplies or tools which extend outside the platform are prohibited. The personnel lift must not be used as a forklift, crane or support for overhead structure.

The total platform capacity is to be uniformly distributed in the center of the platform. This means that the total combined weight of personnel, tools and supplies loaded into the platform must not exceed the total platform capacity.

The Operating Instructions section provides instructions for each aspect of machine operation.

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

Using the machine for anything other than lifting personnel, along with their tools and materials, 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.

General

This section provides the necessary information needed to operate the machine. Included in this section are procedures for set-up, raising, lowering, platform loading and transporting. It is important that the user read and understand the proper procedures before operating the machine. Some of the more important items are in the safety precautions section. This section should be read and understood before operating machine. If a "Pre-operation Inspection", has not been completed, perform this inspection before starting set-up and operation. The operator must also be familiar with all machine controls as described in the operator responsibilities and machine controls.

Machine set-up and operation

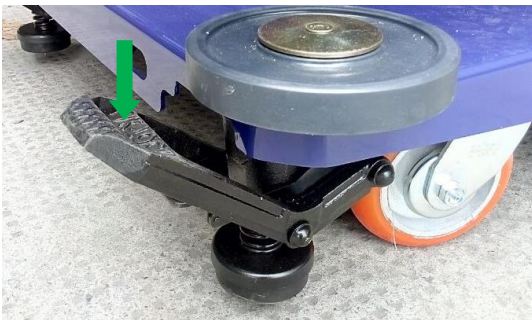
The following sequence of set-up procedures must be followed to safely operate this machine.

- 1 Position machine in work area. Work area must be a smooth, firm and level surface.
- 2 Confirm emergency stop button on push button station is not engaged.
- 3 Set floor locks. (see floor lock operation).
- 4 Set on/off key switch to the ON position at the lift control console.
- 5 Confirm emergency stop button on the base is not engaged.

Operating Instructions

Floor Lock operation

The two floor locks are located on the base frame under the entry gates. Engage and lock both assemblies down into position. Please note that the floor locks are equipped with electrical interlocks – both locks must be locked in the down position or the lift will not operate. In the event a floor lock is inadvertently unlocked while the lift is in the raised position an alarm will sound and the lift will no longer go up. The lift will come down to allow you to reach the floor so you can re-set the lock.



Unlocked position

Step on levers to lock lift to ground



Locked position

Step on release lever to unlock

⚠ DANGER Floor locks are electronically interlocked with the lift's power. Lift will not operate unless floor locks are in the engaged (down) position.

⚠ WARNING The front caster wheels should be relieved of the machine's weight so the machine does not roll in any direction. If this is

not the case do not attempt to elevate the platform until the floor locks are operating properly.

Using the platform

- 1 Gates are spring loaded – to enter platform push in on gates.
- 2 Step onto operator platform and allow gates to close.
- 3 Prior to exiting the lift, make sure it is fully lowered. If the lift is not completely lowered an alarm will sound. Lift must be fully lowered before exiting.
- 4 Turn forward, watch your step, and carefully step to the ground.
- 5 Remember the gates are spring loaded – keep a hand on the gate to avoid a sudden swinging motion.

⚠ WARNING Do not attempt to raise the platform unless both of the floor locks are properly engaged and machine is on a smooth, firm, level surface.

⚠ WARNING Do not attempt to raise the platform until gate closed properly.

⚠ WARNING Before and while raising the platform, check clearances above and around platform and mast to ensure adequate clearance from surrounding objects and personnel.

⚠ CAUTION Gate is spring loaded – hold on to gate to avoid sudden swinging motion.

Side guard rail operation

In order to reach the stock, you will need to lift the side guard rails. Release the latch and pivot the inner rail (adjacent to the racking) up and out of the way. The outer rail (toward the aisle) should remain closed at all times.

Operating Instructions



Locked



Unlocked



Side rail closed



Side rail open

Raising / Lowering platform

As a safety feature, two hands must be used to engage the controls which raise and lower the lift. To elevate the platform, push down on the green up button, while simultaneously turning the black switch. To lower the platform, push down on the yellow down button while simultaneously turning the black switch. When you reach the desired height, simply release both controls.



Raise



lower

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.

Emergency Lowering

- 1 Pull the emergency lowering knob.



Safety features (if equipped)

Sight and sound

When the lift is descending an alarm will sound and a warning light will flash (to warn the hearing impaired). The alarm will also sound if the safety sensing system has been tripped, or the floor lock has been inadvertently released while the lift is in the raised position.

Safety Sensing System

The lift is equipped with a detection system which will disable the lift upon any intrusion into a safety zone. The system activates once the lift is raised over two feet and turns off once the lift is below two feet. If an intrusion is detected, an alarm will sound and the lift will not descend. The system will reset automatically after five seconds or the operator can restart it manually by turning the key switch off and back on.

Operating Instructions

⚠ WARNING When the sensor is reset while the lift is raised more than 24 inches, the operator must check the top of the base for people or objects.

⚠ WARNING Before descending, look down through deck to ensure area below is clear of obstructions and people. Continue to monitor the area throughout your descent.

Stock platform

The stock platform is to be used only for materials. At no time should it be used to support personnel.

Remember – Slide. Don't Lift.

To load or unload material, align the opening of the merchandise deck with the product. Raise the lift until the top of the stock platform is level with the stock you wish to move. Whenever possible, slide merchandise on and off racking. If you need to lift merchandise, please remember to use good lifting mechanics.

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 Ballymore / Dingli authorized battery and charger.

Battery charging

These machines are equipped standard with two 12 volt AGM batteries and a 12 volt 30 amp output battery charger. The battery charger has a microprocessor controlled automatic charge sensing circuit which can determine cell voltage and regulate charger output as required. The charger should be substituted. The charger indicator light turns green and the charger automatically terminates charging when a full battery charge is achieved.

Battery charging operation

- 1 Battery charger plugs into 110V outlet.
- 2 Position machine in well-ventilated area near an AC electrical outlet and set key switch to the off position.
- 3 Connect the power cord to the battery charger AC receptacle on the face of the drawer and plug in to a properly grounded AC electrical outlet.
- 4 When the charger is plugged in, the lift will not operate. You must disconnect the power power cord from the face of the unit prior to operation.
- 5 In the event the power cord is lost, it may be replaced using a three prong 12 gauge extension cord which is 10-15 feet long. Never use a cord longer than 25 feet or additional extension cords.
- 6 When finished charging, remove the power cord from the AC power cord receptacle. Be sure to return the power cord to the cord storage compartment on the base of the lift.

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.
- 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.

Securing to Truck or Trailer for Transit

Always chock the machine wheels in preparation for transport.

Inspect the entire machine for loose or unsecured items.

Securing the Chassis

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.

Adjust the rigging to prevent damage to the chains.

Transport and Lifting Instructions

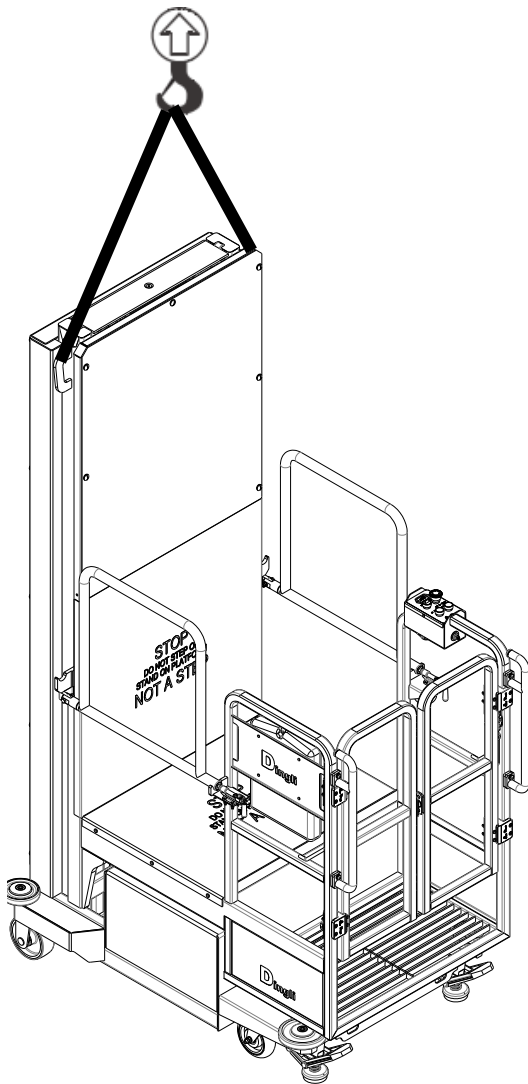
Loading the Machine with a Crane

Use the lifting eye mounted on the side mast column.

Make sure the mast is fully lowered.

Inspect the machine and remove any loose or unsecured items.

Attach the rigging only to the designated lifting points on the machine. There are two lifting points on the top of the mast.



Storing machine

- 1 Ensure that the platform is fully lowered, turn power on/off key switch (on the platform control console) to the off position.
- 2 Failure to turn the key to the off position will drain the battery, reducing its useful life.
- 3 Put the lift on charge so it will be ready for future use.
- 4 Move machine to a well – protected and well – ventilated area. If necessary, cover the machine so it will be protected if in a hostile environment.
- 5 Set the floor locks when parking machine for extended periods of time.
- 6 If necessary, remove key from platform control console power on/off key switch to disable machine from unauthorized use.

WARNING When moving machine please follow all safety precautions described in the transportation safety section of this manual.

NOTICE If required, batteries should be charged in preparation for next work day.



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

Inspection	Checklist
Daily	A
Quarterly	A+B
Annually	A+B+C

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 3 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
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.

- | | |
|------------------------------------|-------|
| <input type="checkbox"/> Daily | A |
| <input type="checkbox"/> Quarterly | A+ B |
| <input type="checkbox"/> Annually | A+B+C |

- 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 manuals and decals			
A-2 Inspect for Damage and Loose or Missing Parts			
A-3 Check for Hydraulic Leaks			
A-4 Check the Hydraulic Oil Level			
A-5 Check the Platform Manual Lowering Operation			
A-6 Inspect the Battery and Battery Charge			
A-7 Check the Sequencing Cables			
A-8 Function tests			
A-9 Inspect the Lifting Chains and Idler Wheels			

Checklist B	Y	N	R
B-1 Electrical wiring			
B-2 Inspect All Welds			
B-3 Check the Lifting Chain Adjustments			
B-4 Check the Battery			
B-5 Clean and Lubricate the Mast			
B-6 Test the Lifting Capacity			
B-7 Test the up/down limit switches			

Checklist C	Y	N	R
C-1 Inspect and Lubricate the Casters			
C-2 Hydraulic oil			

Maintenance

Checklist A Procedures

A-1

Inspect the Manuals and Decals

Maintaining the operator's manual in good condition is essential to safe machine operation. Manuals are included with each machine and should be stored in the container provided. An illegible or missing manual will not provide safety and operational information necessary for a safe operating condition.

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 Examine the pages of manual to be sure that they are legible and in good condition.

☉ Result: The operator manual is appropriate for the machine and the manual are legible and in good condition.

☒ Result: The operator's manual is not appropriate for the machine or the manual is not in good condition or is illegible. Remove the machine from service until the manual is replaced.

- 2 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.

- 3 Always return the manual to the storage container after use.

Note: Contact your authorized Ballymore / DINGLI distributor if replacement manuals or decals are needed.

A-2**Inspect for Damage and Loose or Missing Parts**

Daily machine condition inspections are essential to safe machine operation and good machine performance. Failure to locate and repair damage, and discover loose or missing parts may result in an unsafe operating condition.

Inspect the entire machine for damage and improperly installed or missing parts including:

- Electrical components and wiring
- Hydraulic power unit, hoses, fittings and cylinders
- Manual lowering lever and components
- Platform end guard rail, and platform entry gate
- Sequencing cables and pulleys
- Lifting chains and idler wheels
- Nuts, bolts and other fasteners
- Mast
- Breather cap
- Floor lock
- Limit switch
- Dents or damage to machine
- Corrosion or oxidation
- Cracks in welds or structural components

A-3**Check for Hydraulic Leaks**

Detecting hydraulic fluid leaks is essential to operational safety and good machine performance.

Undiscovered leaks can develop into hazardous conditions, impair machine functions and damage machine components.

Inspect for hydraulic oil puddles, dripping or residue on or around the following areas:

- Hydraulic power unit—reservoir, valves, fittings
- Hydraulic cylinders
- All hydraulic hoses and fittings

Maintenance

A-4

Check the Hydraulic Oil Level



Maintaining the hydraulic oil at the proper level is essential to machine operation. Improper hydraulic oil levels can damage hydraulic components. Daily checks allow the inspector to identify changes in oil level that might indicate the presence of hydraulic system problems.

NOTICE Perform this procedure with the platform in the stowed position and the motor off.

- 1 Remove the hydraulic oil dipstick (fill cap), wipe it clean and reinstall it.
- 2 Take the hydraulic oil dipstick out again, and check the oil level.
- 3 If the hydraulic oil level is too low and add new hydraulic oil to the prescribed level.

Hydraulic oil specifications

L-HV46

A-5

Check the Platform Manual Lowering Operation

Detection of a platform manual lowering malfunction is essential for safe machine operation. An unsafe working condition exists if the manual lowering function does not operate in the event of a main and auxiliary power failure.

- 1 Raise the platform approximately 2 feet.
 - 2 Pull out the emergency lowering knob.
- ⊙ Result: The platform should lower.

A-6**Check the Batteries**

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 Electrocution hazard.

Contact with hot or live circuits may 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 tight and free of corrosion.
- 3 Be sure that the battery hold-down bars are secure.
- 4 Remove the battery vent caps.
- 5 Check the battery acid level. If needed, replenish with distilled water to the bottom of the battery fill tube. Do not overfill.
- 6 Install the vent caps.

A-7**Check the Sequencing Cables**

Detection of damage to sequencing cables or components is essential for safe machine operation. An unsafe working condition exists if the sequencing components are damaged and do not operate smoothly. A daily check of the sequencing system allows the inspector to identify changes in the operating condition that might indicate damage.

⚠ WARNING Bodily injury hazard.

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

Visually inspect the cables and components for the following:

- Frayed or broken wire strands
- Paint or foreign materials
- Broken or damaged pulleys
- Unusual or excessive pulley wear
- Split or cracked ends
- Cable ends are properly secured
- Mounting brackets are properly secured

Maintenance

A-8

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-9

Inspect the Lifting Chains and Idler Wheels

Maintaining the lifting chains and idler wheels in good condition is essential to safe machine operation. Failure to find and replace damaged chains or idler wheels could result in unsafe operating conditions and may cause component damage.

- 1 Raise the platform approximately 5 feet.
- 2 Visually inspect the chains and idler wheels near the top of each column for the following:
 - Excessive corrosion or contamination
 - Broken or missing chain leafs and pins
 - Tight or kinked joints in the chain
 - Missing or damaged idler wheels and related components
- 3 Inspect the chain terminations near the bottom of each column to confirm that each termination has a lock nut.
- 4 Inspect the chain terminations near the bottom of each column to confirm that the chain tensioner bracket is centered in the inspection hole.

Checklist B Procedures

B-1

Inspect the Batteries



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

Inspect the following areas for burnt, chafed, corroded and loose wires:

- All base wiring
- Inside of the ground control box
- Inside of the base junction boxes
- Hydraulic power unit
- All external machine electrical cables
- Inside of the platform control box
- Battery and charger

B-2

Inspect All Welds

Weld inspections are essential to safe machine operation and good machine performance. Failure to locate and repair damage may result in an unsafe operating condition.

Visually inspect the welds in the following locations:

- Platform
- Chassis
- Mast brace mounting brackets

Maintenance

B-3

Lubricate the Lifting Chains



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

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.

NOTICE

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

- 1 Lower the platform to the stowed position.
- 2 Measure the maximum height of the machine.

☉ Result: The machine should be no lower than specification.

☐ Result: The machine should be lower than specification.

The following sketch shows the connection of the masts and the transmission chain.



- 3 When regulating the length of the chain, please select the mast that needs increasing its height. As shown in the sketch, 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.
- 4 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.

⚠ WARNING Make sure the chock is in place during maintenance

⚠ WARNING When the work platform of the machine needs to be raised for routine servicing purposes, a captive chock shall be used to enable the extending structure to be held in the required position to prevent work platform from falling down unexpectedly.

B-4**Inspect the Batteries**

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 Electrocutation / 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.

⊘ 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.

Maintenance

- 11 Install the vent caps and neutralize any electrolyte 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 Ballymore Service Department.

B-5

Clean and Lubricate the Masts



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

- 1 Raise the platform to the maximum height.
- 2 Visually inspect the inner and outer channels of the masts for debris or foreign material. If necessary, use a mild cleaning solvent to clean the masts.
- 3 The bearing between chain wheel with the shaft is lubricated with the calcium base grease in raising.
- 4 Lubricate the place between chain wheel and chain, use grease gun.
- 5 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-6**Test the Lifting Capacity (If equipped)**

The proper pressure of hydraulic system has been preset at the factory; however, the regulating value has been changed because of using the product for a long term.

Proper lifting capacity is essential to safe machine operation. Improper lifting capacity adjustment could allow machine to be overloaded and may cause death or serious injury.

⚠ WARNING This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools may result in death or serious injury and significant component damage. Dealer service is strongly recommended.

- 1 Place the maximum load capacity in the platform. Refer to the operator's manual specifications or the load capacity decal on the machine to determine the maximum load capacity. Be sure the load is secure.
- 2 Raise the platform slightly.
 - ⊙ Result: The hydraulic power unit should raise the platform.
 - ⊗ Result: The hydraulic power unit should be able to raise the platform. The descent alarm should sound.
- 3 Fully lower the platform.
- 4 Add an additional 10% of the maximum load capacity weight to the platform. Secure the additional weight.
- 5 Raise the platform slightly.
 - ⊙ Result: The hydraulic power unit should not be able to raise the platform. The descent alarm should sound.
 - ⊗ Result: The hydraulic power unit should be able to raise the platform. The descent alarm should sound.

B-7**Test the Up/down Limit Switch**

Maintaining the limit switches is essential to safe operation and good machine performance.

Operating the machine with a faulty limit switch could result in reduced machine performance and a potentially unsafe operating condition.

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

- 1 Activate the up function.
- 2 While raising the platform, push up the roller of the up limit switch to activate the limit switch.
 - ⊙ Result: The platform stops raising. The machine is functioning properly.
 - ⊗ Result: The platform continues to raise. Adjust or replace the up limit switch.
- 3 While lowering the platform, push down the roller of the down limit switch to activate the limit switch.
 - ⊙ Result: The platform stops lower the machine is functioning properly.
 - ⊗ Result: The platform continues to lower. Adjust or replace the down limit switch.



Up Limit Switch



Down Limit Switch

Maintenance

Checklist C Procedures

C-1

Inspect and Lubricate the Casters



Extremely dirty conditions may require that the casters be inspected and lubricated more often.

- 1 Visually inspect each caster for cuts, cracks or unusual wear.
- 2 Move the machine on a flat smooth surface and check that the casters roll smoothly.
- 3 Pump grease into the caster until it can be seen coming out of the bearing seal gap.

C-2

Replace the Hydraulic Oil



Ballymore / DINGLI requires that this procedure be performed every 1000 hours or annually, whichever comes first.

Replacement or testing of the hydraulic oil is essential for good machine performance and service life. Dirty oil may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require oil changes to be performed more often.

Before replacing the hydraulic oil, the oil may be tested by an oil distributor for specific levels of contamination to verify that changing the oil is necessary.

If the hydraulic oil is not replaced at the two year inspection, test the oil quarterly. Replace the oil when it fails the test.

Note: Perform this procedure with the platform in the stowed position.

- 1 Raise the platform approximately 3 feet off the ground and use the bracket
- 2 Disconnect the cover
- 3 Disconnect the battery pack from the machine.

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

- 4 Tag and disconnect the hydraulic pump outlet line and remove the line from the pump. Cap the fitting on the pump.
- 5 Loose the bolt and remove the hydraulic power pack form the tray.
- 6 Loose and remove the bolts and separate the tank from the pump body.

Maintenance

- 7 Drain all of the oil into a suitable container.

⚠ WARNING Bodily injury hazard.

Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

- 8 Clean up any oil that may have spilled.
Properly discard the used oil.
- 9 Clean the inside of the hydraulic tank using a mild solvent. Allow the tank to dry completely.
- 10 Install the hydraulic tank, install and tighten the hydraulic tank retaining fasteners.
Torque to specification.

Torque specifications

Hydraulic tank retaining fasteners, dry 4 Nm

Hydraulic tank retaining fasteners,
lubricated 2.9Nm

- 11 Install the hydraulic power pack into the tray. Install the fitting and hydraulic hoses onto the hydraulic power pack and torque.
- 12 Fill the tank with hydraulic oil until the fluid is full in the hydraulic tank. Do not overfill.
- 13 Activate the pump to fill the hydraulic system with oil and bleed the system of air.

⚠ WARNING Component damage hazard.

The pump can be damaged if operated without oil. Be careful not to empty the hydraulic tank while in the process of filling the hydraulic system. Do not allow the pump to cavitate.

Maintenance

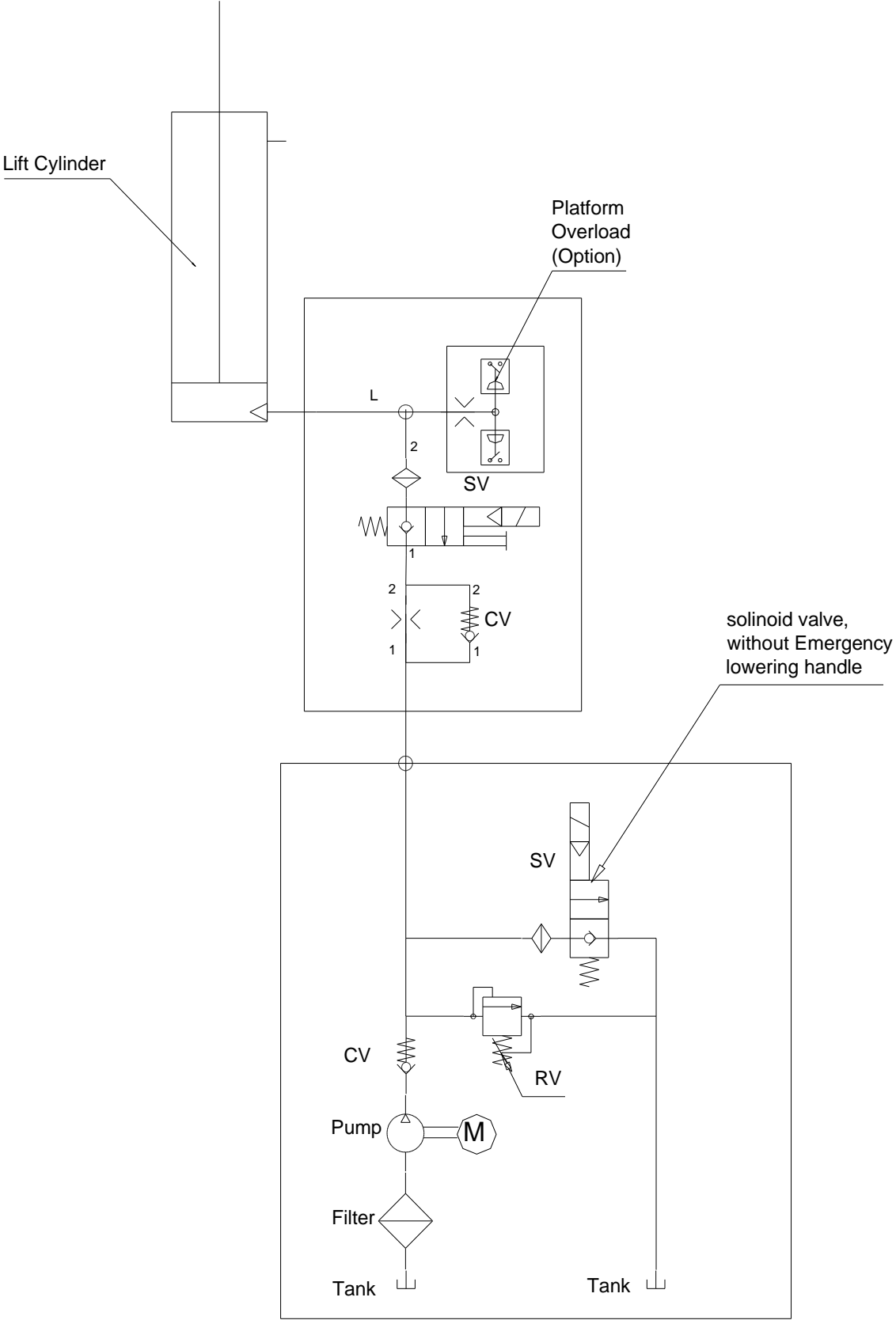
Alarm code and Trouble shooting

Most of the problems you will come across are easy to solve when you are operating on the mobile elevating work platform. Please find out your alarm code in this section and solve it according to the recommended steps. If you can't solve it according to the instructions here, please contact with your suppliers or the experienced service personnel for help.

Alarm code	Description	Trouble shooting
Up LM	Up limit switch is on.	Up limit switch is active when up command. Release it.
Dw LM	Down limit switch is on.	Down limit switch is active when up command. Release it.
SW LM	Jack limit switch is on.	Foot Limit switch is off (Lower limit switch is off at the same time), Check the foot switch is OK or not.
DoI OFF	Door Lock switch is on.	Door Lock switch is off (Lower limit switch is off at the same time), Check the door Lock switch is OK or not.
MC SLP	Main contactor is sleeping.	Main contactor in sleeping mode, Restart power
MC SOT	Main contactor is shorting.	Main contactor is short circuit condition restart power. If the fault still exists, Check the main contact, and replace it.
Ba Lo	Battery voltage is lower.	The battery voltage is lower the machine setting. Charge the battery.
M2M AL	Ultrasonic signal is on.	The ultrasonic signal is on, Remove goods under the machine, If the fault still exists, Check the ultrasonic is OK or not.

Schematic

Hydraulic Schematic



Schematic

Electrical Schematic

