

# MOBILE SCISSOR LIFTS OPERATOR'S MANUAL

*with Maintenance Information*

( For SP039-E )



## 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

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Zhejiang Dingli Machinery Co., Ltd.

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## 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:

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.

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## Contact us:

### Zhejiang Dingli Machinery Co., Ltd.

1255 Baiyun South Road. Leidian Town.

Deqing Zhejiang

China

Tel: +86-572-8681688

Fax: +86-572-8681690

Web: [www.cndingli.com](http://www.cndingli.com)

E-mail: [market@cndingli.com](mailto:market@cndingli.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 — operator's manual 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 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

### Intended Use

This machine is intended to be used only to lift personnel, along with their tools and materials to an aerial work site.



This machine is intended for use **INDOORS ONLY**, and must not be used outdoors as wind forces may make it unstable.

### 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 safety sign material.

### ⚠️ 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

This machine is intended for use **INDOORS ONLY**, and must not be used outdoors as wind forces may make it unstable.

Occupants, equipment and materials must not exceed the maximum platform capacity.

#### Maximum capacity – SP039-E

Maximum occupants (Indoor use **ONLY**)      1  
Platform allowable maximum load      240 kg

### Work Area Safety

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



Do not depend on the tilt alarm as a level indicator. The tilt alarm sounds on the chassis and in the platform when the machine is on a slope.

If the tilt alarm sounds:

Lower the platform. Move the machine to a firm, level surface. If the tilt alarm sounds when the platform is raised, use extreme caution to lower the platform.

Do not use the machine as a crane.

## Safety Rules

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 operate the machine with the chassis trays open.

Do not contact adjacent structures with the platform.

Do not alter or disable the limit switches.

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




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**Maximum allowable manual force**      200 N

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Do not tie the platform to adjacent structures.

Do not place loads outside the platform perimeter.

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 the machine on a moving or mobile surface or vehicle.

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



Be sure all tires are in good condition.

Do not use battery that weighs less than the original equipment. The battery is used as counterweight and are critical to machine stability. The battery must weigh 25 kg.

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.

### ▲ Crushing Hazard

Keep hands and limbs out of scissors.

Use common sense and planning when operating the machine with the controller from the ground.

### ▲ 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 platform floor clear of debris.

Close the entry gate before operating.

Do not operate the machine unless the guard rails are properly installed and the entry is secured for operation.

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

## Safety Rules

### ⚠ 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.

Do not move while operating the machine.

### ⚠ Component Damage Hazard

Do not use any battery charger greater than 12V to charge the batteries.

Do not use the machine as a ground for welding.

### ⚠ Explosion and Fire Hazard

Do not operate the machine or charge the batteries in hazardous 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.

Be sure the operator's manual is 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 in the tray will cause serious injury. The tray 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.



## Safety Rules

### ▲ Explosion Hazard



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

The battery tray should remain open during the entire charging cycle.

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.

### ▲ 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.

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. The battery must weigh 25 kg.

### ▲ Lifting Hazard

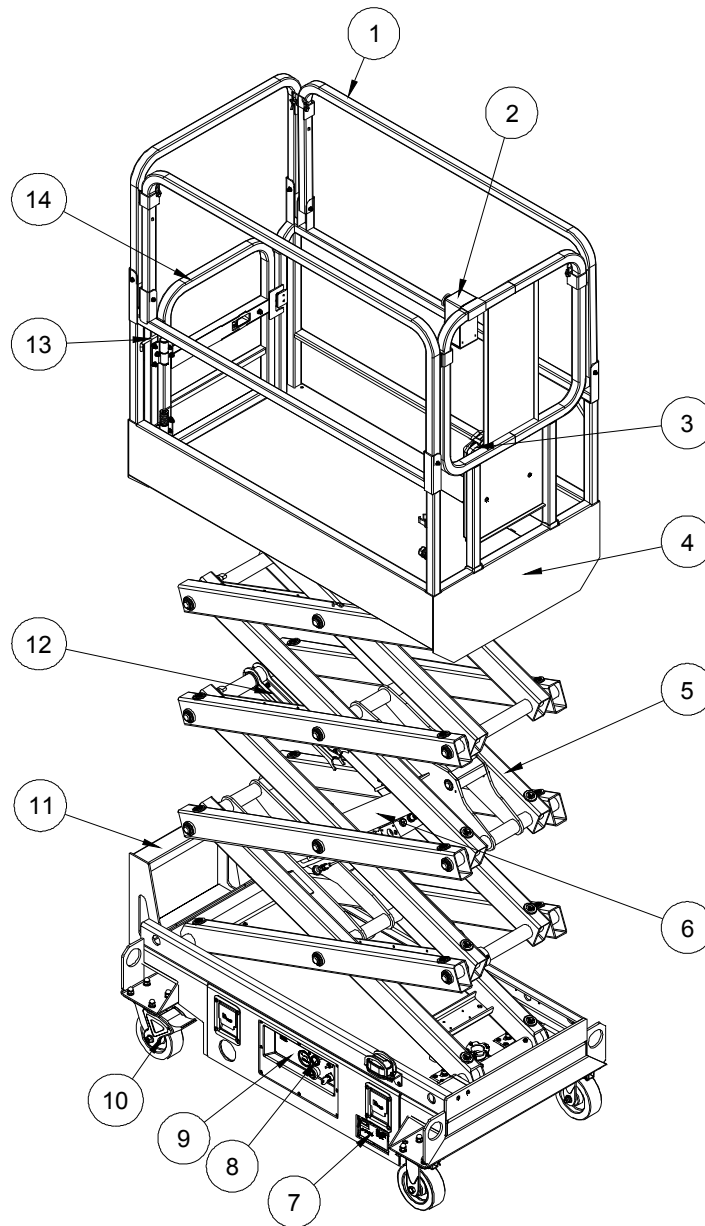
Use the appropriate number of people and proper lifting techniques when lifting batteries.

### 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 Push in the red Emergency Stop buttons to "off" position.
- 5 Chock the wheels.
- 6 Charge the batteries.

## Legend

### Legend



1. Platform guard rails

2. Platform control

3. Manual storage container

4. Platform

5. Scissor arms

6. Lift cylinder

7. Battery charger

8. Emergency lowering knob

9. Ground control

10. Rear wheel

11. Ladder

12. Safety arms

13. Lanyard anchorage point

14. Platform entry gate

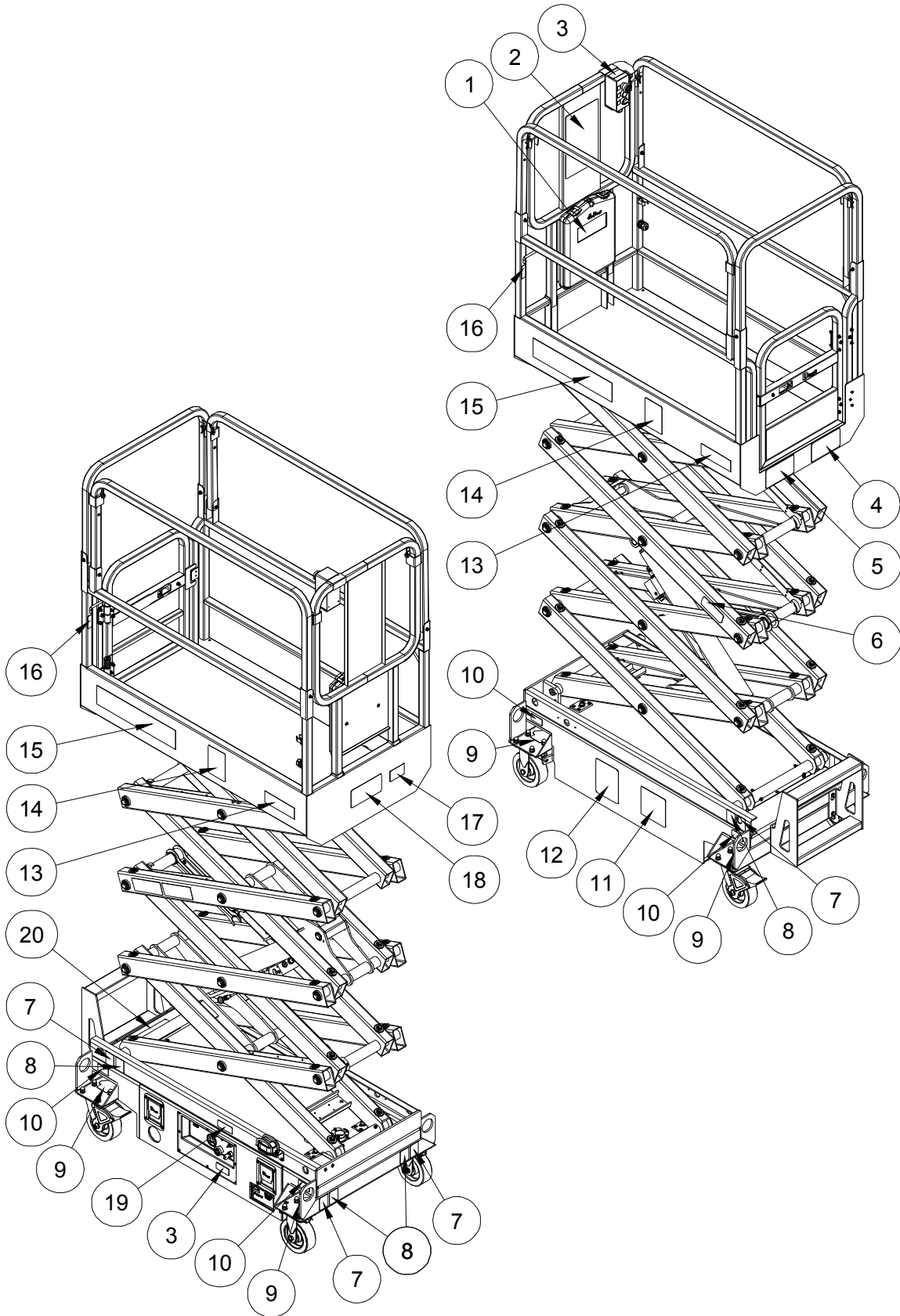
**Decals****Decal Inspection**

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.

<b>No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Remark</b>
1	09340001	Decal, Notice-Keep the manual with the machine	1	
2	09440001	Decal, Danger-General safety rules	1	
3	09340003	Decal, Instructions-Refer the operator to the instructions for use	2	
4	09440005	Decal, Warning-Use indoors only	1	
5	09440063	Decal, Label-Capacity 240kg	1	
6	09330001	Decal, Instructions-Safety arm	2	
7	09310003	Decal, Instructions-Tie down point	4	
8	09310002	Decal, Instructions-Lift point	4	
9	09310001	Decal, Instructions-Forklift pockets	4	
10	09310058	Decal, Instructions-Maximum wheel load 330kg	4	
11	09410001	Decal, Danger-Explosion/burn hazard	1	
12	09410003	Decal, Warning-Inspected and operation properly	1	
13	09640073	Decal, Cosmetic-SP039-E	2	
14	09440066	Decal, Caution-Max. manual force 200N	2	
15	09940003	Decal, Label-E-Tech	2	
16	09440011	Decal, Label-Lanyard anchorage point	2	
17	09540001	Decal, Label-CE	1	
18	09430003	Decal, Danger-Keep away from moving parts	1	
19	09310004	Decal, Instructions-Emergency lower	1	
20	09210015	Nameplate, Manufacturer serial number	1	

# Decals



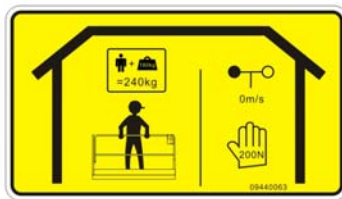
① 09340001



④ 09440005



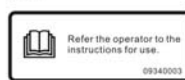
⑤ 09440063



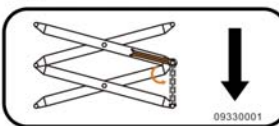
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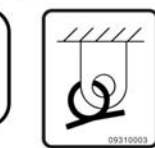
③ 09340003



⑥ 09330001



⑦ 09310003



⑧ 09310002



⑨ 09310001



⑩ 09310058



⑪ 09410001



⑫ 09410003



⑬ 09640073

SP039-E

⑭ 09440066



⑯ 09440011



⑰ 09310004



⑱ 09940003

⑲ 09430003



⑳ 09210015

**AERIAL WORK PLATFORM**

This product complies with Australian Standard AS/NZS1418:10:2011

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Date of Manufacturer \_\_\_\_\_

Unloaded Mass \_\_\_\_\_

Rated Capacity \_\_\_\_\_

No. Occupants \_\_\_\_\_

Max. Manual Force \_\_\_\_\_

Max. Wind Speed \_\_\_\_\_

Max. Ground Slope \_\_\_\_\_

Voltage/Amperage \_\_\_\_\_

Rated Capacity of Attachments \_\_\_\_\_

Commission Date \_\_\_\_\_

Zhejiang Dingli Machinery Co., Ltd.  
 No. 1255 Baiyun South Rd, Lishan  
 Town, Deqing Zhejiang China  
 Tel: 0582-572-8681/88 868188  
 Fax: 0582-572-868189  
 E-mail: market@cdingli.com  
 http://www.cdingli.com

⑳ 09540001



E-Tech

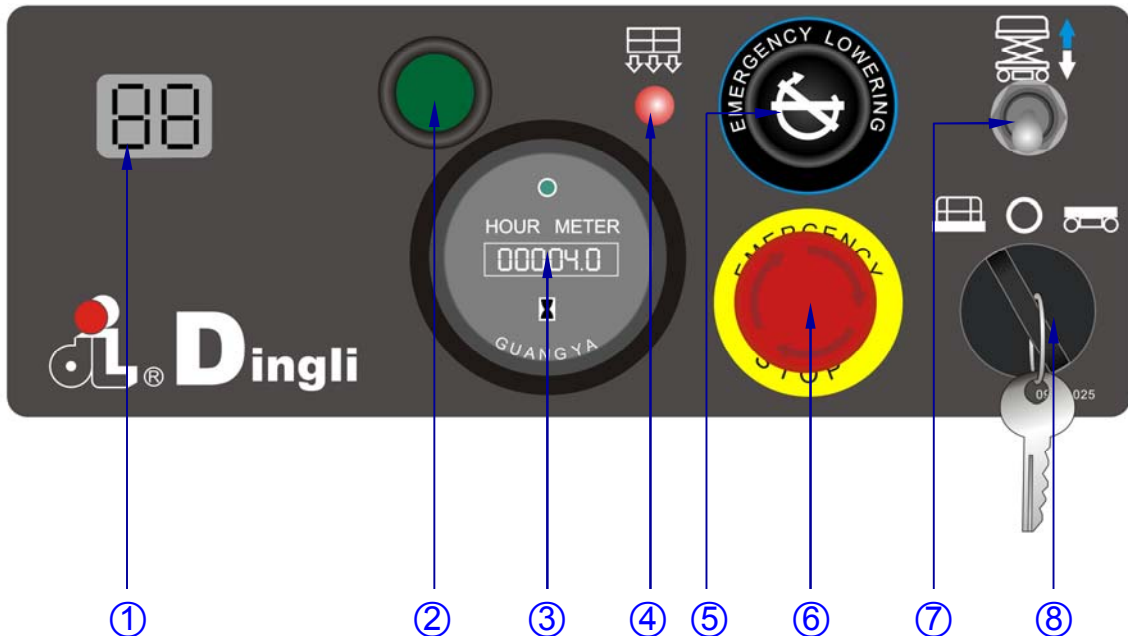
## Specifications

### Model: SP039-E

Height, working maximum	5.9m
Height, platform maximum	3.9m
Height, stowed maximum (Rails up)	1.96m
Height, stowed maximum (Rails folded)	1.56m
Width	0.76m
Length	1.44m
<b>Platform dimensions</b> (Platform length × width)	1.29×0.7m
Maximum load capacity	240kg
Maximum wind speed	0m/s
Maximum chassis inclination	1°
Wheelbase	1.14m
Turning radius	0m
Ground clearance	6cm
Weight	(See Serial Label)
Battery	12V 85Ah
AC outlet in platform	Standard
Maximum hydraulic pressure (functions)	180bar
System voltage	12V/15A
Tyre	Φ152mm
Airborne noise emissions	<70dB
Tire load, maximum	330kg

Note: Floor loading information is approximate and does not incorporate different option configurations. It should be used only with adequate safety factors.

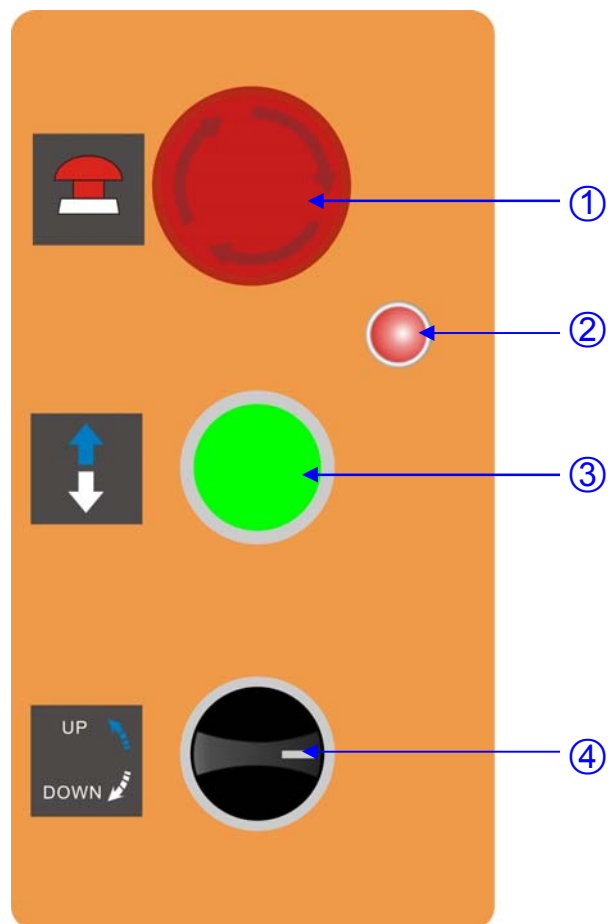
Continuous improvement of our products is a DINGLI policy. Product specifications are subject to change without notice or obligation.

**Control Panel****Ground Control Panel**

- |   |   |
|---|---|
| <p>1 LED readout screen<br/>Diagnostic read out and battery charge indicator.</p> <p>2 Menu switch<br/>Set machine parameters.</p> <p>3 Hour meter<br/>The hour meter displays the number of hours the machine has operated.</p> <p>4 Overload indicator light<br/>Light on indicates when overloaded.</p> <p>5 Emergency Lowering Knob<br/>Pull this knob to activate the Emergency down function.</p> | <p>6 Red Emergency Stop button<br/>Push in the red Emergency Stop button to the off position to stop all functions. Turn the red Emergency Stop button clockwise to the on position to operate the machine.</p> <p>7 Platform up / down switch<br/>Move the switch up and the platform will raise. Move the switch down and the platform will lower.</p> <p>8 Key switch<br/>Turn the key switch to the platform position and the platform controls will operate. Turn the key switch to the off position and the machine will be off. Turn the key switch to the base position and the ground controls will operate.</p> |
|---|---|

## Control Panel

### Platform Control Panel



**1 Red Emergency Stop button**

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

**2 Overload indicator light**

Light on indicates when overloaded.

**3 Function enable button**

Press and hold the function enable button to enable the lift /lower function

**4 Platform up/down switch**

Press and hold the function enable button . Turn the switch up and the platform will raise. Turn the switch down and the platform will lower.



## 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 in the manual.

## Pre-operation Inspection

### Pre-operation Inspection

- Be sure that the operator's manual are 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
- Battery pack and connections
- Wear pads
- Wheels
- Ground strap
- alarm, beacon and Rotary sensor
- Nuts, bolts and other fasteners
- Platform overload components
- Platform entry gate
- Safety arm
- Scissor pins and retaining fasteners
- Platform control box

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 place and properly tightened
- Be sure side rails are installed and rail pins and bolts are fastened.
- Be sure that the chassis trays are closed and latched and the batteries are properly connected.

Note: If the platform must be raised to inspect the machine, make sure the safety arm is in place. See Operating Instructions section.

## 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 is connected
- 3 All castor wheels must be in full contact with the ground.
- 4 Lock the brakes of the castors.

### At the Ground Controls

- 5 Turn the platform and ground red Emergency Stop buttons clockwise to the on position.
- 6 Turn the key switch to ground control.

### Test Emergency Stop

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

### Test Up/Down Functions

A buzzer with different sound frequency is controlled in central system. The descent alarm sounds at 60 beeps per minute. The descent delay alarm sounds at 120 beeps per minute. The alarm that goes off when the machine is not level sounds at 180 beeps per minute.

- 9 Turn the key switch to off or platform position.
  - 10 Move up and hold the platform up/down switch.
- ⊙ Result: No function should operate.
- 11 Turn the key switch to ground control position.
  - 12 Move up and hold the platform up/down switch.
- ⊙ Result: The platform should raise.

- 13 Move down and hold the platform up / down switch.

- ⊙ Result: The platform should lower the descent alarm should sound while the platform is lowering. The platform stop at the height is approximately 1.2 m from the ground. The descent delay alarm will sound.

Note: Be sure the area below the platform is clear of personnel and obstructions before continuing.

- 14 Move down and hold the platform up / down switch.

- ⊙ Result: The platform should lower to end. The descent alarm should sound while the platform is lowering.

### Test the Emergency Lowering

- 15 Activate the up function and raise the platform approximately 60 cm.

- 16 Pull the emergency lowering knob

- ⊙ Result: The platform should lower. The descent alarm will not sound.

- 17 Turn the key switch to platform control.

### At the Platform Controls

#### Test Emergency Stop

- 18 Push in the platform red Emergency Stop button to the off position.

- ⊙ Result: No functions should operate.

- 19 Turn the red Emergency Stop button clockwise to the on position.

#### Test Function Enable and Up/Down Functions

- 20 Do not press the function enable button, turn up the platform up/down switch.

- ⊙ Result: The platform should not raise.

## Function Tests

- 21 Do not press the function enable button, turn down the platform up/down switch.
- ⊙ Result: The platform should not lower.
- 22 Press and hold the function enable button, turn up the platform up/down switch.
- ⊙ Result: The platform should raise.
- 23 Press and hold the function enable button, turn down the platform up/down switch.
- ⊙ Result: The platform should lower the descent alarm should sound while the platform is lowering. The platform stop at the height is approximately 1.2 m from the ground. The descent delay alarm will sound.

### Test the Tilt Sensor Operation

Note: Perform this test from the ground with the platform controller. Do not stand in the platform.

- 24 Fully lower the platform.
- 25 Place a 2×20cm or similar piece of wood under both wheels on one side and push the machine up onto them.
- 26 Lock brake of the castor.
- 27 Raise the platform at least 1.2 m.
- ⊙ Result: The platform should stop and the tilt alarm will sound at 180 beeps per minute.

## 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

This machine is a mobile hydraulic lift equipped with a work platform on the scissor mechanism. Vibrations emitted by these machines are not hazardous to an operator in the work platform. The machine can be used to position personnel with their tools and supplies at position above ground level and can be used to reach work areas located above and over machinery or equipment.

A full and detailed implementation of EN ISO 13849-1/2 is correctly applied on our MEWP design. SISTEMA, a software tool for PL Calculation Tool, is also used to perform some relatively straightforward calculations on subsystem to determine the overall PL of the system. Reliability data, diagnostic coverage [DC], the system architecture [Category], common cause failure and, where relevant, requirements for software are used to assess the PL to comply with PLr of SRP/CS in Clause 5.11 of EN 280.

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 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, 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.

### Emergency Lowering

Pull the emergency lowering knob.

### Maneuvering the Machine

Maneuver the machine into position using both hands on the platform rails. Take care to avoid trapping hands or feet whilst maneuvering the machine.

Never maneuver the machine whilst it is elevated or with a person, tools or materials in the platform.

### Engaging the Brakes

Always ensure that both castor brakes are engaged before elevating the work platform to prevent any inadvertent movement.

The brakes are on by pushing down on the front end of the lever and off by pushing down the rear end of the lever.

### Entering the Work Platform

Always use three points of contact when entering or exiting the platform, using the handholds provided. For example, use two hands and one foot. Use the step provided on the base of the machine.

On entering the platform, ensure that the gate is closed behind you.

### Operation from Ground

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

### To Position Platform

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

### Operation from Platform

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

### To Position Platform

- 1 Press and hold the function enable button.
- 2 Turn up the platform up/down switch to raise the platform.
- 3 Turn down the platform up/down switch to lower the platform.

### How to use the Safety Arm

- 1 Raise the platform until the distance of the two sets of scissor at least 0.4m.
- 2 Lift the safety arm, move it to the center of the scissor arm and rotate down to a vertical position.
- 3 Lower the platform until the safety arm rests securely on the link. Keep clear of the safety arm when lowering the platform.



## Operating Instructions

**⚠ DANGER** Don't engage the safety arm unless unload the platform.

### How to Fold Down the Guardrails

The platform railing system consists of four fold down rail section the main deck. All sections are held in place by four wire lock pins.

- 1 Fully lower the platform.
- 2 Remove the platform controls.
- 3 From inside the platform, remove the two front deck wire lock pins.
- 4 Fold down the front rail assembly. Keep hands clear of pinch points.
- 5 Replace the two removed pins back into each side rail bracket.
- 6 Carefully open the gate and move to the rear step or the ground.
- 7 From the rear step or from the ground, remove the left rear deck wire lock pins.
- 8 Fold down the left rail assembly. Keep hands clear of pinch points.
- 9 Replace the removed pin back into rear rail bracket.
- 10 Remove the right rear deck wire lock pins.
- 11 Fold down the right rail assembly. Keep hands clear of pinch points.
- 12 Replace the removed pin back into rear rail bracket.
- 13 Fold down the rear rail assemble. Keep hands free of pinch points.

### How to Raise the Guardrails

Follow the fold down instructions but in reverse order.

### 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 Chock the wheels.
- 6 Charge the batteries.

## 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 machine.
- Use only a Dingli authorized battery and charger.

#### 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.

#### Dry Battery Filling and Charging Instructions

- 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.

## 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.

After the machine is loaded:

- 1 Push in both ground and platform red Emergency Stop buttons to the off position.
- 2 Turn the key switch to the off position.
- 3 Lock the both castor brakes.
- 4 Chock the wheels to prevent the machine from rolling.

### Securing to Truck 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.

### 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.

### Lifting the Machine with a Forklift

Be sure the control and component tray are secure. Remove all loose items on the machine.

Fully lower the platform. The platform must remain lowered during all loading and transport procedures.

Use the forklift pockets located on both sides.

Position the forklift forks in position with the forklift pockets.

Drive forward to the full extent of the forks.

Raise the machine 15 cm and then tilt the forks back slightly to keep the machine secure.

Be sure the machine is level when lowering the forks.

## 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

<b>Model</b>
<b>Serial number</b>
<b>Date</b>
<b>Hour meter</b>
<b>Machine owner</b>
<b>Inspected by (print)</b>
<b>Inspector signature</b>
<b>Inspector title</b>
<b>Inspector company</b>
<b>Instructions</b>
<ul style="list-style-type: none"> <li>• Make copies of this report to use for each inspection.</li> <li>• Select the appropriate checklist(s) for the type of inspection to be performed.</li> </ul>
<input type="checkbox"/> Daily or 8 hours Inspection: <span style="float: right;">A</span>
<input type="checkbox"/> Quarterly or 250 hours Inspection: <span style="float: right;">A+ B</span>
<input type="checkbox"/> Semi-annually or 500 hours Inspection: <span style="float: right;">A+B+C</span>
<input type="checkbox"/> Annually or 1000 hours Inspection: <span style="float: right;">A+B+C+D</span>
<input type="checkbox"/> Two year or 2000 hours Inspection: <span style="float: right;">A+B+C+D+E</span>
<ul style="list-style-type: none"> <li>• Place a check in the appropriate box after each inspection procedure is completed.</li> <li>• Use the step-by-step procedures in this section to learn how to perform these inspections.</li> <li>• 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.</li> </ul>
<b>Legend</b>
Y = yes, acceptable
N = no, remove from service
R = repaired

<b>Checklist A</b>	Y	N	R
A-1 Inspect the manuals and decals			
A-2 Pre-operation inspection			
A-3 Check the Battery			
A-4 Check the Hydraulic Oil Level			
A-5 Function tests			
<b>Perform after 40 hours:</b>			
A-6 30 day service			

<b>Checklist B</b>	Y	N	R
B-1 Battery			
B-2 Electrical wiring			
B-3 wheels			
B-4 Emergency stop			
B-5 Key switch			
B-6 Hydraulic oil analysis			
B-7 Tank venting system			
B-8 Slider components			

<b>Checklist C</b>	Y	N	R
C-1 Platform overload (if equipped)			
C-2 Breather cap - models with optional oil			

<b>Checklist D</b>	Y	N	R
D-1 Scissor arm wear pads			

<b>Checklist E</b>	Y	N	R
E-1 Hydraulic oil			

## 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 in the platform. 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 Check to make sure that the operator's manual is present and complete in the storage container on the platform.
- 2 Examine the pages of manual to be sure that they are legible and in good condition.

☉ Result: The operator's 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.

- 3 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.

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

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

## Maintenance

### 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 manual. Refer to the Operator Manual on your machine.

### A-3

#### Check the Battery



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. Battery 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-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.

**NOTICE** **Original Hydraulic oil specifications: L-HV46**

Customers shall choose the appropriate hydraulic oil according to the ambient temperature used.

Example: L-HV32 or L-HV68

**A-5****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 manual. Refer to the Operator's Manual on your machine.

## Maintenance

### A-6

#### 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 Wheels

## Checklist B Procedures

### B-1

#### Inspect the Battery



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** Electrocution / 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. Battery 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 Side out tray and away from the chassis.
- 3 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.

- 4 Be sure that the battery retainers and cable connections are tight.
- 5 Fully charge the battery. Allow the battery to rest 24 hours before performing this procedure to allow the battery cells to equalize.
- 6 Put on protective clothing and eye wear.

**Models without maintenance-free or sealed battery:**

- 7 Remove the battery vent caps and check the specific gravity of each battery cell with a hydrometer. Note the results.
- 8 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 11.
- ⊖ Result: One or more battery cells display a specific gravity of 1.217 or below. Proceed to step 8.
- 9 Perform an equalizing charge OR fully charge the battery and allow the battery to rest at least 6 hours.
- 10 Remove the battery vent caps and check the specific gravity of each battery cell with a hydrometer. Note the results.
- 11 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 11.

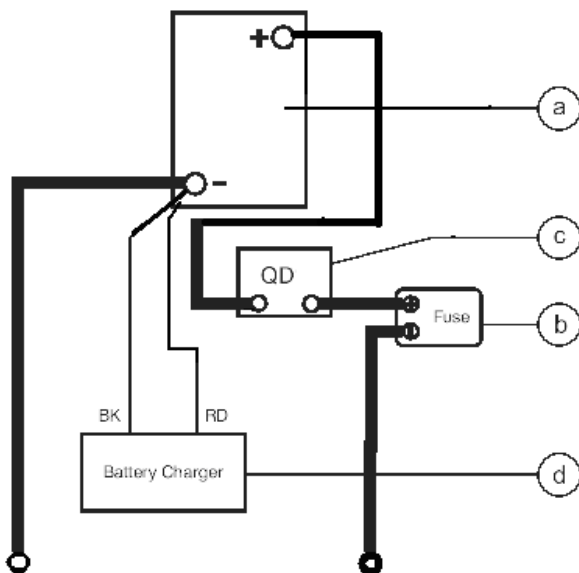
## Maintenance

- ☐ 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.
- 12 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.
- 13 Install the vent caps and neutralize any electrolyte that may have spilled.

- ☐ 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 battery.

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.



- a battery
- b 100A fuse
- c quick disconnect
- d battery charger

### All models:

- 14 Check battery pack and verify that the battery is wired correctly.
- 15 Inspect the battery charger plug and pigtail for damage or excessive insulation wear. Replace as required.
- 16 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 battery

**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:
  - Ground control panel
  - Hydraulic power unit module tray
  - Platform controls
- 3 Turn the key switch to ground control and turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
- 4 Raise the platform until the distance of the two sets of scissor at least 0.4m.
- 5 Lift the safety arm, move it to the center of the scissor arm and rotate down to a vertical position.
- 6 Lower the platform until the safety arm rests securely on the link. Keep clear of the safety arm when lowering the platform.

**⚠ WARNING** Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

- 7 Inspect the center chassis area and scissor arms for burnt, chafed and pinched cables.
- 8 Inspect the following areas for burnt, chafed, corroded, pinched and loose wires:
  - Scissor arms
  - ECU to platform controls
  - Power to platform wiring
- 9 Inspect for a liberal coating of dielectric grease in the following locations:
  - Between the ECU and platform controls
  - All wire harness connectors Level sensor
- 10 Raise the platform and return the safety arm to the stowed position.
- 11 Lower the platform to the stowed position and turn the machine off.

## Maintenance

### B-3

#### Inspect the Wheels



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

Maintaining the wheels in good condition is essential to safe operation and good performance. 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 each wheel for damage, bends and cracks.
- 2 Lubricate castor mounts.

### 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 key switch to ground control and turn the red Emergency Stop button clockwise 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 key switch to platform control and turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
- 4 Push in 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 key switch is switched to platform control.

**B-5****Test the Key Switch**

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

Proper key 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 key switch. Failure of the key 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 Turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
- 2 Turn the key 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 key switch to ground control.
- 5 Check the machine functions from the platform controls.
  - ⊙ Result: The machine functions should not operate.
- 6 Turn the key switch to the off position.
  - ⊙ Result: No function should operate.

**B-6****Perform Hydraulic Oil Analysis**

DINGLI requires that this procedure be performed every 250 hours or quarterly, 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. See E-1, Test or Replace the Hydraulic Oil.

## Maintenance

### B-7

#### Inspect the Hydraulic Tank Cap Venting System



DINGLI requires that this procedure be performed quarterly or every 250 hours, whichever comes first. Perform this procedure more often if dusty conditions exist.

A free-breathing hydraulic tank cap is essential for good machine performance and service life. A dirty or clogged cap may cause the machine to perform poorly. Extremely dirty conditions may require that the cap be inspected more often.

- 1 Remove the breather cap from the hydraulic tank.
  - 2 Check for proper venting.
- Result: Air passes through the breather cap.
- Result: If air does not pass through the cap, clean or replace the cap. Proceed to step 3.

Note: When checking for positive tank cap venting, air should pass freely through the cap.

- 3 Using a mild solvent, carefully wash the cap venting system. Dry using low pressure compressed air. Repeat step 2.
- 4 Install the breather cap onto the hydraulic tank.

### B-8

#### Check the Module Tray slider Components



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

Maintaining the module tray slider components in good condition is essential to good performance and service life. Failure to detect worn out slider components may result in module trays opening unexpectedly, creating an unsafe operating condition.

- 1 Inspect the module tray slider and related components for wear. Tighten any loose fasteners.
- 2 Lubricate each module tray slider. Using light oil, apply a few drops to each of the slider and to the ball of the roll mechanism.



## Checklist C Procedures

### C-1

#### Test the Platform Overload System (if equipped)



DINGLI requires that this procedure be performed every 500 hours or six months, whichever comes first OR when the machine fails to lift the maximum rated load.

Testing the platform overload system regularly is essential to safe machine operation.

Continued use of an improperly operating platform overload system could result in the system not sensing an overloaded platform condition. Machine stability could be compromised resulting in the machine tipping over.

**⚠ WARNING** Perform this procedure with the machine on a firm, level surface.

Note: Perform this test from the ground with the platform controller. Do not stand in the platform.

- 1 Turn the ground red Emergency Stop button clockwise to the on position. Pull out the platform red Emergency Stop button to the on position.
  - 2 Turn the key switch to platform controls.
  - 3 Determine the maximum platform capacity.
  - 4 Using a suitable lifting device, place an appropriate test weight equal to the maximum platform capacity in the center of the platform floor.
- ⊙ Result: The overload alarm at the platform controls should not sound, indicating a normal condition.

- ⊗ Result: The overload alarm at the platform controls sounds. Calibrate the platform overload system.
- 5 Add an additional weight to the platform not to exceed 30% of the maximum rated load.
    - ⊙ Result: The overload alarm at the platform controls sound, indicating a normal condition.
    - ⊗ Result: The overload alarm at the platform controls does not sound. Calibrate the platform overload system.
  - 6 Test all machine functions from the platform controls.
    - ⊙ Result: All platform control functions should operate.
  - 7 Turn the key switch to ground controls
  - 8 Test all machine functions from the ground controls
    - ⊙ Result: All ground control functions should not operate.
  - 9 Lift the test weight off the platform floor using a suitable lifting device.
    - ⊙ Result: The overload alarm at the platform controls should not sound, indicating a normal condition.
    - ⊗ Result: The overload alarm at the platform controls sounds. Calibrate the platform overload system.
  - 10 Test all machine functions from the ground controls.

## Maintenance

- ⊙ Result: All ground control functions should operate.
- 11 Turn the key switch to platform controls and start the engine from platform controls.
- 12 Test all machine functions from the platform controls.
- ⊙ Result: All platform control functions should operate.

### C-2

#### Replace the Hydraulic Tank Breather Cap



DINGLI requires that this procedure be performed every 500 hours or semi-annually, whichever comes first.

The hydraulic tank is a vented-type tank. The breather cap has an internal air filter that can become clogged or, over time, can deteriorate. If the breather cap is faulty or improperly installed, impurities can enter the hydraulic system which may cause component damage. Extremely dirty conditions may require that the cap be inspected more often.

- 1 Remove and discard the hydraulic tank breather cap.
- 2 Install a new cap onto the tank.

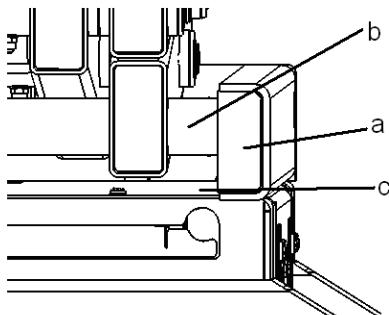
**Checklist D Procedures****D-1****Check the Scissor Arm Wear Pads**

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

Maintaining the condition of the scissor arm wear pads is essential to safe machine operation. Continued use of worn out wear pads may result in component damage and unsafe operating conditions.

Perform this procedure with the platform in the stowed position.

- 1 Measure the distance between the number one arm cross tube and the chassis deck at the left side of the rear wheel end of the machine.



- a wear pad
- b arm cross tube
- c chassis deck

- ⊙ Result: The measurement is 22 mm or more. Proceed to step 3.
  - ⊖ Result: The measurement is less than 22 mm. Replace both wear pads.
- 3 Apply a thin layer of dry film lubricant to the area of the chassis where the scissor arm wear pads make contact.
- 2 Measure the distance between the number one arm cross tube and the chassis deck at the right side of the rear wheel end of the machine.

# Maintenance

## Checklist E Procedure

### E-1

#### Test or Replace the Hydraulic Oil



DINGLI requires that this procedure be performed every 2000 hours or every two years, 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 Slide out the tray.
  - 2 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.
- 3 Tag and disconnect the hydraulic pump outlet line and remove the line from the pump. Cap the fitting on the pump.
  - 4 Tag and disconnect the electric wires from the motor.
  - 5 Loose the bolt and remove the hydraulic power pack form the tray.
  - 6 Remove the oil drain plug at bottom.
  - 7 Drain all of the oil into a suitable container.

- 8 Loose and remove the bolts and separate the tank from the pump body.

**⚠ 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.

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

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#### Torque specifications

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Hydraulic tank retaining fasteners, dry	4Nm
Hydraulic tank drain plug, lubricated	2.9Nm

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

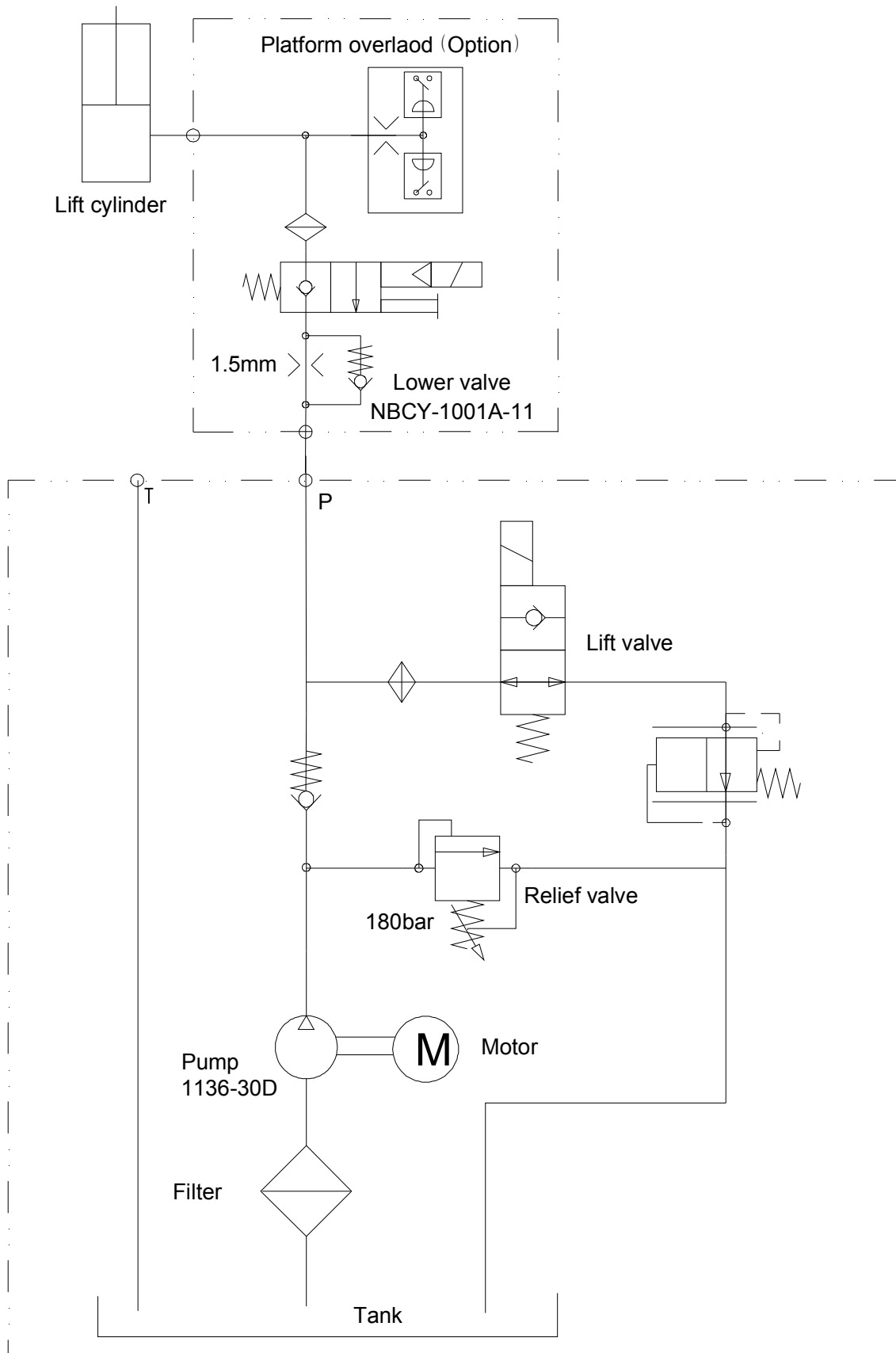
**⚠ WARNING** Component damage hazard. The pump can be damaged if operated without oil. Be careful not to empty the hydraulic tank while in the process of filling the hydraulic system. Do not allow the pump to cavitate.

**Maintenance****Trouble shooting**

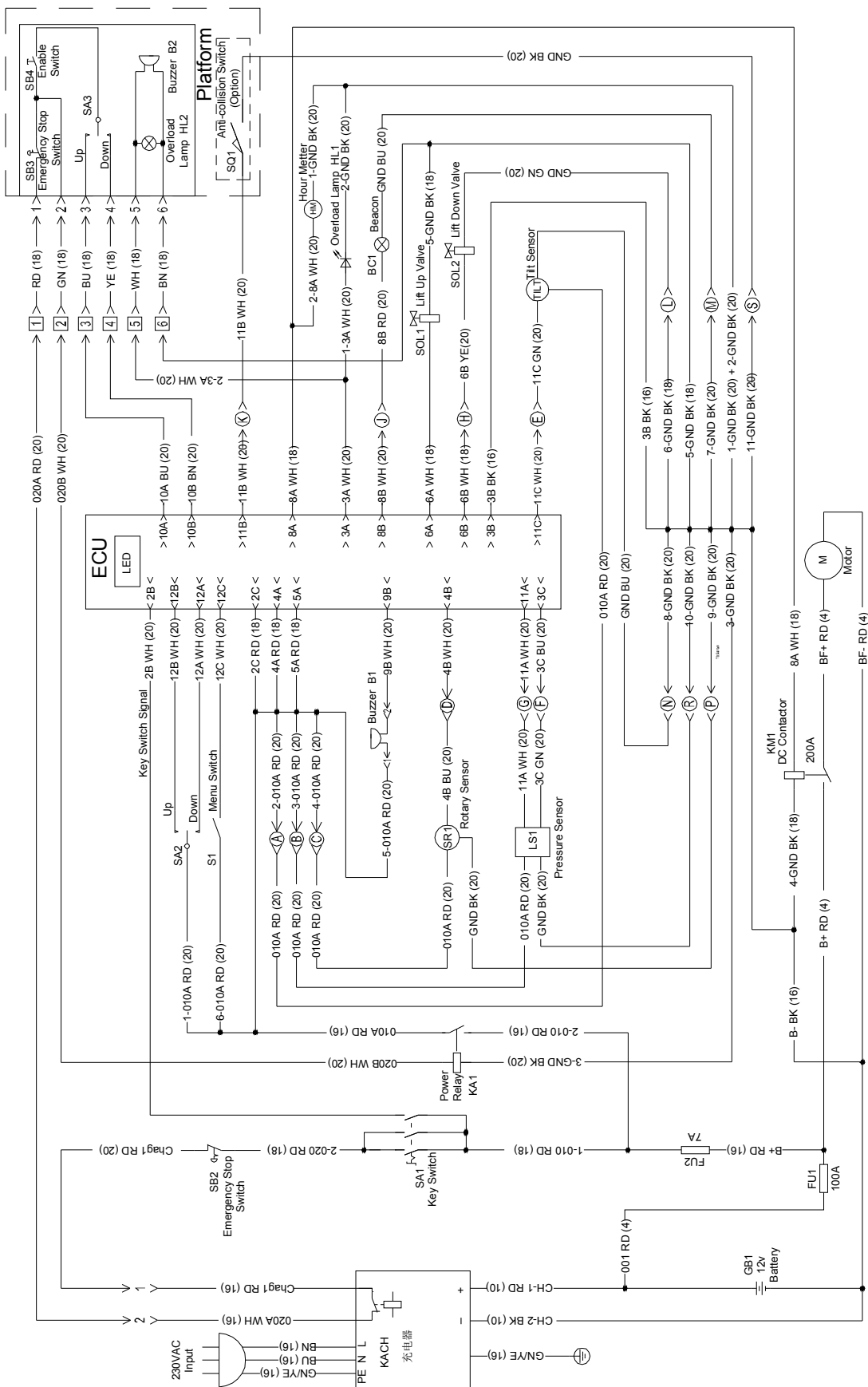
<b>Problem</b>	<b>Cause</b>	<b>Repair</b>
Platform does not raise (motor not running)	1. Faulty wiring.	1. Check the wiring referring to the electrical schematic.
	2. Battery is disconnected.	2. Reconnect the battery.
	3. Battery charge is insufficient.	3. Charge the battery.
Platform does not raise (motor running)	1. Faulty adjustment of relief valve.	1. Adjust relief valve.
	2. Faulty hydraulic pump.	2. Replace power pack.
	3. Insufficient hydraulic oil.	3. Add hydraulic oil.
Platform creeps (uncontrolled lowering)	1. Oil leakage in power pack.	1. Replace lowering valve.
	2. Oil leakage from hydraulic circuit.	2. Check hydraulic circuit and repair.
Oil leakage from cylinder.	Faulty sealing.	Replace sealing.
Oil leakage from piping or joint.	Insufficient tightening or seal in valid.	Tighten joint again or replace seal.
Oil leakage from air breather.	Excessive quantity of oil.	Reduce oil quantity.

# Schematic

## Hydraulic Schematic



Electrical Schematic



<N> = 16 Position Connector LOC1  
<B> = 6 Position Connector LOC2

# Inspection and Repair Log

## Inspection and Repair Log

Date	Comments