

Up-Lift

UE20/25/32/40/48



Central Mast
Man Lift

UE SERIES PRODUCT MANUAL



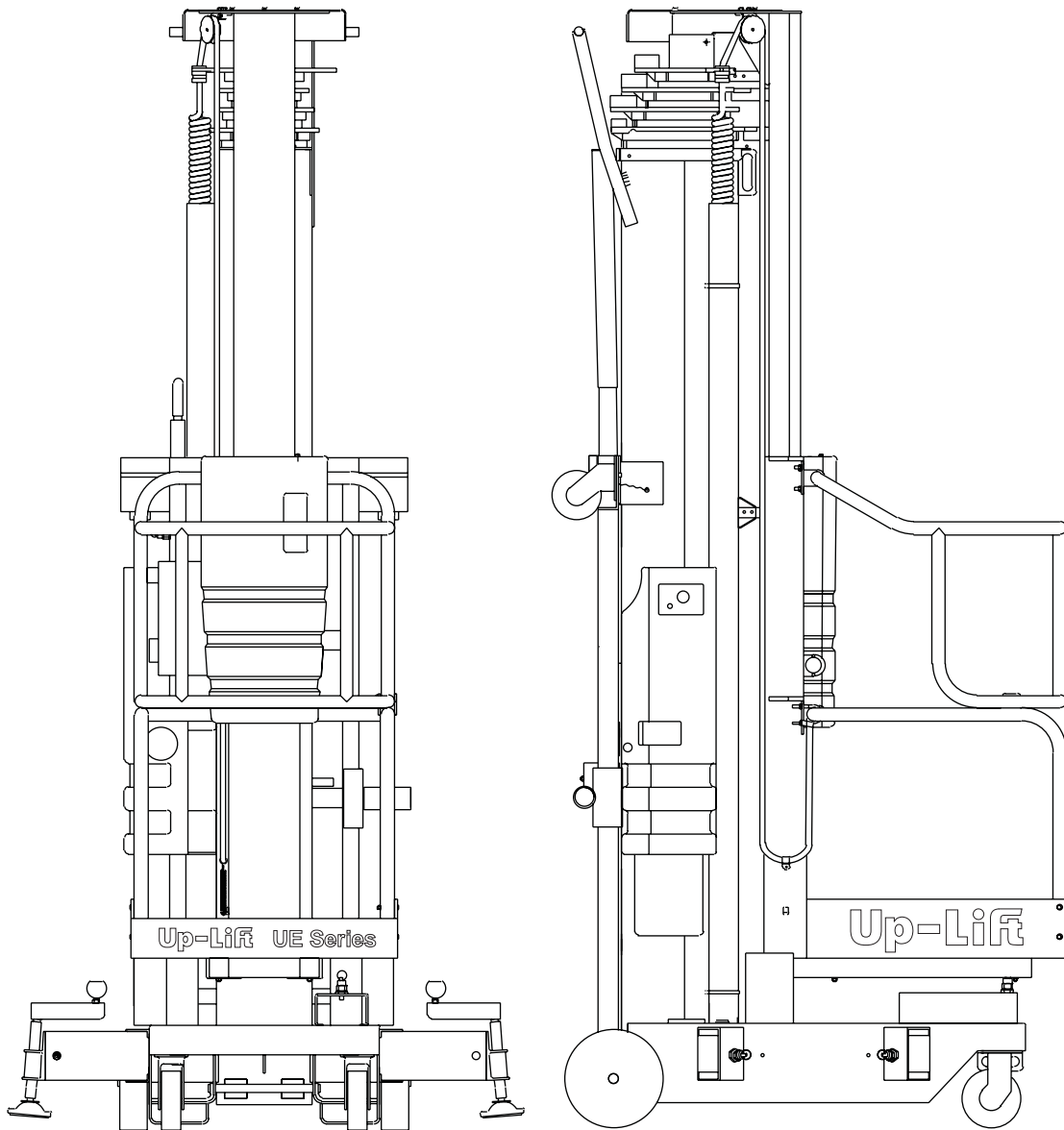
*Congratulations on your purchase of this
quality Up-Lift Product!
Before operating, please read this manual
thoroughly and follow the safety rules closely.*

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1 Product Schematic Diagram



UE Series machine external appearance

Note: Non-standard lift with Fibreglass platform cage has different appearance.



2 Product Introduction

Up-Lift UE series elevating work platforms employ advanced technology, powered by a dynamic hydraulic system and is safe and reliable. It is a small size, light weight, compact and appealing machine. The UE product uses high quality aircraft standard aluminum material to manufacture its unique high strength thin wall rectangular tubular masts. The aluminum masts are separated by high-density PE bearings allowing close contact between each outer and inner mast. This design allows smooth movement of the rectangular masts within one another providing a uniquely stable operation of this UE series lift.

The components which make up the UE product are from the best quality sources, with most of key components imported from western countries. The product is equipped with a number of advanced features, and has a patented back-up power feature allowing lowering of the platform during power black-outs. As a consequence, operators of Up-Lift feel a greater sense of safety comparing with many similar products.

Up-Lift UE elevating work platforms are extensively used for cleanings, decorating, maintenance and aerial signage work in hotels, restaurants, department stores, emporiums, shopping centers, airport departure lounges, sports stadiums, convention centers and stadiums, as well as factories, hospitals, universities and colleges. It can easily pass through standard doorways and elevator lifts and is especially suited to small confined working space applications.

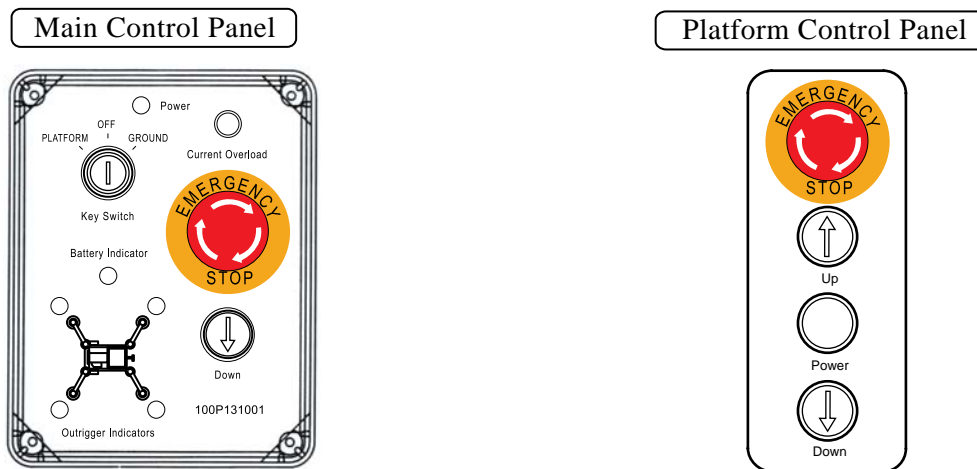
3 Technical Specifications

Model Item	UE20	UE25	UE32	UE40	UE48
Maximum Platform Height (m)	6.1	7.6	9.7	12.3	14.5
Maximum Working Height (m)	8.1	9.6	11.7	14.3	16.5
Total Weight (kg) AC/DC	320/362	350/392	430/475	460 /502	520/562
Stored Dimensions (m)	1.29x0.74x1.82	1.29x0.74x1.98	1.31x0.74x2.53	1.31x0.74x2.93	1.31x0.74x3.35
Platform Dimensions (m)	0.68x0.66x1.32	0.68x0.66x1.32	0.68x0.66x1.32	0.68x0.66x1.32	0.68x0.66x1.32
Outriggers Foot-Print (m)	1.47x1.55	1.47x1.55	2.10x2.20	2.40x2.50	2.90x3.03
Wall Access-Distance (m)	0.10	0.10	0.37	0.53	0.72
Rated Load (kg)	159	159	136	136	110
Power Rating (kW) AC/DC	1.1/1.6	1.1/1.6	1.1/1.6	1.1/1.6	1.1/1.6
Voltage (v) AC/DC	230 /12	230/12	230/12	230/12	230/12
Tilted Dimensions (m)	--	--	2.53x0.74x1.83	3.07x0.74x1.96	3.35x0.74x1.97

The company reserves the right to alter its design & specification without prior notification.



4 Operating Instructions



1. Move the machine to the location where aerial working is required.
2. Connect power supply to the unit. Turn the key-switch to the "PLATFORM" position. Power supply indicator light will lit up. Install the four out-riggers and position these supporting legs close on firm ground surface. Check that the bubble in the spirit level indicator is centred within the black circle and all four outrigger indicator lights on the base control box are lit up before operating the unit. Adjust the outriggers until the bubble in the spirit level indicator is centred within the black circle, the machine is now leveled for use.
3. Enter the platform by lifting the mid-rail on the access side and close.
4. Once inside the platform, depress the "UP" and "POWER" buttons simultaneously to raise the platform. When the required height is reached, releasing pressure on both buttons will stop the platform. Commence aerial work.
5. After completion of work, check the space below the platform is clear before depressing both the "DOWN" and "POWER" buttons simultaneously to lower the platform to the minimum height position. Releasing the pressure on these buttons STOPS the platform.
6. Never move the machine unless the platform has returned to the lowest position.
7. After operator has completed work, return the outriggers to its stored position.
8. Return the key switch to the OFF position and remove the key for safe keeping.
9. If power supply is cut while the machine is in the elevated position, the electrical system will automatically switch over to the back up power supply allowing normal operation of the unit to reach the ground level position.

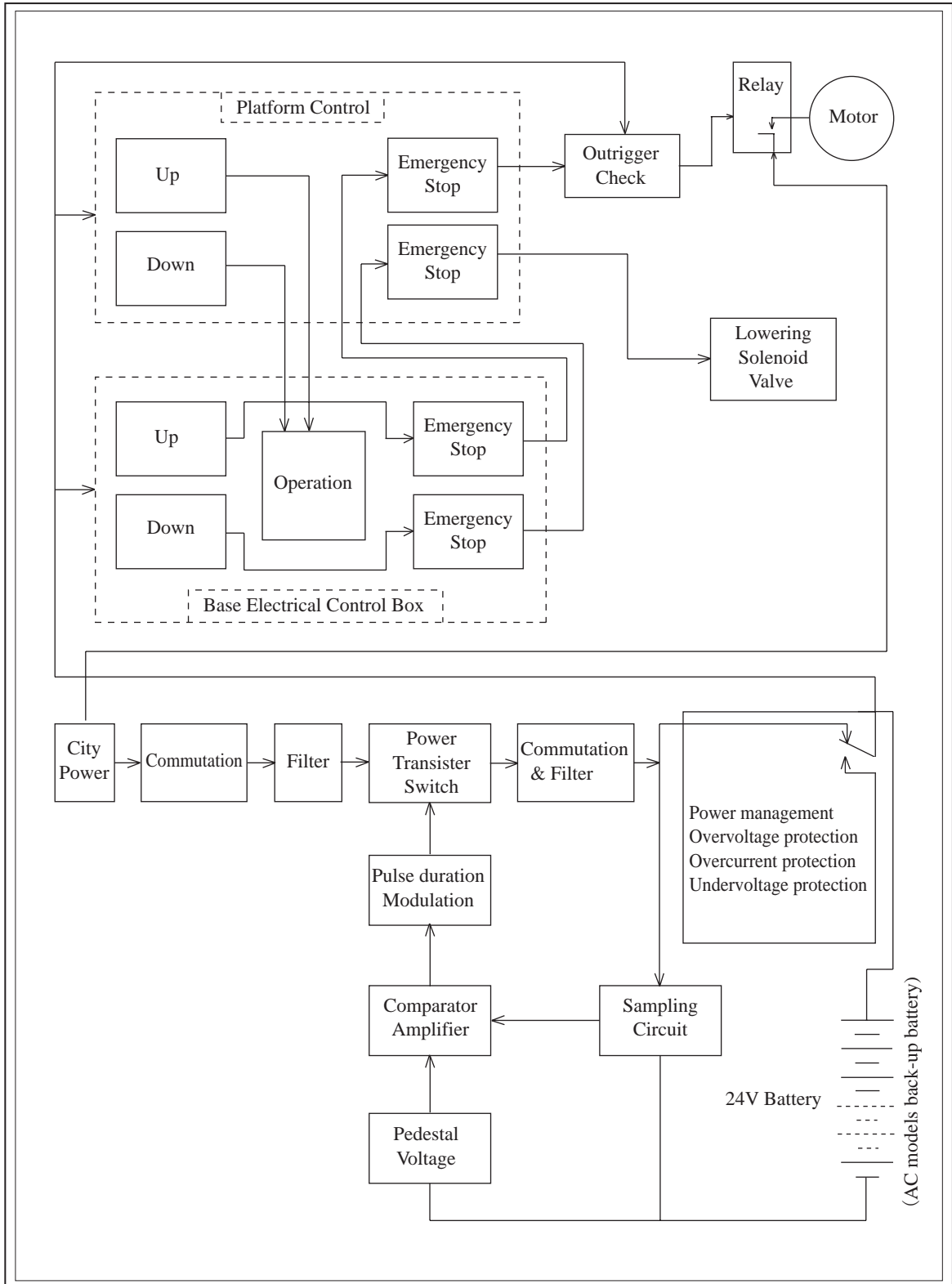
NB: As the machine is designed with the mast columns being held tightly in between by bearing blocks, new machines are expected to produce friction noises while the platform is raised.

Manual Lowering of Platform from Ground

1. Check that the 3 position key switch is in the "OFF" position.
2. Twist clockwise to release the Emergency Stop button to on position.
3. While holding the key switch to "GROUND" position, press the platform Down button at the ground controls to lower the platform.



5 Electrical System

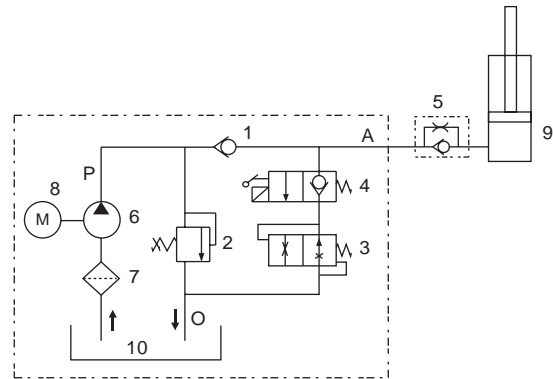




6 Hydraulic System

(A) Operating Principle Schematic Diagram

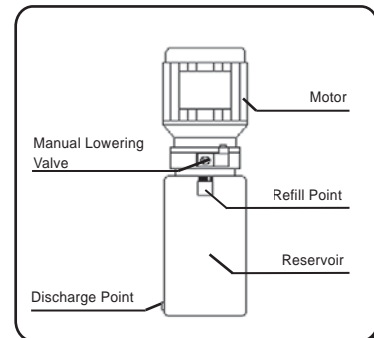
- | | |
|---------------------------|-------------------|
| 1. Uni-directional Valve | 6. Hydraulic Pump |
| 2. Relief valve | 7. Filter |
| 3. Flow Restrictor | 8. Motor |
| 4. Solenoid Valve | 9. Oil Cylinder |
| 5. Explosion relief valve | 10. Oil Reservoir |



Once the motor is started, this drives the hydraulic pump and delivers high pressure oil flow into the P port of the valve block (shown as dotted line). The unidirectional valve 1 allows the oil to flow out via Port A and into the hydraulic cylinder. This raises the platform slowly. The relief valve 2 is adjusted to by-pass oil when the rated capacity is reached. This prevents operation beyond the pre-set capacity rating. When the operator calls for the platform to descend, the solenoid valve 4 is energized, oil from the hydraulic cylinder then flows back to the valve block via Port A and with the unidirectional valve 1, flows can only pass through solenoid valve 4 onto the flow restrictor 3 and out of the valve block through Port O into the oil reservoir 10. This allows the platform to descend slowly. Due to the pressure balancing design of the valve block, the ascending and descending speed is not affected by the platform capacity changes.

(B) Operating Principle Schematic Diagram

1. The specification of the hydraulic oil used is ISO VG32. Depending on the frequency of use, the oil may require a complete change once a year. Mixing of oil with other fluid and introduction of any other fluid into the oil tank are strictly forbidden. Should the oil level fall below normal operating level, the platform will not reach its maximum height. In addition, the noise coming from the hydraulic system during lifting of the platform will increase and sound abnormal. If this happens, top up the oil tank with ISO VG32 hydraulic oil.



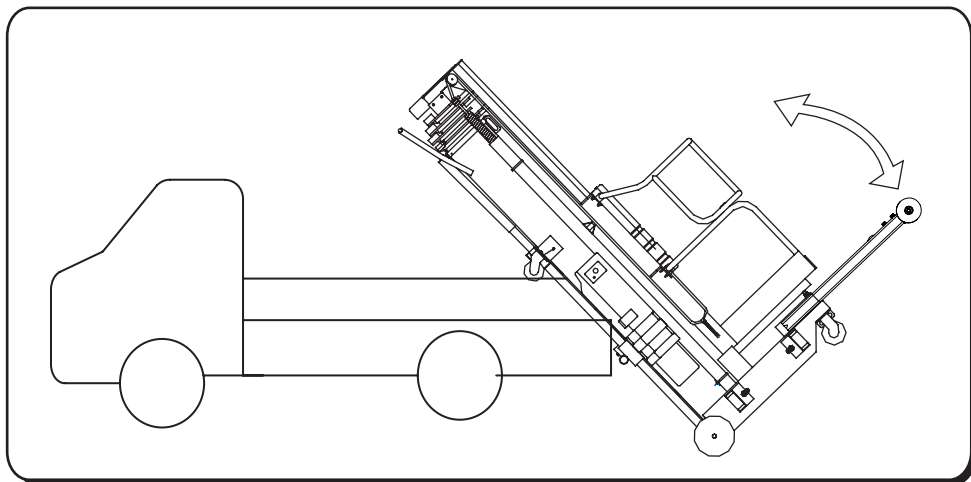
2. After using the manual descending valve to lower the platform to its stored position, please remember to turn the valve knob to its original closed position. The platform cannot be raised normally unless this is carried out.
3. Do not adjust the hydraulic pressure setting and change any original hydraulic system parts without obtaining the approval of the supplier of the machine.
4. If operating in continues cold store conditions (-35°C), the use of a synthetic hydraulic fluid S.A.E.0W is recommended.

NB: When the platform is loaded and raised to its highest point, press for an instant moment on the down control buttons to minimise the impact to the equipment of a change in hydraulic flow direction. Thereafter, fully engage the down control buttons to continue the descend.



7 Machine Maintenance and Care during Transportation

1. This unit is suitable for indoor operation and the operator should as far as possible operate the machine indoors.
2. If the machine is used outdoors, care should be taken to ensure that the ground is firm and solid to prevent instability. Avoid operation under any windy condition.
3. Always check that the outrigger position indicator lights are working properly.
4. Before using the machine for aerial work, raise the platform slightly without load to ensure normal functioning of the machine.
5. Frequent check should be made of the electricity leakage protection to ensure effectiveness.
6. For maintenance requirement of the hydraulic system, please refer to Section 6.
7. If the machine is used frequently, routine maintenance and safety checks should be carried out every 3 months.
8. Regular check of the chain-drive system for wear and tear at least on a quarterly basis. Apply N32 oil on chain friction points as well as wheels points as required.
9. Keep machine away from dust and rain. Never store the machine outdoors or in an area of high humidity or heat. During storage, keep the machine covered with a protective cover.
10. Only qualified professionals are allowed to undertake dismantle any part of the machine or conduct maintenance on the machine. If unsure, please contact supplier.
11. For distance transportation, the machine can be loaded onto a truck using the loading method as shown in the following diagram.





8 Operation of Inclined Back Support System

Up-Lift UE Series Personnel Elevating Work Platform is equipped with an inclined-back support system to allow it to pass through standard doorways. On the UE32, UE40 and UE48 models, the inclined-back support system is supplied as standard equipment.

Please read and adhere strictly to the following operating rules:

Preparing for Storage or Moving of Machine through Standard Door

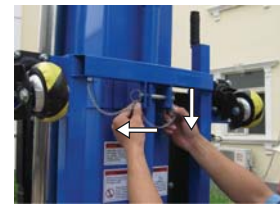
1. While on a level & flat ground, remove the truck loading facility from the machine (figure 1). Remove the pin retainer to release locking pin while holding the tilt back frame (figure 2). Ensure that the frame is partially supported while being lowered. At least two people are required to operate the tilt-back frame. For larger model, more people may be required.
2. While holding the tilt back support, lower the gas cylinder on the tilt back frame to align the holes on its end with the holes on the bracket. These steps should only be implemented when there is no person or object behind or under the tilt back frame. Insert the locking pin and hold it in position by the pin retainer. (Refer to figure 3 & 4)
3. Use one outrigger and insert into the lifting channel hole on the front end of the chassis until the spring-loaded pin locks it in position. (Refer to figure 5)
4. Tilt the machine slowly onto the inclined supporting frame by lifting the front outrigger handle. Under no circumstances should the machine be dropped onto the tilt back support. This procedure must be handled slowly until the machine rests firmly on the castor wheels. (Refer to figure 6 & 7)
5. Remove the outrigger from the front channel pocket and store on the outrigger rack. The machine is now ready for moving through standard doorways.

Preparing to Raise the Machine for Normal Operation

1. While on a level or flat ground, remove one outrigger from its rack and insert into the channel hole on the front of the chassis until it locks into position.
2. Gently push up on the upper handle bars while the person on the front of machine pull down on the outrigger until the machine returns to its vertical standing position.
3. Push the inclined-back frame upwards until the gas spring cylinder is vertical and the holes on the frame coincides with the bracket holes on the back of the machine. Insert the locking pin and pin retainer.
4. Remove the outrigger & store it on the outrigger rack provided.
5. The machine is now ready for normal operation.



1



2



3



4



5



6



7



9 Safety Rules

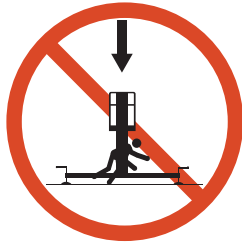
All personnel should read carefully this warning sign and the instruction manual and follow the operating rules. Failure to do so could result in serious safety hazard.



NEVER try to move the machine while platform is loaded or with the outriggers installed.



NEVER elevate the platform with class 4 or higher wind speed or operate the machine under thundery weather.



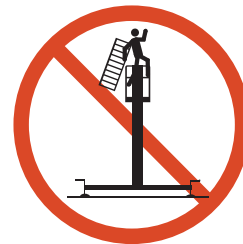
ENSURE that no person or object is placed beneath the platform before and during operation of the machine.



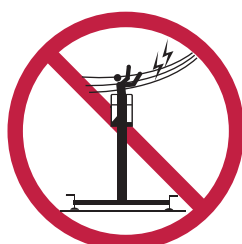
NEVER exceed the load limit specified for the machine.
NEVER use machine as a goods lift or a people mover.



NEVER operate the platform if the level indicator shows the machine is not on a level position.
ENSURE that the outriggers are on firm solid ground.



NEVER sit on, stand on or climb over the platform top-rail or mid-rail to conduct aerial work.
NEVER use ladders, planks or other devices to increase the height of the platform.



NEVER operate the machine within 3 metres of power lines, or use as an earth for welding.
Electrical shock can kill you. This machine won't protect you from shock.



10 Preparation for Unloading and Testing

Step 1 To position the machine into a vertical standing position.

Fig.1: Dismantle any timber block placed against the castor wheels of the machine for protection during transport. (As shown on the right of Fig.1)

Fig.2: Cut the steel bands which tie the machine onto the timber base, use a fork lift to lift the machine from its timber base with a sling as shown. Adjust the sling so it is close to the centre of gravity of the machine. Gently lower the machine onto the floor with care.

Fig.3: With two people one holding the leverage arm handle downwards (with larger models such as UE32, UE40 and UE48, use outrigger instead of leverage arm) and the other guiding the forklift driver, gently lift the machine into its vertical standing position using the sling to go through the lifting channel hole as shown. Lifting channel hole is located underneath the mast cover.

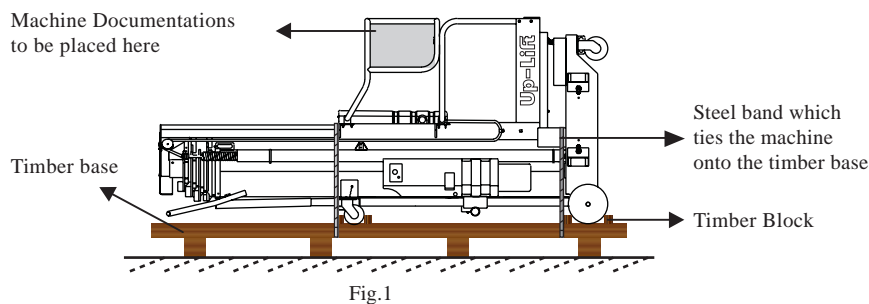


Fig.1

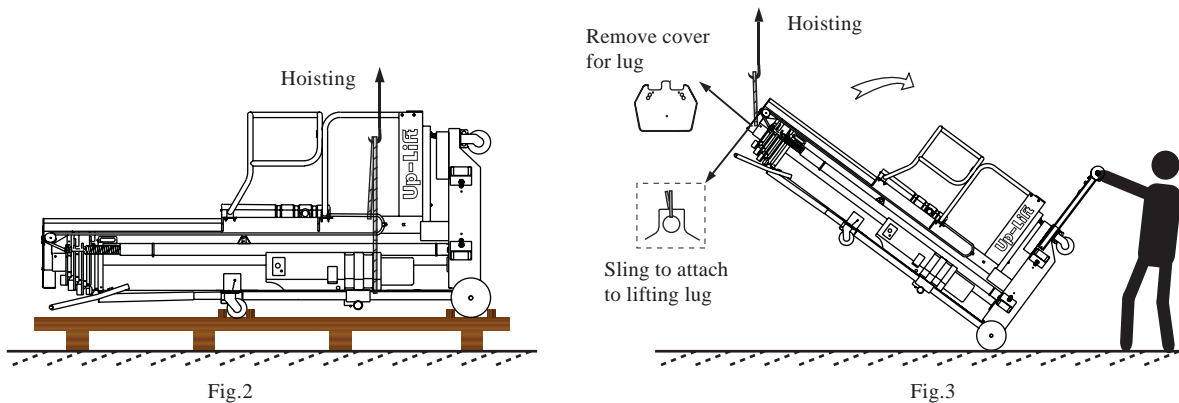


Fig.2

Fig.3

Step 2 Before putting the machine through a trail run, make sure that the following items are carried out:

1. Check for any abnormal signs such as loose bolts on the machine or any damage during transport. Rectify as required.
2. The machine is now ready for trial run.

WARNING: Extreme care should be taken on the Mast Cover, the Upper & Lower Control Box and the Spiral Cable Assembly when unpacking to avoid any damages.

Unloading procedure must be strictly followed. Incorrect handling may cause serious damage and personal injury.



11 Trouble Shooting

1. Please ensure machine is on a firm and level ground. Ensure that all four outriggers are correctly inserted prior to commence any repair works.
2. Please read the product manual and maintenance manual carefully before carrying out any repair work.
3. If problem persists after following the steps below, please cease using the equipment and contact the manufacture or authorized representative immediately.

Trouble	Probable Cause	Remedy
Platform could not reach max height	Insufficient hydraulic oil	Add hydraulic oil
Platform could not be raised although motor is running	<ol style="list-style-type: none"> 1. Excessive platform capacity 2. Emergency down valve is left open 3. Insufficient hydraulic oil 4. Hydraulic oil is contaminated 	<ol style="list-style-type: none"> 1. Add hydraulic oil 2. Replace hydraulic oil 3. Close the emergency down valve 4. Keep to capacity specified
Platform could not be raised; electric motor is not running	<ol style="list-style-type: none"> 1. Key switch is in OFF position 2. Power connection faulty (DC model: battery level low) 3. Outriggers not insert properly 4. Emergency stop button is depressed. 5. Electric motor faulty 	<ol style="list-style-type: none"> 1. Turn key switch to PLATFORM position 2. check power point(DC model: recharge battery) 3. Adjust outrigger position till outrigger indicator lights are all on. 4. Turn on emergency stop button 5. Contact supplier for replacement
Platform descends gradually from raised position	<ol style="list-style-type: none"> 1. Oil contaminated causing relief valve to remain open 2. Emergency down valve is left partially open 3. Hydraulic seal needs replacement 	<ol style="list-style-type: none"> 1. Replace hydraulic oil 2. Close emergency down valve fully 3. Contact supplier to arrange replacement.
Platform could not descend	<ol style="list-style-type: none"> 1. Power not connected and back-up battery is flat. 2. Oil cylinder bypass causing explosion relief valve to block oil flow. 3. Pressure release valve damage, cannot open to release pressure. 	<ol style="list-style-type: none"> 1. Check power connection and fix problem. Lower the equipment by opening the emergency down valve. Replace back-up battery if required. 2. Press Up & Power button to raise platform and slowly open the emergency down valve, repeat this cycle if required. 3. Contact supplier for replacement.
Oil leaking	<ol style="list-style-type: none"> 1. Hydraulic seal needs replacement 2. Oil leakage from fittings. 	Stop using the equipment, contact supplier for replacement.

Note: Repairs by any unauthorised personnel may result in serious personal injury or death. Any interference with the hydraulic and electrical system may also invalidate the product warranty.



12 Instructions for Use and Maintenance of Battery (DC Models)

- ◆ When transporting the DC powered personnel lift, the battery casing and the battery should be detached from the rear of the machine to prevent leakage or damage to the battery casing. To prepare the machine for use, install the outriggers, then load the battery box (including battery inside) onto the two battery retaining pins fitted on both side of the central mast and ensure this is fitted securely onto the back of the central mast.
- ◆ For charging of battery, please follow the instructions on charging operation. When the charger indicator changes from red to green, the battery is fully charged. Continue charging for about an hour or more will ensure maximum performance of the battery.
- ◆ If the charged battery has been used or left unused for a period of time, recharging is required, as prolonged storage at low charge will result in reduced battery performance.
- ◆ Store the battery in a cool and dry area to reduce the loss of power during storage period.
- ◆ For lead-acid batteries, check battery fluid level before charging. If the electrolyte level is less than 10 mm above the plates, add distilled water or battery charging fluid. Do not over-fill fluid which may result in dilution thus shorten the life of the battery. Take care not to add too much fluid causing over flowing. After topping up fluid with distilled water, the battery should be recharged for at least half an hour to enable the distilled water to mix thoroughly with the battery fluid and avoid freezing during winter. (This above step is NOT required for Maintenance-free batteries).
- ◆ Check the battery and the terminals regularly to ensure they are secured tightly in position. Inspect the insulation casing for worn spots, cracks or broken terminals and repair them immediately.
- ◆ Inspect the battery and the terminals for signs of corrosion at the terminals resulting from overflowing of fluids (for lead-acid batteries only). Clean the battery thoroughly with hot water and dry with a piece of clean cloth thereafter. Remove and clean the terminals and the connecting cables as well. Before refitting the cables, apply a thin layer of industrial vaseline.
- ◆ To connect the battery and the charger, set the power switch to the "OFF" position. Ensure that the positive terminal on the battery is connected to the positive socket of the charger and vice versa.
- ◆ Charging must be carried out in a well-ventilated area, away from inflammable materials as charging may result in sparks or flames, which may result in explosion.
- ◆ Ensure the connecting socket on the battery casing is properly maintained to avoid power disruption.
- ◆ Battery fluid in lead-acid batteries is highly corrosive. Rinse thoroughly with clean water if spilled fluid comes into contact with hands or eyes.
- ◆ Highest permissible safe battery power discharge level is 70%. Do not discharge below the recommended final discharge voltage of 10.5V (for 12V battery).



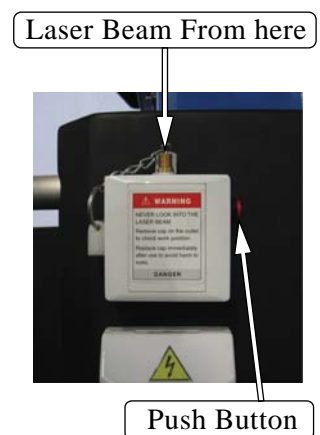
- ◆ Keep batteries fully charge when put in storage. Disconnect the battery from the load / equipment before longer term storage. Store in a cool dry place.
- ◆ The battery casing carrying the charger contains an ammeter, which indicates the charge rate. All power usage should stop when the power discharge level indicated by the ammeter reaches 70%. This is strongly recommended to ensure maximum battery life.
- ◆ If the charge level remains low after a long period of charging, check if the specific gravity level of each of the cells is between 1.277 +0.007. If any reading falls below 1.230, the battery is damaged and should be replaced. For Maintenance free batteries, check the health of the battery and consider replacing if charge level remains low after charging.

WARNING

- Do not charge batteries under direct sunshine or near heat generator.
- Battery should be charged immediately after use. If battery is stored without recharging, performance could deteriorate.
- Avoid operating the battery below -15°C (5°F) or above 50°C (122°F).
- Batteries are heavy and should be handled appropriately.
- Never disassemble the battery. Clean battery with moist soft cloth.
- Never dispose battery into fire. Recycle any used battery.
- Do not short the battery terminals.

13 Laser Position Indicator - Operation Instructions (Optional)

1. Push the machine to the location beneath where aerial working is required.
2. Press the button on the side of the laser position indicator inside the platform.
3. Check the spot where the laser beam is directed to see if this is within the desired working area.
4. If the laser beam is outside the desired working area, adjust the machine position so that the laser beam shines within the working area.



WARNING:

NEVER LOOK INTO THE LASER BEAM, Remove cap on the outlet to check work position. Replace cap immediately after use to avoid harm to eyes.

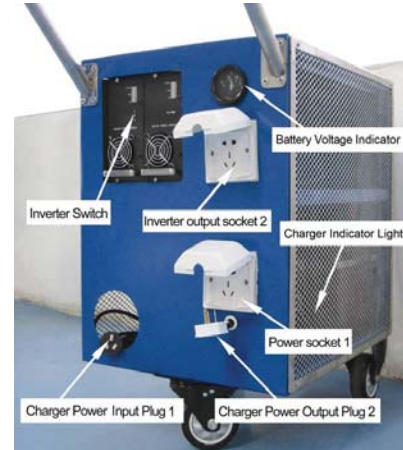


14 Instructions for Use of Dual Power Source Machine* (Optional)

*Dual Power Source means Direct AC source or AC source from DC battery & inverter pack.



Type A (Standard)



Type B (Optional)

CHARGING PROCEDURE:

- ◆ When charging is required, connect power plug 1 directly to the 230V power source. Next connect power plug 2 to power outlet 1 to commence battery charging (For battery maintenance, refer to Section 10A). After charging, disconnect power plug 2 and store power plug 1 inside trolley properly.
- ◆ NOTE: During charging, the green indicator light is blinking. If this is not the case, the charger is in protective mode (charging is not possible). It is necessary to disconnect power plug 1 and 2 and re-connect, until the green indicator on the charger starts blinking.

NORMAL OPERATING PROCEDURE:

◆ AC OPERATION

When using the 230AC power source, connect the power plug from the hydraulic motor on the lift directly to the 230V AC power source or wall power point. Follow the steps to commence operation.

◆ DC OPERATION

While using the portable power source (on the trolley provided), connect the AC power plug from the hydraulic motor on the lift to the output 2, from the inverter. Check that the switch on the inverter is on. Follow the steps to commence normal operation.

After completing aerial work, switch off the inverter and disconnect power plug from the hydraulic motor. Store the portable power trolley in a cool and dry area.



15 Fibreglass Cage (Optional)

An optional fibreglass cage can be supplied with any of AHI's non-insulated work platforms. The modified cage affords low-voltage protection to an operator experiencing single-point contact with a live, low-voltage electrical circuit. The cage is compliance tested in accordance with Clause 1.12.5.6 of Australian Standard 1418.10 v 2004.

With the fibreglass cage, the platform dimensions are likely to change. Please confirm these dimensions at the time of ordering.



16 Hour Meter (Optional)

An optional hour meter can be used to record the number of hours the machine has been used. This usage record helps in determining the need for maintenance service.



- ISO9001 Quality Management System Certification.
- CE Certification
- Australian standards AS 1418.10
- The product is insured by CPPIC

The Company reserves the right to alter its design & specification without prior notification.