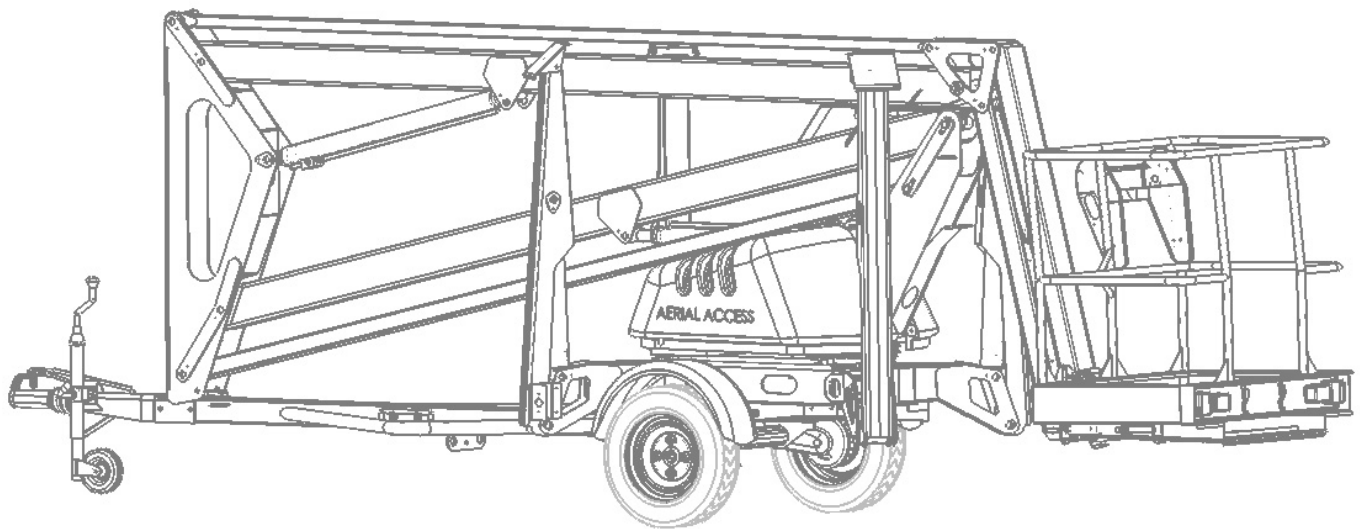


## Operator Manual



(EN) Manual part number 508150-000 for serial numbers 7000 to current.



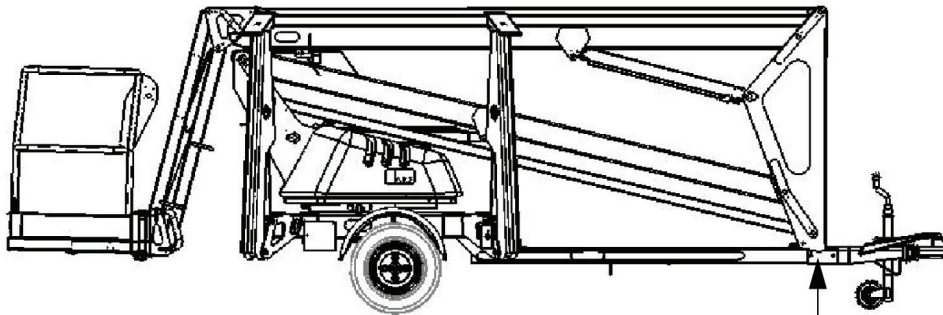
# Operation MANUAL

## TL37

This manual covers Serial Numbers 7000 to Current

When contacting UpRight Powered Access for service or parts information, always include the MODEL and SERIAL NUMBER from the machine nameplate.

The serial number is stamped into the chassis above the machine nameplate.  
e.g. 7 # # #



MANUFACTURER	<b>UpRight</b> POWERED ACCESS		UpRight Powered Access IS A TRADING DIVISION OF: SANDFIELD GROUP BRITLEY ROAD, WASHINGTON TYNE & WEAR, NE33 7JSA TEL: +44 (0) 845 1550 067
VIN			TYPE
TYPE APPROVAL			VARIANT
MAX GROSS WT		kg	SER NR
MAX AXLE WT	1 -	kg	YEAR
	2 -	kg	
MAX NOSE WT		kg	

PART NO: 18-0089

**UpRight**  
POWERED ACCESS

[www.upright.com](http://www.upright.com)



# WARNING

All personnel shall carefully read, understand and follow all safety rules and operating instructions before operating or performing maintenance on any UpRight aerial work platform.

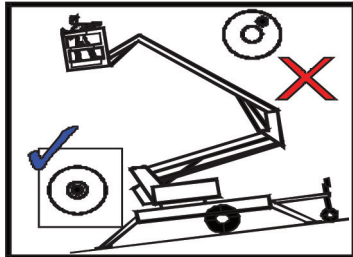
## Safety Rules

### Electrocution Hazard



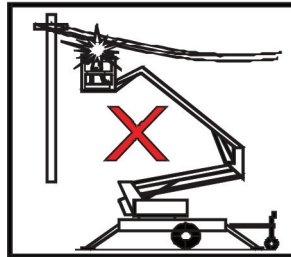
**THIS MACHINE IS NOT INSULATED!**

### Tip Over Hazard



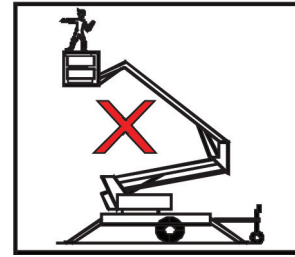
**NEVER** elevate the platform or move the machine while elevated. **Always** level the machine with the outriggers before elevating the platform.

### Collision Hazard



**NEVER** position the platform without first checking for overhead obstructions or other hazards.

### Fall Hazard



**NEVER** climb, stand, or sit on platform guardrails or midrail.

## Always check the outriggers before entering the platform

**USE OF THE AERIAL WORK PLATFORM:** This aerial work platform is intended to lift persons and his tools as well as the material used for the job. It is designed for repair and assembly jobs and assignments at overhead workplaces (ceilings, cranes, roof structures, buildings etc.). All other uses of the aerial work platform are prohibited!

**THIS AERIAL WORK PLATFORM IS NOT INSULATED!** For this reason it is imperative to keep a safe distance from live parts of electrical equipment!

Exceeding the specified permissible maximum load **is prohibited!** See "Platform Capacity" on page 7 for details.

The use and operation of the aerial work platform as a lifting tool or a crane **is prohibited!**

**NEVER** exceed the manual force allowed for this machine. See page 11 for details.

**DISTRIBUTE** all platform loads evenly on the platform.

**NEVER** operate the machine without first surveying the work area for surface hazards such as holes, drop-offs, bumps, curbs, or debris; and avoiding them.

**OPERATE** machine only on surfaces capable of supporting wheel loads.

**NEVER** operate the machine when wind speeds exceed this machine's wind rating. See "Beaufort Scale" on page 12 for details.

**IN CASE OF EMERGENCY** push EMERGENCY STOP switch to deactivate all powered functions.

**IF ALARM SOUNDS** while platform is elevated, STOP, carefully lower platform. Move machine to a firm, level surface.

Climbing up the railing of the platform, standing on or stepping from the platform onto buildings, steel or prefab concrete structures, etc., **is prohibited!**

Dismantling the entry gate or other railing components **is prohibited!** Always make certain that the entry gate is closed and securely locked!

**It is prohibited** to keep the entry gate in an open position when the platform is raised!

To extend the height or the range by placing of ladders, scaffolds or similar devices on the platform **is prohibited!**

**NEVER** perform service on machine while platform is elevated without blocking elevating assembly.

**INSPECT** the machine thoroughly for cracked welds, loose or missing hardware, hydraulic leaks, loose wire connections, and damaged cables or hoses before using.

**VERIFY** that all labels are in place and legible before using.

**NEVER** use a machine that is damaged, not functioning properly, or has damaged or missing labels.

To bypass any safety equipment **is prohibited** and presents a danger for the persons on the aerial work platform and in its working range.

**NEVER** charge batteries near sparks or open flame. Charging batteries emit explosive hydrogen gas.

Modifications to the aerial work platform are prohibited or permissible only at the approval by **UpRight Powered Access**.

**AFTER USE**, secure the work platform from unauthorized use by turning the keyswitch off and removing key.

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## INTRODUCTION

The **UpRight TL37's** unique combination of strength, versatility and simplicity, have made it an instant leader in its class.

Its exceptional working envelope, despite the low towing weight, is achieved thanks to our innovative boom design.

The third flick boom, with 130 DEGREES working arc, guarantees access to the most hard to reach places, while the 90 DEGREES basket rotation provides the precision positioning that is vital for working in tight spaces.

UpRight has a global reputation for innovation and a proud heritage in the design and manufacture of high quality powered equipment.

The company was founded in the UK more than 25 years ago, on the principle of constantly improving service excellence for end users.

Every model in our growing range of versatile, trailer mounted units is a class leader and together they have set new industry benchmarks.

Our commitment to research and design, plus 250,000sq ft of same site fabrication, build and support capacity, mean UpRight can offer complete solutions to meet even the most demanding access applications.

UpRight has third party accreditation to quality standard ISO 9001 and the full range proudly carries the CE mark, complying with or exceeding all relevant standards and EC directives.

## UpRight Powered Access is a member of the IPAF

*International Powered Access Federation.*

**To ensure you are fully aware of safety and operational information, the following symbols are used throughout this manual;**



*This type of box contains, Points of operation to NOTE.*



*The information contained in this type of box contains, WARNING text. It gives Warnings about the risk of Damage to equipment, and possibly personnel.*



*The information contained in this type of box contains, DANGER text. It gives Warnings about the risk of PERSONAL INJURY to the operator and or others.*



The **UpRight TL37** is of the parallel linkage vertical boom design, mounted on either a road towable trailer, or on industrial bogie chassis . The unique yet very simple boom configuration gives the maximum safety and control ability combined with a robust construction to withstand a heavy working environment.

The **TL37** machine is designed for two man capacity with **215 kg S.W.L.**

The machine incorporates a bottom boom with tie rod, a short vertical boom and a top boom with tie rod. The **TL37** has also an independent hydraulically operated Flick-Out Boom and Rotating Cage for extra manoeuvrability.

The hydraulic system is of a fail-safe design throughout, with built-in hydraulic lock valves on all the rams as a precaution against hose failure. The machine is controlled by means of proportional manual lever operated valves. These valves are located at both the base and in the cage, as standard.

Emergency lower valves are fitted as standard to allow the machine to be lowered from the Base. Additionally, a hand pump is fitted in the cage for emergency operation.

The hydraulically operated outriggers are fitted with load sensing interlocks, to prevent the booms being raised without the outriggers being extended and under load. An interlock prevents the hydraulic outriggers being accidentally retracted while the booms are raised. A simple system of warning lights show the power is on and each of the outriggers is under load.

### Performance.

<b>Maximum Working Height</b>	<b>13.1 m</b>	
<b>Maximum Working Outreach</b>	<b>5.9 m</b>	
<b>Capacity (2-man working)</b>	<b>215 kg</b>	
<b>Slewing Arc</b>	<b>700°</b>	
<b>Airborne Noise Emissions</b>	<b>(Battery)</b>	<b>70 dB(A)</b>
	<b>(Engine)</b>	<b>100 dB(A)</b>
	<b>(Diesel)</b>	<b>103 dB(A)</b>

### Construction Standards.

The machine complies fully with the requirements of the following EEC Directives: Directive 98/37/EC, the 'Machinery Directive'.

Directive 89/336/EEC, as amended – the 'Electromagnetic Compatibility Directive'.

Directive 73/23/EEC, as amended – the 'Low Voltage Directive'.

The machine is designed and tested in accordance with all relevant B.S.I. and European Standards including EN280.

## TECHNICAL SPECIFICATION

### Cage Dimensions

Length	1.20m
Width	0.80m
Guard-rail Height	1.10m
Toe-board Height	0.15m

### Operating Dimensions

Maximum Working Height	13.10m
Maximum Cage Height	11.10m
Maximum Outreach ( From centre of rotation )	5.90m

### Travel Dimensions

Towing Length	6.43m
Closed Width	1.48m
Closed Height	1.95m
Weight (Battery Model)	1450kg (unladen)

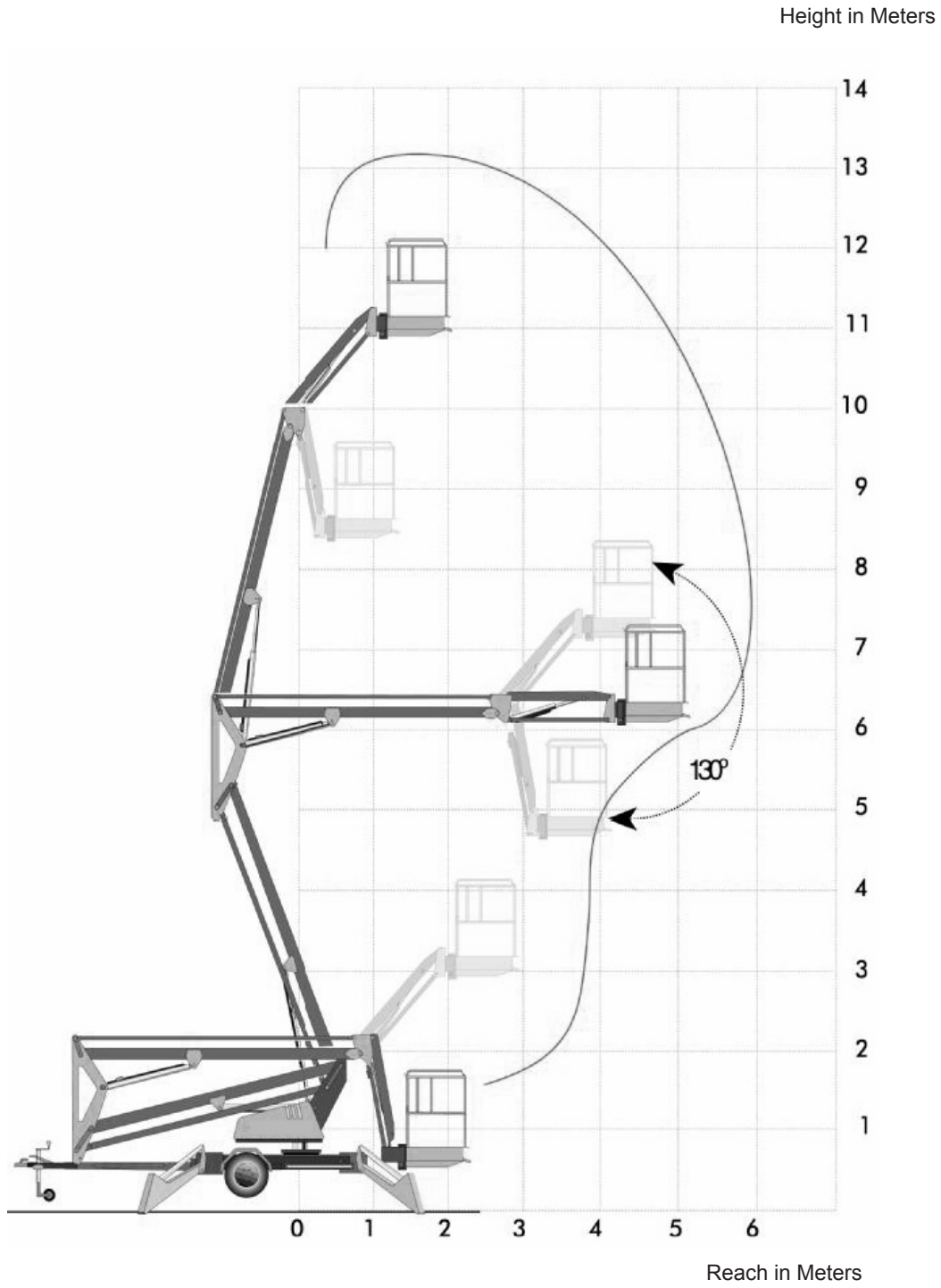
### Operating Parameters

Safe Working Load	215 kg
Maximum Horizontal Pull	400 N
Maximum Wind Speed	12.5 ms <sup>-1</sup>
Rotation	700°
Cage Slew	90°

### Equipment

Bottom Ram	Double acting: Bore Ø 60.0 mm Rod Ø 40.0 mm
Top Ram	Double acting: Bore Ø 60.0 mm Rod Ø 40.0 mm
Flick Ram	Double acting: Bore Ø 60.0 mm Rod Ø 40.0 mm
Stabiliser Ram	Double acting: Bore Ø 70.0 mm Rod Ø 40.0 mm
Bottom & Top Ram Lock Valves	Pilot operated over centre valves
Control Valve (Cage)	Monoblock unit consisting of five double acting spools
Control Valve (Ground)	Monoblock unit consisting of four double acting spools
Control Valve (Stabiliser)	Monoblock unit consisting of four double acting spools
Bushes	Acetol resin polymer with sintered bronze base (DX)
Pivot Pins	Stainless Steel Bright Bar To Grade BS970 303 S31 CW

# WORKING ENVELOPE



## OPERATOR REQUIREMENTS

1. To operate the machine you must be medically fit and have no problems with eyesight or hearing.
2. You must have a good head for heights.
3. Your primary concern must be the safe operation of the work platform, the safety of the people working with you, and the safety of other persons in your working area.
4. You must be familiar with the contents of this manual, and at no time attempt to operate the machine beyond the recommended limits.
5. The proper care of the work platform is a major factor in ensuring the safety of those who work with it.
6. You must not misuse the machine or ignore or interfere with the devices that have been provided to maintain safety.
7. Operation of the machine should be restricted to personnel who have been authorised to operate the equipment and have received proper training.

1. **DO NOT** operate this machine unless you have been fully trained in its safe use.
2. **DO NOT** operate the machine on soft, slippery or sloping ground unless adequate precautions have been taken.

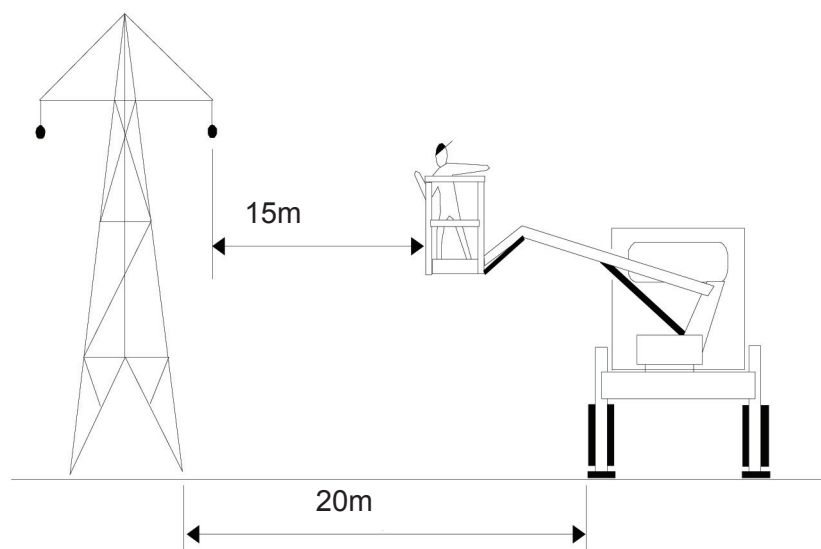
The stabilisers are designed to operate on firm level ground with a minimum bearing strength of 50N/cm<sup>2</sup>.

The maximum load imposed by an outrigger is 10.3kN.

Advice should be obtained from UpRight as to the type of supports and precautions required before attempting to operate the machine outside these parameters.

3. **DO NOT** use any equipment in the basket to increase the reach or working height of the machine, e.g. ladders.
4. **DO NOT** fit any additional equipment to the machine that would increase the wind loading, e.g. notice boards.
5. **DO NOT** use the machine for any application that may produce special loads or forces: the manufacturer, UpRight, must be consulted for approval of special applications prior to use.

6. **DO NOT** use the machine close to live electrical conductors. The minimum safe working distance for a machine working near overhead power cables is the maximum extended length of the booms plus 15 metres, measured with the booms pointing towards the lines, i.e. safe working distance for the TL37 is 20 metres. It is the operator's responsibility to ensure that, when working in the vicinity of live overhead high-voltage lines, the minimum safe working distance is maintained. Erect a simple barrier tape at the safe distance.

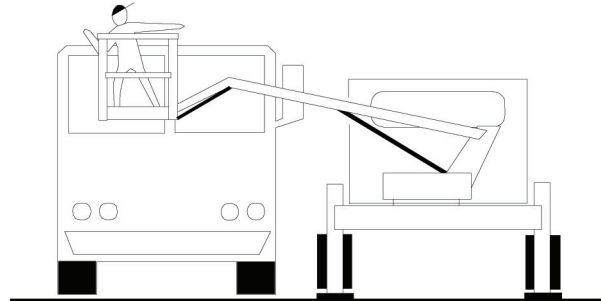


7. **WORKING CLOSE TO POWER CABLES** – if work has to be carried out at less than the safe working distance, the operator must **ensure that the electricity supply has been switched off**. Before commencing work, a written permit to work must be obtained from the owners of the power cables or the responsible authority.

## WARNING NOTICES

8. **DO NOT** operate the machine unless all four outriggers are down and in full contact with the ground. The machine must be level and the **wheels lifted visibly clear of the surface** before the booms are raised.

9. **DO NOT** move the machine with the basket raised and never allow cage or booms to slew into the path of oncoming vehicles.



10. **DO NOT** operate the machine if the wind speed exceeds 12.5 m/s. Be aware that, when working near high buildings or structures, shielding and funnelling effects may cause high wind forces on days when the nominal wind speed in the open is low. Wind speed can either be measured from the work platform with a hand held anemometer or estimated using the Beaufort Scale.

### BEAUFORT WIND SPEED SCALE

The Beaufort Scale of wind force is accepted internationally and is used in communicating weather conditions. It consists of numbers 0 - 12, each representing a certain strength of velocity of wind at 10m (33ft.) above ground in the open.

**Numbers 10-12 are not shown in this table.**

DESCRIPTION OF WIND		SPECIFICATION FOR USE ON LAND	M/Sec
0	CALM	<i>Calm – smoke rises vertically</i>	0-0.5
1	LIGHT AIR	<i>Direction of wind shown by smoke drift but not by wind vanes.</i>	0.6-1.5
2	LIGHT BREEZE	<i>Wind felt on faces; leaves rustle; ordinary vanes moved by wind.</i>	1.6-3.0
3	GENTLE BREEZE	<i>Leaves and small twigs in constant motion; wind extends light flag.</i>	3.5-5
4	MODERATE BREEZE	<i>Raises dust and loose paper; small branches are moved.</i>	6-8
5	FRESH BREEZE	<i>Small trees in leaf begin to sway; crested wavelets form on inland waterways.</i>	9-10
6	STRONG BREEZE	<i>Large branches in motion; umbrellas used with difficulty.</i>	11-13
7	NEAR GALE	<i>Whole trees in motion; inconvenience felt when walking against wind.</i>	14-17
8	GALE	<i>Breaks twigs off trees; generally impedes progress.</i>	18-21
9	STRONG GALE	<i>Slight structural damage occurs (chimney pots and slates removed)</i>	22-24

**Approximate corrections for wind speeds at other heights are:  
 2m subtract 30%; 3m subtract 20%; 6m subtract 10%  
 15m add 10%; 30m add 25%**

Trailer mounted machines are fitted with suspension units that may be safely towed behind a car or van at speeds of up to 50mph (80km/h) where permitted.



1. Before towing, check the capacity of the vehicle being used. (Machine weight will increase if optional extras are fitted)
2. Ensure that the road tyres and brakes are in good, serviceable condition.
3. Ensure that all booms are fully lowered and both the transit pins are fitted through the transit pin holes and secured with the "R" clip on the end of the chain. (see photographs below)

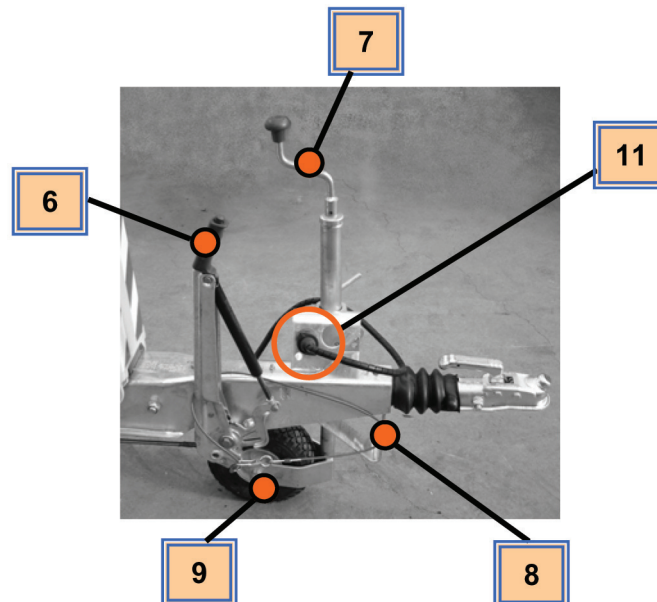


## TOWING INSTRUCTIONS

4. Ensure that all outriggers are fully raised.



5. Use the Jockey Wheel to raise or lower the tow bar coupling to position the machine above the 50mm ball hitch on the towing vehicle.



6. Apply the handbrake.
7. Lower the tow bar coupling down onto the ball hitch using the Jockey Wheel
8. Secure the breakaway cable, (Ensure correct engagement of 50mm ball).
9. Fully raise the Jockey Wheel and lock in position.
10. Release the Handbrake.
11. Plug in the trailer lights (7 pin plug) and check that both vehicle and trailer lights are working correctly.



The following Pre-Start Checks should be carried out before taking the machine to the place of work.

1. **Damaged or Loose Fittings.**  
Visually Inspect the machine for signs of wear and tear, damage, loose or missing parts.
2. **Wheels. (For towing only)**  
Check tyres are at the correct pressure, 55 psi (3.8 bar) and that the wheel nuts are tightened using the correct torque setting (100Nm).
3. **Hydraulic fluid.**  
The hydraulic oil tank is located underneath the slew cover on the left hand side of the machine (looking from the cage end).  
With the booms and outriggers in the transport position, the hydraulic oil level should be visible between the upper and lower marks of the dipstick.



*Do Not Overfill the Hydraulic Tank*



*Serious injury or even death may result by not carrying out the following checks of the interlock system before the platform is used!*

Top up with ISO Grade 22 hydraulic oil if necessary.

4. **Safety Switches.**  
Visually check the cage overload switch is free from damage.  
Check all limit switch arms are free from damage and move easily .  
With outriggers in transport position, it must not be possible to operate the extending structure.  
With outriggers deployed, under load and top or bottom boom raised approximately 50mm, it must NOT be possible to operate the outrigger controls.



*The flick boom is not interlocked with the outriggers.*

5. **Emergency Stop Switches.**  
Emergency stop switches must operate correctly. Check that each stops the machine's controls and that restarting is prevented until all stop switches are unlatched.

## PRE-START CHECKS

### 6. Emergency Lower/Slew.

With the top and bottom booms raised approximately 500mm each and the unit switched off, check:

The emergency slew can be operated with the slew handle provided.

The emergency lower valves located on the lift cylinders lower the boom when pushed in a slow and controlled manner and that the boom movement is stopped on releasing the valve

*To Reset the hydraulic system after checks;*

- Fully slew the Basket to the right, so that the ram is fully extended.
- Fully extend the Outriggers while still maintaining Level. (check the bubble)
- Using the ground controls, fully extend both Top and Bottom Booms.
- Fully extend the Flick Out Boom.

*All rams must be fully extended at the same time before returning them to their transit position.*

### 7. Emergency Hand Pump.

With the unit set up for working (i.e. outriggers down, under load and the machine level with wheels clear of ground) it is possible to lower the cage using the emergency hand pump.



*If the Emergency Lower is used during normal operation, **DO NOT** use the machine, **Contact your local UpRight representative.***

### 8. Battery Power (*Where applicable*)

Check batteries are fully charged and topped up with distilled water (these are fitted under the slew cover on both sides of the platform) and that the Battery Isolating Plug is securely connected.

Hydrometer reading should be 1280-1320sg.

With machine level, the distilled water should cover the plates by approximately 6mm.

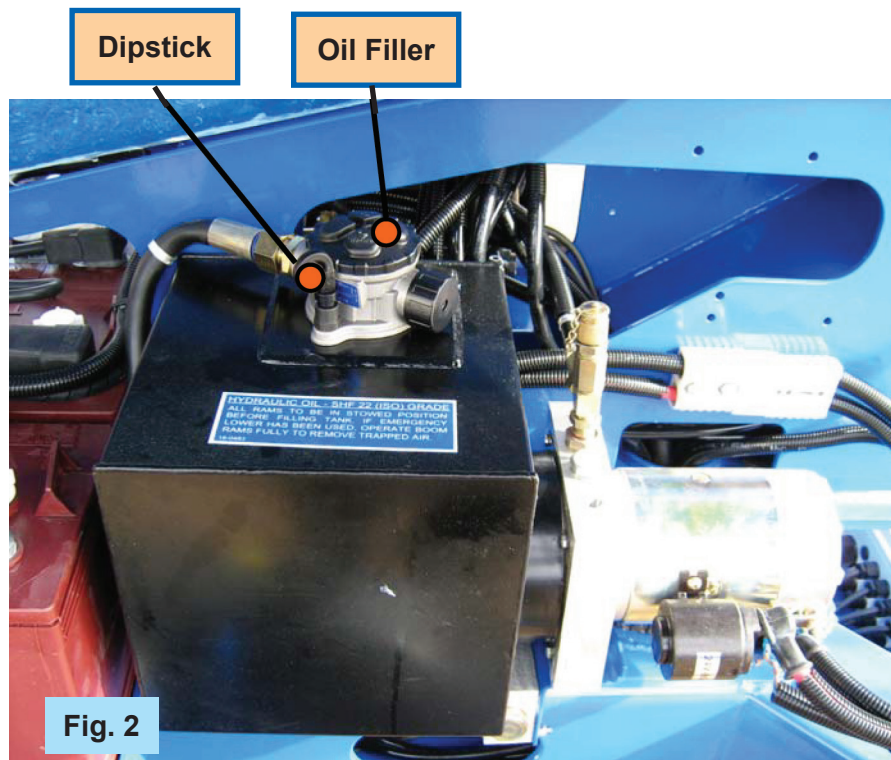
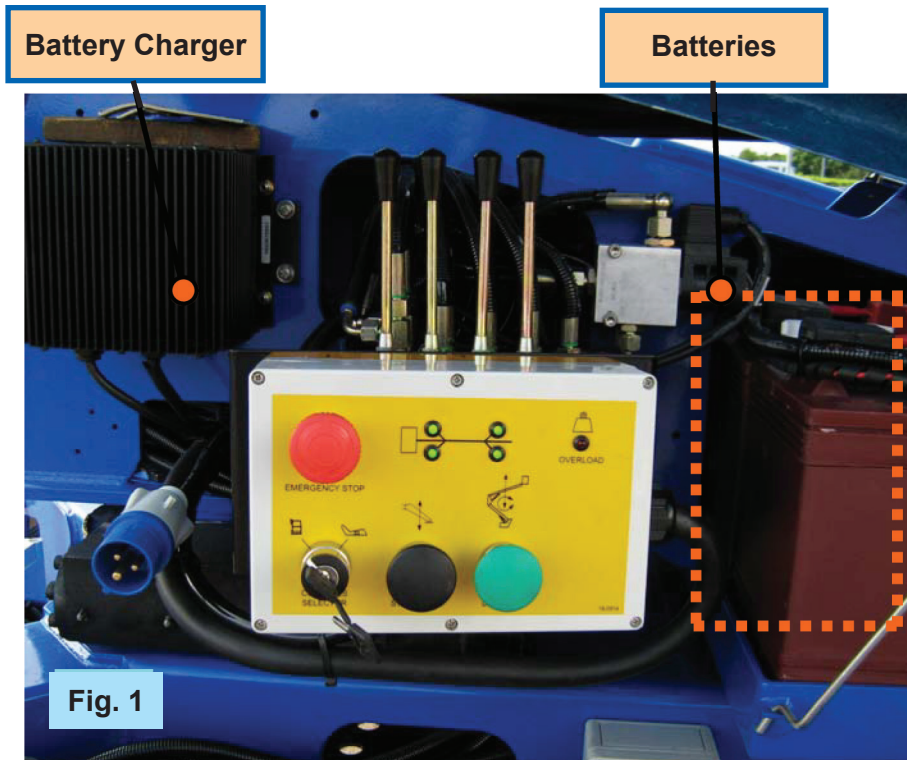
### 9. Mains Power (*Where applicable*)

Connect the mains supply, either 110V or 220/240V A.C., depending upon the motor specification. Check the motor is running when the key is turned to the **ON** position.

Check that the voltage and frequency of the power input matches that of the motor. All extensions must be a minimum of 2.5mm<sup>2</sup>, and no longer than 10m due to possible voltage drop.

### 10. Petrol Power (*Where applicable*)

Check the fuel and oil levels of the engine. Switch on the ignition using the key switch on the slew mounted legend panel. Check the engine runs using the start and stop buttons in the basket. Check that there is sufficient oil and fuel to complete a full working shift.



*All extensions must be a minimum of 2.5mm<sup>2</sup>, and no longer than 10m, due to possible voltage drop, which will damage the motor.*

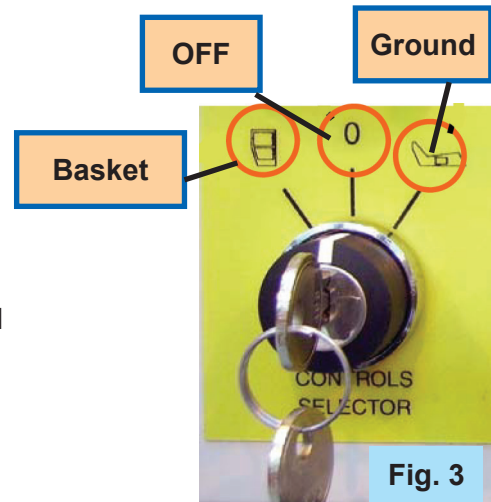
## SETTING UP

1. Park the unit in an appropriate location at the workplace.
2. Apply the handbrake on the trailer and remove from the towing vehicle.

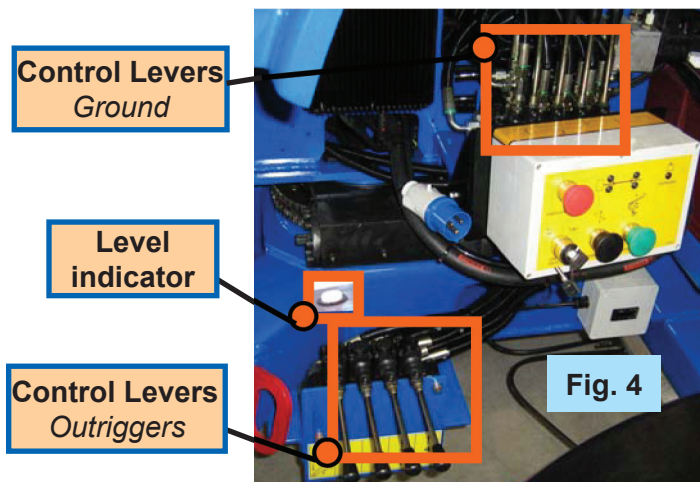


**Do not attempt to set up the machine on steep slopes, ramps or soft ground.**

3. With platform key switch set to 'Ground' (Fig 3)



lower the outriggers by keeping the 'Outrigger Motor Run' button (Fig 5) pushed in, operate the appropriate 'Outrigger control lever' (Fig 4), until all four are 25mm to 50mm from the ground.



4. Lower the Outriggers two at a time starting at the tow bar end (No's 3&4) until the jockey wheel just clears the ground.
5. Lower Outriggers 1&2 until the green LED display indicates that they are under load. (Fig 6)
6. Repeat this sequence for Outriggers 3&4.

**Take EXTREME care NOT to ground either the Basket, or the Jockey Wheel during the next step.**



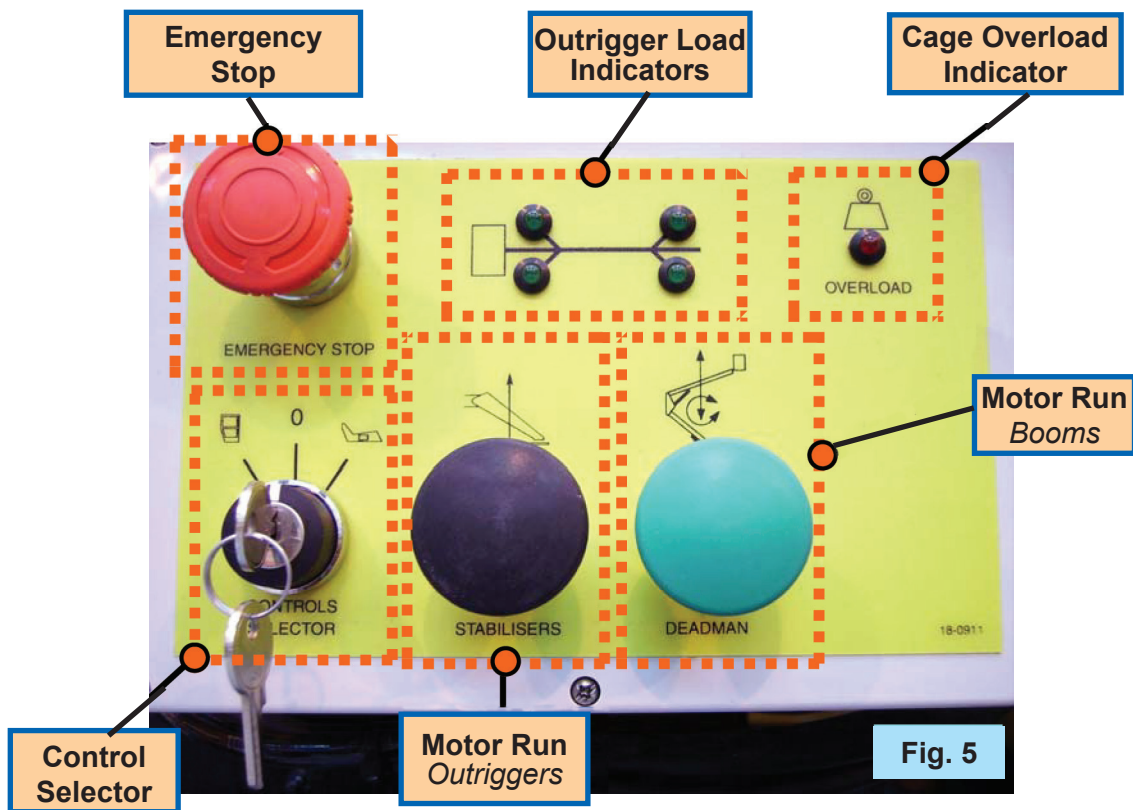


Fig. 5

7. By alternating from 1&2 to 3&4, carefully inch down each pair of Outriggers until all four Outriggers are fully deployed, and the wheels are well clear of the ground.
8. Now, by using the Level indicator (Fig.4), raise opposite Outriggers until the bubble and indicator ring are concentric (i.e., the bubble rests in the centre).
9. Check that each LED on the Ground Control panel is still illuminated. This indicates that each foot is in firm contact with the supporting surface.

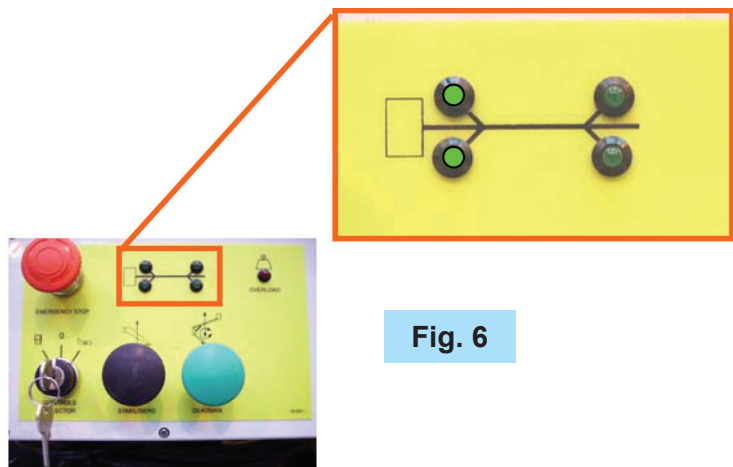


Fig. 6

**The unit is designed to operate on a supporting surface of minimum bearing strength of 50N/cm<sup>2</sup>.**



**The maximum outrigger load is 10.3kN.**



## EXTENDING STRUCTURE



The **SET-UP** section of this manual **MUST** be completed before extending the structure.

1. Remove and correctly stow the Transit Pins, from both the Upper and Lower Booms.

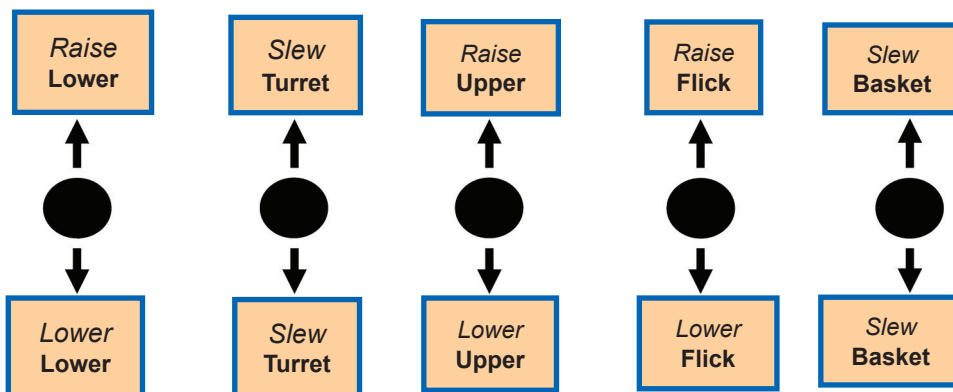
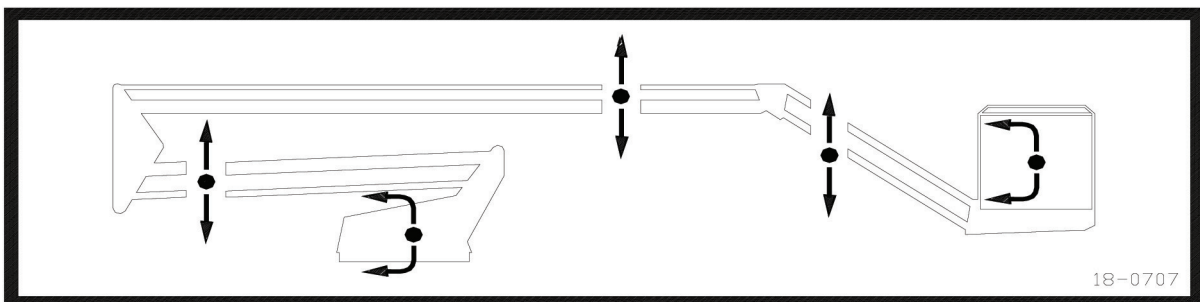


2. At the Ground Control Station, turn the key to 'Basket' (See point #6.)

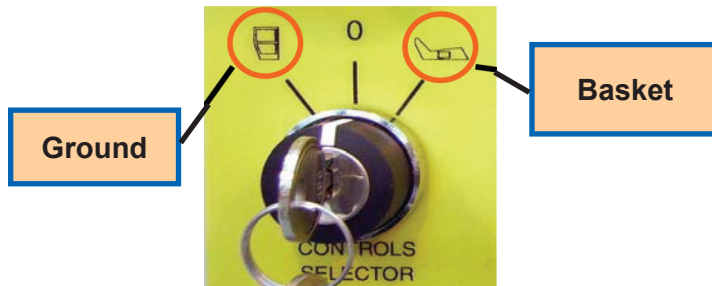
3. Climb into the basket. Check that all Emergency Stop Switches are released (twisting release). The platform may now be raised, lowered or slewed in any direction by operating the control levers at the basket, whilst depressing the motor run button (*DEADMAN*).



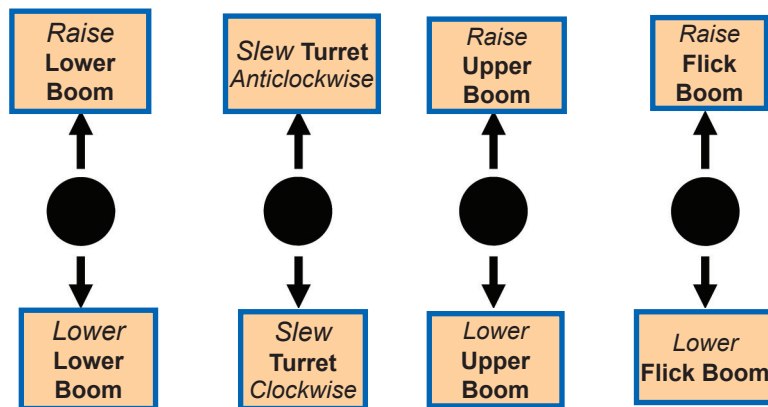
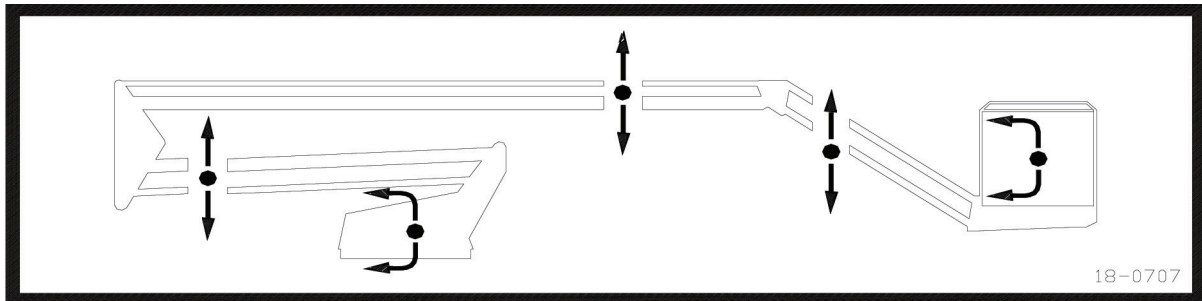
4. Explanation of the Basket Control Station, Directional Control Levers



5. A duplicate set of controls (excluding Slew Basket) is mounted on the Slew Turret under the right hand side cover, which allows the platform to be operated from the Ground.
6. At the Ground Control Station, turn the key to 'Ground'.



7. Explanation of the Ground Control Station, Directional Control Levers



**Take EXTREME care when slewing both basket and turret, at low levels.**



**Before raising, ensure there are no overhead obstructions or power cables and the outriggers are properly extended and secure.**



## SAFETY HARNESS & EMERGENCY CONTROLS

1. In accordance with IPAF recommendations, UpRight recommend the use of a **Full Body Harness** with an adjustable lanyard is used when operation from the basket.
2. The lanyard length should be as short as possible.
3. A permanent anchoring attachment point is provided in the basket for fixing the harness.



## EMERGENCY CONTROLS

### 1. Emergency Stop

Emergency Stop buttons are fitted on the machine to stop the motor in an emergency. There are 2 Emergency Stop Buttons, one in the basket, and one on the ground control panel.



The emergency stops are 'Reset' by twisting.



**2. Emergency Lower.**

In the event of a power failure, There are two ways of Safely lowering the basket.

**Emergency Lowering, *method one***

If you are able to get assistance from the ground they can lower both booms by pressing the Emergency Lower Valve on the ram.

Open the Lower Ram valve first to facilitate access to the Top Ram valve.



***Each emergency lower valve will automatically close when the handle is released.***



***If the Emergency Lower is used due to a machine defect, **DO NOT** use the machine, **Contact your local UpRight representative.*****



***If the Emergency Lower is used, The TOP and BOTTOM BOOMS must be fully extended then fully lowered before work can continue.***

***After Emergency lowering, any further POWERED lowering could cause an AIRLOCK in the hydraulic system.***

***This could cause the Hydraulic operations to Fail.***

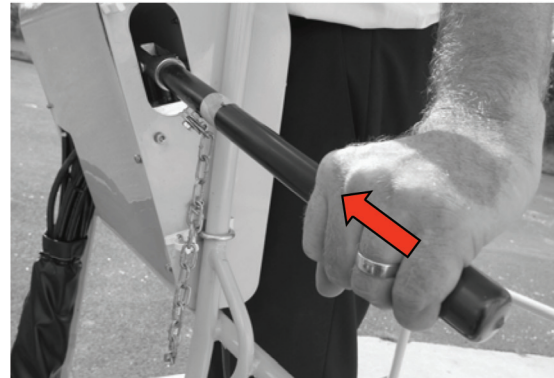
***ALL BOOMS MUST BE FULLY EXTENDED/RAISED, THEN LOWERED BEFORE WORK CAN RECOMMENCE.***

## EMERGENCY CONTROLS

### Emergency Lowering, *method two*.

You can operate the hand pump in the cage and operate the lowering boom functions.

To operate the hand pump, simply insert the lever into the pump shaft, **move a control lever to the required direction of movement**, and operate the hand pump. When the machine starts to lower, continue depressing the control lever.



### 3. EMERGENCY SLEW.

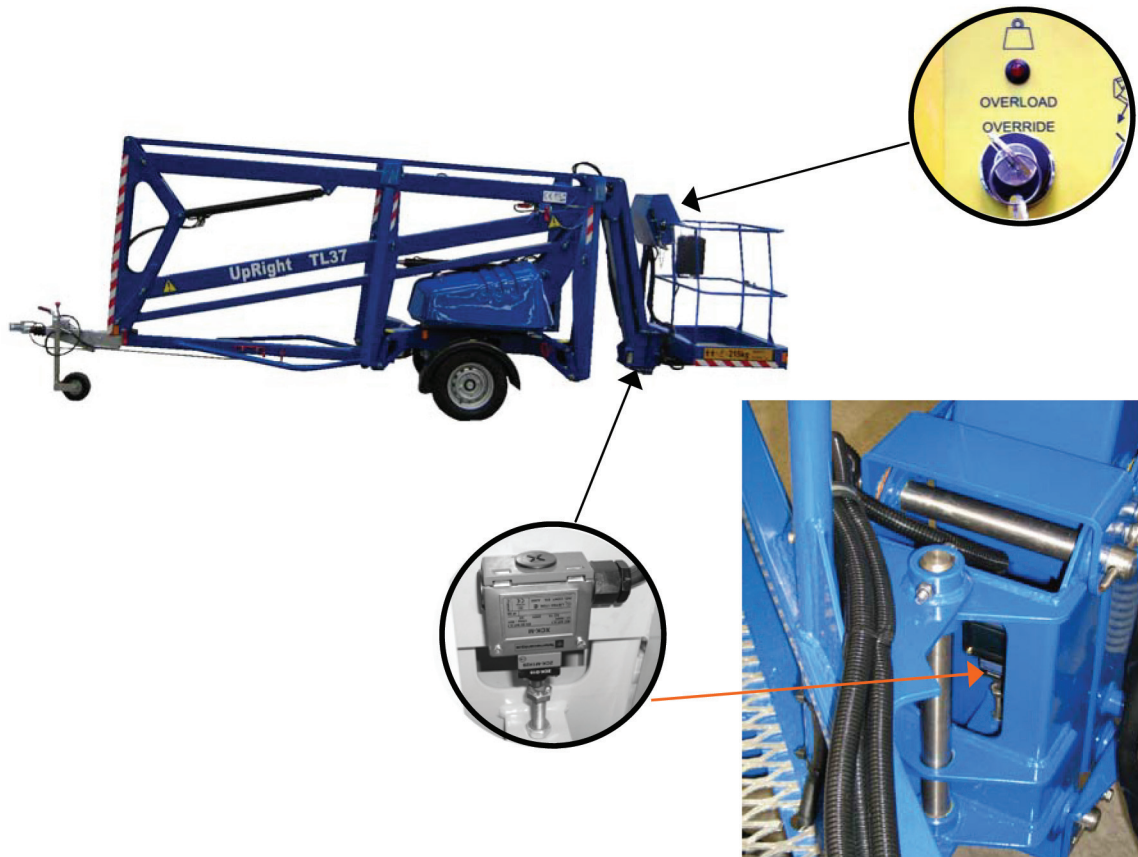
In the event of a power failure, the machine may be manually slewed by moving the base control slew lever in the desired direction and manually indexing the Slew Platform by means of ratchet on the shaft of the Slew Gearbox.

***Vigorous pumping is required to lower and operate the slew.***



### 4. CAGE OVERLOAD.

In the event of the cage being overloaded, an audible alarm will sound and the cage controls will cut out.



To **re-start**, enough load must be removed from the cage so that the alarm stops sounding.

In cases where the overload can not be immediately removed or the cage has fouled, then the overload override selector switch can be used to move the platform to a safe position so that the overload can safely removed.

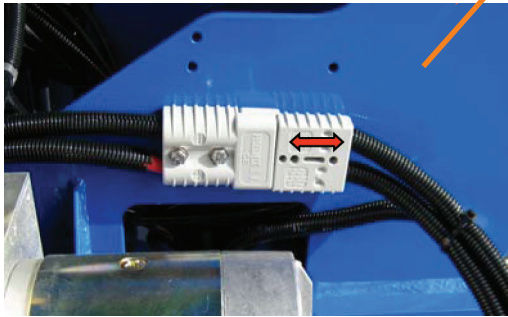
***The Key, Motor Run/Deadman and a Control Lever must be operated at the same time to effect this action***



## EMERGENCY CONTROLS

### 4. EMERGENCY BATTERY ISOLATING PLUG

Disconnecting this plug will isolate the batteries from the powerpack and operating circuits.



*Before operating this machine, it is important that both the Operator and another responsible person on site, is aware of the position and function of the following:*

- A) Emergency Stop Buttons.**
- B) Emergency Lowering Buttons.**
- C) Emergency Slew Drive Shaft.**
- D) Battery Isolating Plug.**

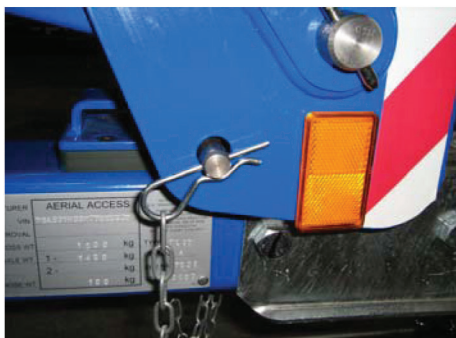
1. Fully lower all the booms.
2. Engage the Transit Pins, and lock in place using 'R' clip.
3. With platform keyswitch set to '**Ground**':

Raise the outriggers by simultaneously depressing the '**MOTOR RUN Outrigger**' button and using the appropriate control levers, two at a time, alternating between the cage and tow bar end until the road wheels are in contact with the ground.

Only when the road wheels are in contact with the ground should the unit be lowered further until the jockey wheel makes contact with the supporting surface.

Now fully raise the outriggers until they are in the stowed position. Switch off the platform and ensure all loose items/covers are secure before towing the unit. The machine is now ready for transportation.

### TRANSPORT PIN LOCATIONS – SHOWN READY FOR TRANSPORT



Lower  
Boom

Upper  
Boom



*The unit must have a thorough inspection carried out every 6 months in accordance with LOLER Regulations 1998 and a Certificate of Thorough Inspection produced by a competent person.*



Always ensure the machine structure is in good, sound, undamaged condition. Any inspection procedure is always aided by keeping the machine clean.  
NB. Do not steam clean the battery charger or electrical components.

### Daily Checks.

- 1. Damaged or Loose Fittings.**  
Visually Inspect the machine for signs of wear and tear, damage, loose or missing parts.
- 2. Wheels.**  
Check tyres are at the correct pressure, 55 psi (3.8 bar) and that the wheel nuts are tightened using the correct torque setting (100Nm).
- 3. Hydraulic fluid.**  
The hydraulic oil tank is located underneath the slew cover on the left hand side of the machine (looking from the cage end) .With the booms and outriggers in the transport position, the hydraulic oil level should be visible between the upper and lower marks of the dipstick.  
Top up with ISO Grade 22 hydraulic oil if necessary.



*Do Not Overfill the Tank*

- 4. Safety Switches.**  
Check all limit switch arms are free from damage and move easily.  
With outriggers in transport position, it must not be possible to operate the extending structure.  
With outriggers deployed, under load and top or bottom boom raised approximately 50mm, it must NOT be possible to operate the outrigger controls.



*The flick boom is not interlocked with the outriggers.*

- 5. Emergency Stop Switches.**  
Emergency stop switches must operate correctly. Check that each stops the machine's controls and that restarting is prevented until all stop switches are unlatched.

*The unit must have a thorough inspection carried out every 6 months in accordance with LOLER Regulations 1998 and a Certificate of Thorough Inspection produced by a competent person.*



Always ensure the machine structure is in good, sound, undamaged condition. Any inspection procedure is always aided by keeping the machine clean.

NB. Do not steam clean the battery charger or electrical components.



### Weekly Checks.



1. Apply grease to the slew gear wheel and all grease nipples.
2. Check battery acid level, top up with distilled water if required (maximum 6mm over plates when battery is standing level), and check mains cable wiring.

### Monthly Checks.

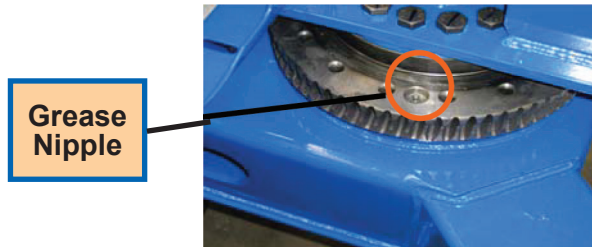
1. Thorough machine inspection to be carried out by a trained and competent person. (LOLER)

**FOR ENGINE MAINTENANCE REFER TO MANUFACTURES GUIDELINES**

## MAINTENANCE

### Slew Drive Gears.

The slew drive gear is designed to be largely maintenance free. However, we recommend the gear teeth be greased on a monthly basis with a high pressure grease. Additionally, the ring gear and gear box should be greased on a six monthly basis. The grease nipple for the ring gear is on the top face of the slew gear, set between the fixing bolts. It can be accessed by lifting one of the side covers, and slewing the structure appropriately.



The ring gear should be inspected on a six monthly basis for excessive play. It is unlikely there will be any wear if the machine is maintained correctly.

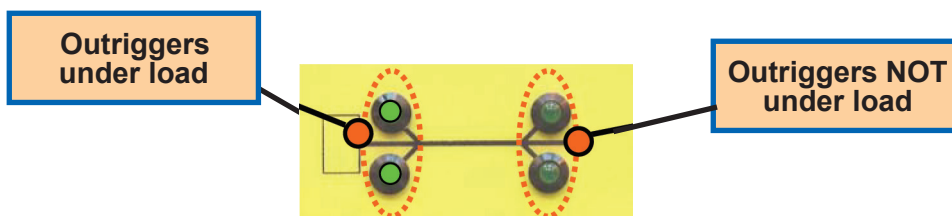


To check the gear, place a payload of approximately 80Kg in the platform. Elevate the lower boom to approximately half way. Then gently elevate the top boom, whilst observing the ring gear. Excessive wear will be observed by noticing more than 0.5mm movement between the inner and outer bearing rings.

### Checking Limit Switch Operation.

The limit switches require no maintenance, other than a visual inspection, on a pre operation basis. This is an important check, to ensure the switch is not mechanically damaged, and the roller is always in contact with the cam, when not under load.

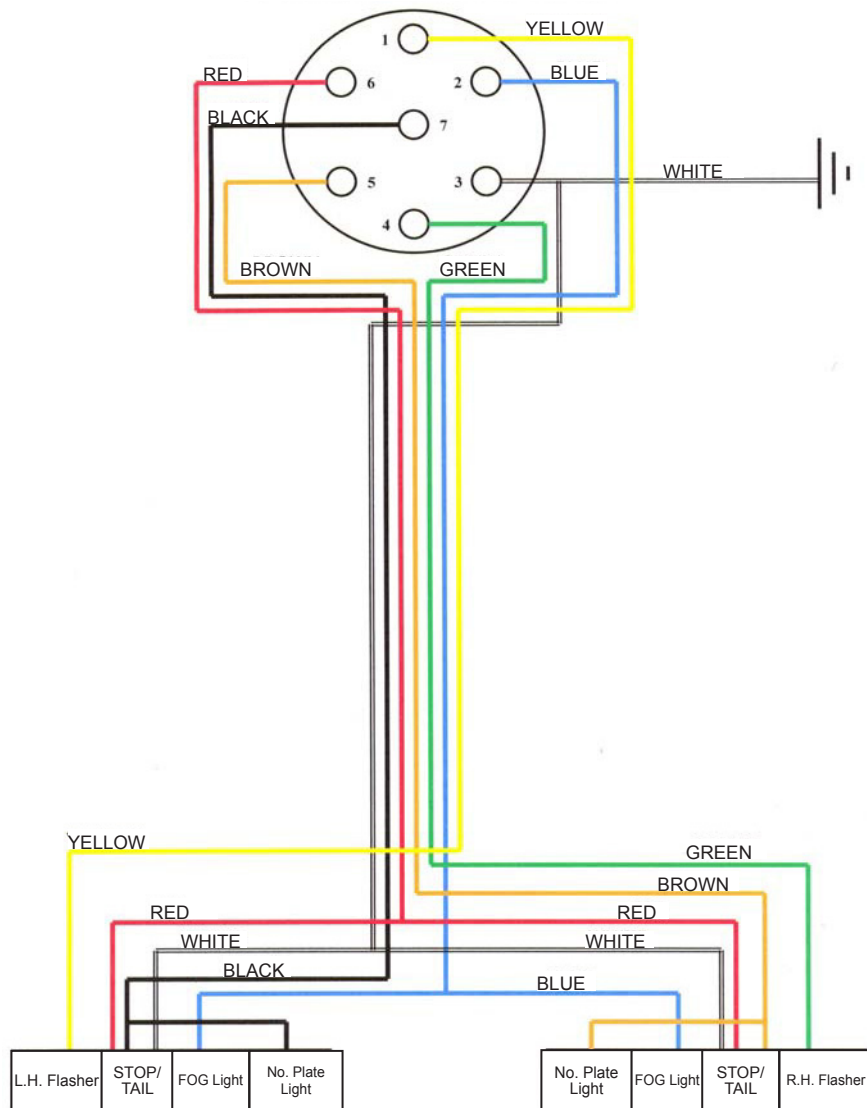
The switch operation can be simply checked, by observing the LED display when deploying the stabilizers. As an outrigger foot touches the ground and becomes loaded, the appropriate light will change to green. This indicates that the switch contact has operated correctly



If the LED displays green at any other time then the machine must not be operated, until the fault is rectified.



7 PIN PLUG INTERIOR VIEW



Pin No	Ref.	Colour	Function
1	L	YELLOW	L.H.INDICATOR
2	54G	BLUE	FOG LIGHT(S)
3	31	WHITE	EARTH
4	R	GREEN	R.H. INDICATOR
5	58R	BROWN	R.H. TAIL & No. PLATE
6	54	RED	STOP LIGHT
7	58L	BLACK	L.H. TAIL & No. PLATE



## Bi Fuel Option

This machine variant is fitted with a petrol engine, with remote start and stop.

This manual does not cover the maintenance of the engine.

*For engine maintenance details refer to the engine manufacturers handbook.*



Prior to operating the engine, follow these simple guidelines;

- a) ensure there is adequate fuel for the task in hand
- b) check the oil level prior to starting the generator
- c) Check battery electrolyte level. (Where applicable, Lead Acid batteries Only)

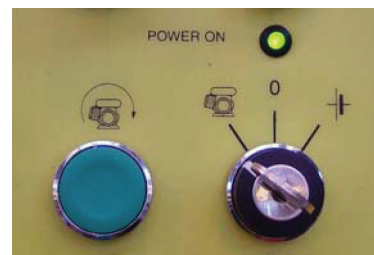
1. To use the engine, simply switch the fuel on, with the lever.



2. With the key, turn the ignition to start, motor on, releasing the starter when the engine fires.



3. Or, if using the basket controls turn the key to engine and push the start button.



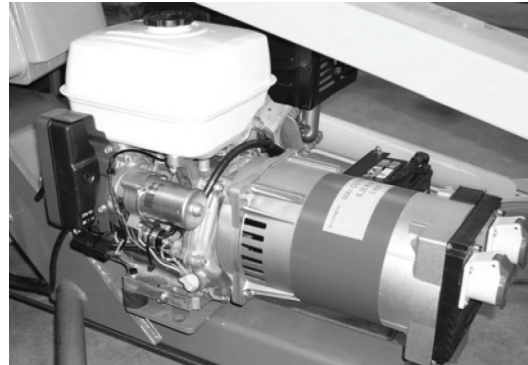
4. With the engine running, It will now be possible to operate the machine Hydraulic controls as long as there is power in the main batteries.

## Generator option

This machine variant is fitted with a 2.2 kva generator, with remote start and stop.

This manual does not cover the maintenance of the generator.

*For maintenance details refer to the manufacturers handbook.*



Prior to operating the generator, follow these simple guidelines;

- a) ensure there is adequate fuel for the task in hand
- b) warm the engine prior to switching off at the platform.
- c) check the oil level prior to starting the generator

1. To use the generator, simply switch the fuel on, with the lever.



2. With the key, turn the ignition to start, motor on, releasing the starter when the engine fires.



3. Ensure the voltage output matches the appliance intended for use.
4. Connect the flying plug.
5. With the engine running, power will automatically be supplied to the battery charger, and the platform socket. It is possible to operate the machine lift controls with the battery charger switched on.

## Mains connection

This machine variant requires a power supply from a fixed source.

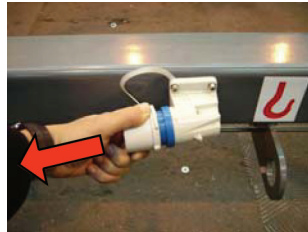
Prior to operating the machine, follow these simple guidelines;

- a) Ensure the power supply being attached is the correct voltage.
- b) Ensure the power supply being used is being supplied via an appropriate power extension.

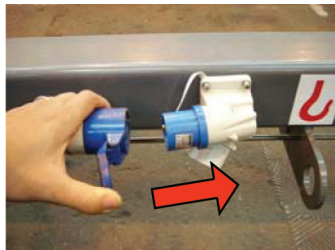


***All extensions must be a minimum of 2.5mm<sup>2</sup>, and no longer than 10m, due to possible voltage drop, which will damage the motor.***

1. To connect to a mains supply, simply remove the socket's protection cap.



2. Connect an appropriately rated power extension.



3. Ensure the voltage output matches the appliance intended for use.



***Blue sockets is 240V output. Yellow sockets is 110V output.***

4. Ensure that the connection is secure before use.





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**El Distribuidor local:**

**Il Distributore locale:**

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