OPERATION AND INSTALLATION INSTRUCTIONS FOR THE 2M BLADE ACCESS PLATFORM (BAP)

Conform to the Machine Directive 2006/42/EC
EN1808 used as general guide-line for Design

WARNING:

- All persons operating this equipment must read and completely understand this manual.
- All persons must be thoroughly trained in the use of the equipment, it's operational and safety features, and they must also be capable of carrying out the daily checklist.
- Only authorized and physically fit persons shall operate the equipment.
- Any operation in violation of these instructions is at the operator's own risk and may result in serious injuries.
- Only use spare parts and steel wire rope from POWER CLIMBER WIND.
- It is not allowed to put the machinery into service until the machinery into which it is incorporated or of which it is to be a component, has been found and declared to be in conformity with the provisions of Directive 2006/42/ECand with national implementing regulation.
- Do not operate this platform in winds in excess of 12,5m/sec, unless a stabilization system is employed.

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1. GENERAL VIEWS OF THE BAP

BAP Type	1.2m	2m
Lifting height	Up to 200 m	
Self-weight*	240 kg	
Hoist capacity	650 kg	
Safe Working Load	240 kg (2 persons)	
Power supply	3x400V 50Hz; 3x400V 60Hz;1x230V 50 Hz, 1x230V 60Hz	

WLL of the suspension point: 650 Kg

**The weights of supply cable and steel wire rope not included.*

2. ASSEMBLY OF THE PLATFORM

1. Assemble the provided Modulo components to make the 2m platform. Use
   - 2 x 2m Side frame
   - 2 x End frame with castor rollers
   - 1 x 2m Floor
   - 1 x Front top rail with 4 soft rollers
   - 1 x Steel rear top rail
   - 1 x Steel stirrup with 2 castors rollers
   - 4 x Adjustable soft rollers

2. To connect the platform components use the Safefix Pins. Push the pins through the holes, keeping the slot horizontal (Fig 1). In this position the pin is secured by a spring catching in a groove of the pin. To remove the Safefix pin, turn the pin 90° and push the pin out. (Fig 2/3) The pins can be positioned with a screw driver and a mallet.

Insertion of the Safefix pin

- Line the pin up with the hole, so that the slot at the base of the pin is horizontal.
- Push the pin in from outside until the spring clicks in the grooves on the shaft of the pin. If required, rotate the pin till the slot is horizontal and the springs are in place.
- Make sure the pin is secured.

Fig 1

Removal of the Safefix pin

- Rotate the pin ¼ turn till the slot is vertical (and the springs are no longer in the grooves) and pull the pin out.

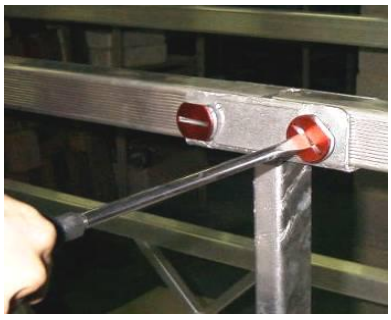


Fig 2

Fig 3

ATTENTION:
Springs have to be replaced when they no longer exert pressure on the grooves of the pin shaft.

3. Place the 2 end frames approx 2 m apart and bring 2 x 2m side frame in the frame holders.

4. Place the floorplate on the 2 side frames. The flat spring provided in the sideframes will keep the floor in place. To remove the floor, push the spring backwards and push the floor upwards on one side.

5. Install the top front and rear rail. On the front rail the wall rollers are already fixed. The rear rail is made out of Galvanised steel.

6. Mount the adjustable rollers to the front of the platform by inserting the clamp ends in the channel on the toeboard as shown and then hook the clamps on the top edge of the toeboard.

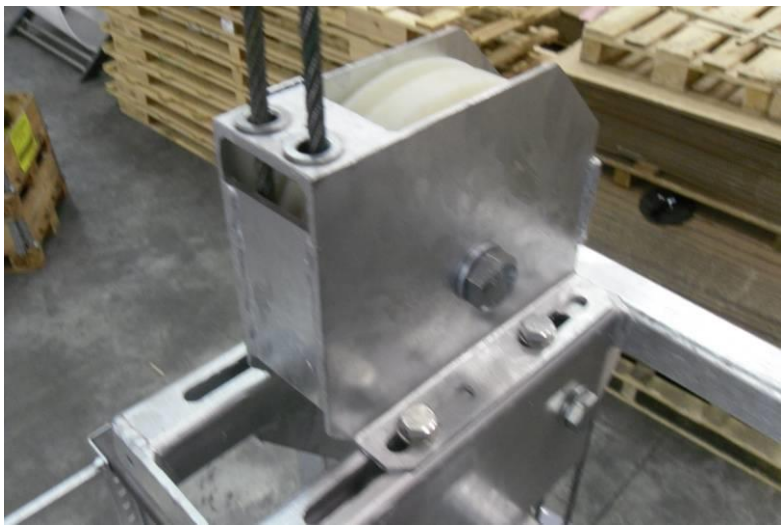
7. Place the platform on the ground with the rollers facing the floor. Lat the steel stirrup on the side frame and fix with 6 Bolts M12 x150. Use the big washer at the side of the aluminium part.

8. Unpack the Titan Hoist and fit into the provided fixing point on the stirrup. Use 2 x M12 Bolts to fix the hoist. (When the steel wires are already suspended and the power supply is available, the hoist can be powered to climb the wire to avoid lifting the hoist manually to install it on the stirrup. To do this, insert the steel wire rope into the hoist, power the hoist in the up direction to lift the hoist up for positioning to install it in the stirrup. See Also Reeving of the steel wires.

9. Hook the control panel over the rear top rail on the side of the stirrup opposite where the Titan hoist is installed.

10. Connect the plugs to the top limit, the Titan hoist and the power plug.

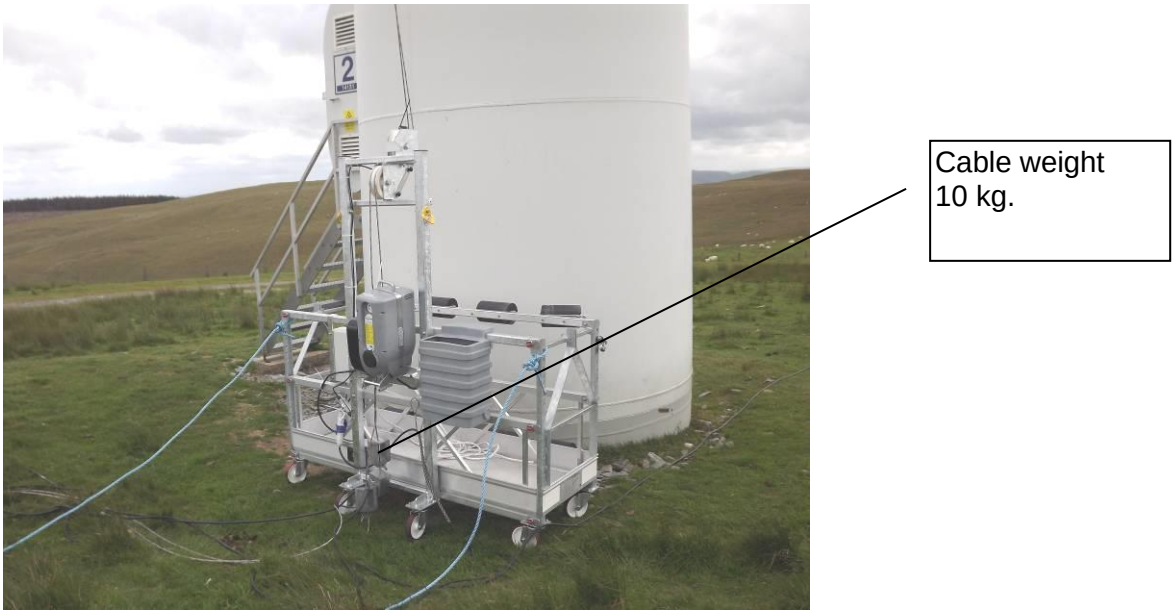
11. Remove the cover over the lower pulley on the stirrup. Release the 4 starknobs .Feed the end of the suspension wire through the guiding eye at the top of the stirrup and under the top pulley- , over the lower and then into the Titan hoist. See Reeving of Steel Wires. Page 17.



The Top roller support can be adjusted slightly to get the best possible cross position of the platform in relation to the actual payload. Release the four bolts M12 and move top roller support to new position.

Fix 2 weights of 10 kg to the secondary or safety wire rope. Make sure that the weights are free from the ground. Secure the weights with wire clamps. Coil any excessive length of steel wire.

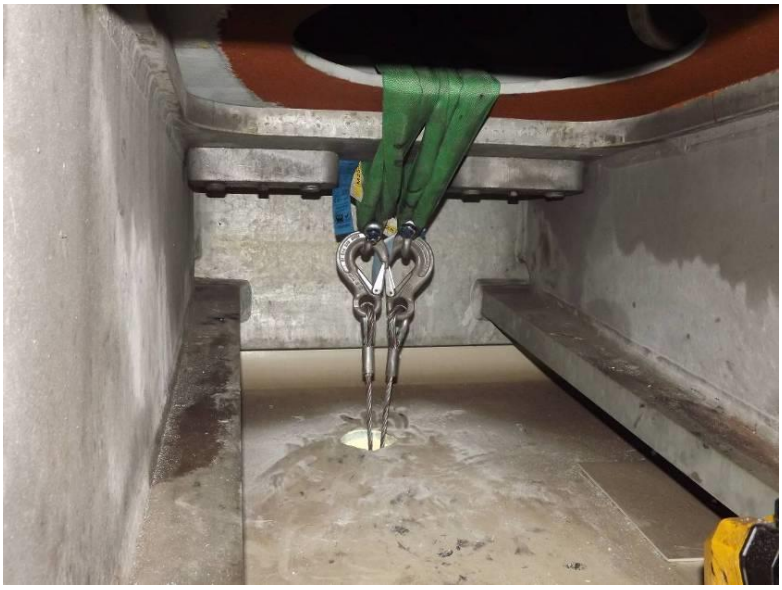
Fix 1 weight of 10 kg to the suspension wire. Verify that the wire rope can continue to turn once the weight is suspended.



3. RIGGING OF THE STEEL WIRES

The rigging of the steel wires in the nacelle will depend on the type of turbine and the design of the nacelle. It may be possible to rig to the main shaft or the blade roots. Verify the approved rigging procedure with the wind farm owner, its operator or the OEM who designed the turbine. Some wind farm operators also prohibit the use of certain materials in the nacelle. Verify sling construction or other rigging-specific requirements prior to starting work.
A typical rigging solution is shown in the pictures below. A 100 mm diameter hole is made in the bottom of the nacelle, located directly under a load-bearing structure. Slings are used to connect the steel wire to the structure. Minimum recommended capacity for the slings is 2000 kg. For each wire, suspension and safety wire ropes, a separate sling is required. The hooks of the steel wires may be connected directly to the slings or to a shackle connected to the slings.
The Operators must be trained for a proper rigging of the steel wires in the nacelle.

WLL of the suspension point: 650 Kg

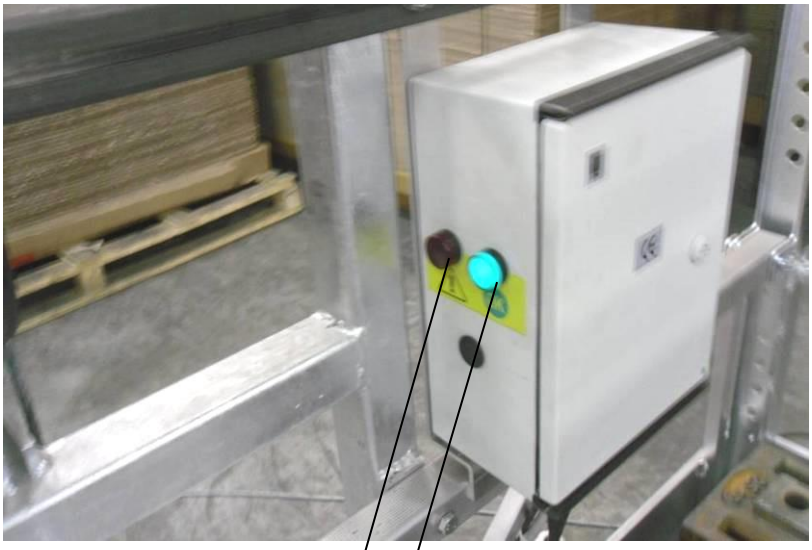


When lowering the steel wires make sure that they are not twisted into each other

4. OPERATION OF THE PLATFORM.

Up and Down Push Buttons

Emergency Stop Button
Press to cut all power. To reset twist the knob in the direction of the arrow.



Overload Warning light (red)

Power On Warning Light (green)

Note: The overload (red) warning light will also come on if the 10 pole connection to the hoist is NOT plugged in.

1. Connect the Power supply to the main power plug.

2. Connect the 10 Pole plug from the Titan into the control panel.

3. Connect the 4 pole plug of the top limit to the control panel.

4. Insert the safety wire into the safety device on the Hoist and fix the 10 kg Counter weight with the cable clamp.

5. Insert the suspension wire in the hoist and push the UP button. The steel wire will reeve automatically into the hoist until the pressure roller and will stop.

6. Push the suspension wire deeper into the hoist while pushing the up button simultaneously. The steel wire will now reeve completely through the hoist. Fix the 10 kg counterweight with the cable clamp to the primary and safety wire.

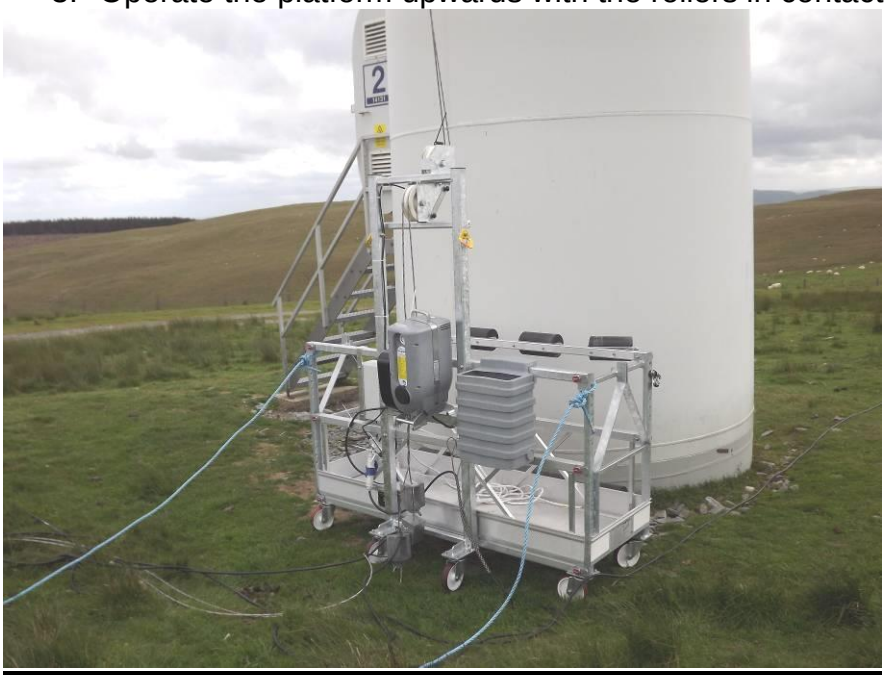
Note:
When using a generator to power the hoist always:

- Make sure that the rating of the generator is Min 5 KVA for 3 Phase. (10 KVA for single Phase)
- Verify the name plate of the hoist to make sure that the generator is providing the right voltage.

Know the max wind speed allowed for turbine work in the farm, carry an anemometer.
Keep the deck clear of trip hazards.
De-rig platforms during severe weather conditions.
Inspect wire rope often for signs of wear.
Inspect stirrup components, verify pulleys turn freely and no signs of excessive wear are found

5. USE OF THE PLATFORM ON THE BLADE

1. Work with the wind farm operator to position or pitch the blade with the area to be worked on (leading or trailing edge) as close to the tower as possible and to yaw the blade to the leeward side of the turbine to avoid direct winds to the platform when at elevation.
2. Place the platform near the turbine tower with the rollers facing the tower. Do not position the platform in front of the turbine access door. Connect the tag lines to the steel end frames of the platform.
3. Operate the platform upwards with the rollers in contact with the tower.



4. When the platform reaches the level of the tip of the blade, the platform has to be pulled to the blade to and rotated 90° by pulling on the taglines.
5. Upon reaching the blade tip, bring the soft rope lanyard round the blade and operate the platform upwards.
6. When going upwards, the taglines should be pulled to guide and bring the platform riding against the blade with the soft rollers. The lanyard should be tensioned when going up.
7. Travel up the blade only as far as needed to perform the scope of work. This minimizes the forces on the wire rope when it is at an angle to the suspension point.
8. At the top position the inspection & cleaning/repair of the blade can start. Move the platform down to proceed with the work. Increase the lanyard length as appropriate. Plan for a way to communicate with the tag line operators and Coordinate how to operate the taglines to keep the platform in the best position.

9. When coming closer to the blade tip, more tension on the tag lines is required because the support of the blade is reduced. When leaving the blade, the taglines should be tensioned, and the platform rotated by 90° so that the rollers are facing the tower again. Slowly the taglines should be relaxed to bring the platform back in contact with the tower.

Make sure that there is a good coordination and communication with the operators in the platform and the ground crew operating the taglines.

6. Emergency procedure.

In case the platform is not moving down when activating the down button.

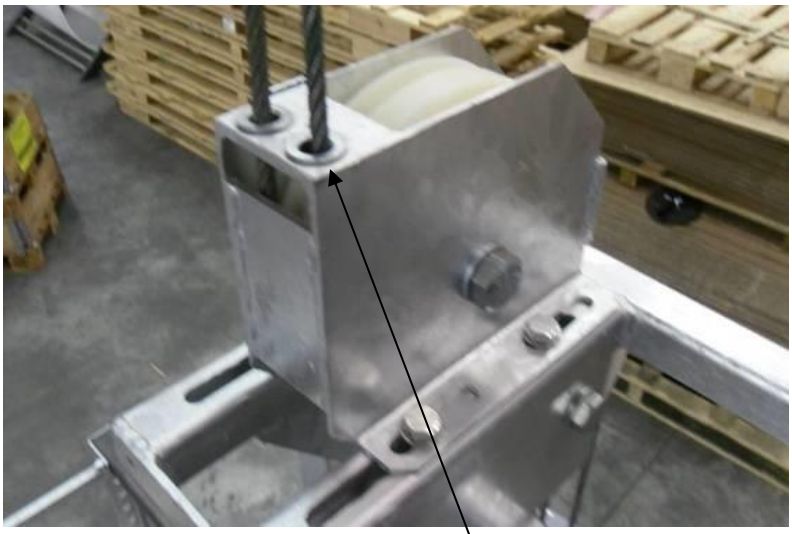
1. Check hoist and platform to establish reason why.
2. In case of power failure , lower the platform by releasing the brake by hand. See page 28
3. In case of a mechanical breakdown resulting in a jam of the traction system , use the Rescue kit to evacuate the platform.

Note : It is recommended that a rescue kit is available in the platform , However one of the taglines could be used to bring the rescue kit to the platform when needed.

Inspection of wire guiding eyes at the top of the stirrup

In addition to normal daily checks and service instructions, special attention must be given to the condition of the wire guiding eyes at the top of the stirrup.

- Verify if guiding eyes are still in place and fitted correctly (circlips still in place)
- Verify if there is any excessive wear on the inside of the guiding eye. Replace the guiding eyes as soon as the wear is clearly visible.



Guiding eyes , check for wear during the daily testing

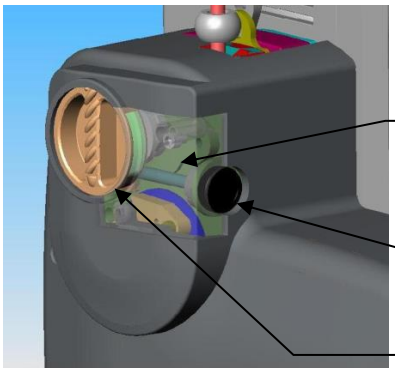
6. HOIST SPECIFICATIONS AND FEATURES

	TITAN Single Phase	TITAN Three Phase
Hoist Name	**TITAN 651**	**TITAN 653**
WLL	6500N (**650 kg**)	6500N (**650 kg**)
Power Supply	230V / 50Hz + E	3 x 400V / 50Hz + N + E
Amperage (running)	6.0 A	2.5 A
Amperage (starting)	24 0A	7.5 A
Power	1.00 kW	1.00 kW
Steel wire rope	Type 8	
Travelling speed	8.0 m/min	
Noise	< 80 dBA	
IP-rating	IP 54	
Weight	45kg	

Top limit switch
Carrying handle
Suspension rope
Safety rope
Slack rope lever
Electrical Box and Motherboard
Electric supply cable

‘No Power’ emergency descent lever

Nameplate (serial no.)
Electric motor
Lower carrying handle



Inspection window
Overspeed manual trip button
Overspeed reset knob

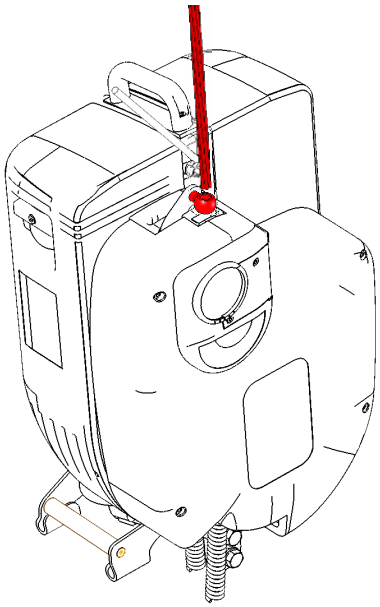
The TITAN hoist is a self-reeving traction hoist, powered by an electric motor.
The hoists and the central control box (Control panel) are mounted on Temporary Suspended Platforms (TSP) and suspended with steel wire ropes from a suspension system.

The strength of the platform and the suspension system used in combination with the hoists must be in relation to the Working Load Limit (WLL) of the hoist.

7. REEVING OF STEEL WIRES

A. Reeve the suspension ropes in the TITAN hoist

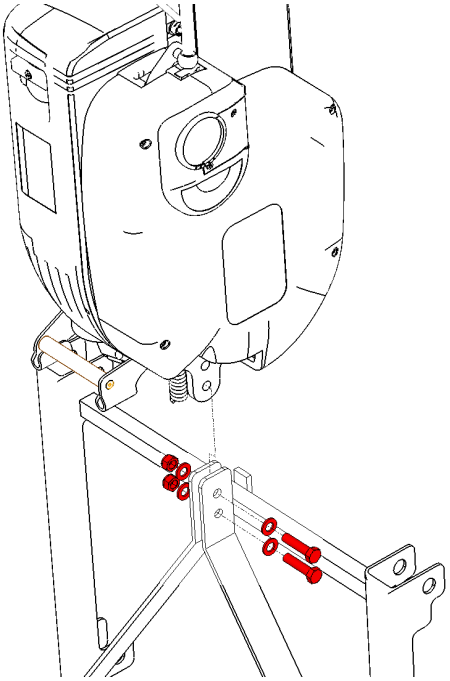
At roof level, uncoil the suspension ropes and lay them on the roof surface. Attach the suspension ropes to the suspension system with the safety hooks fitted to the ropes and lower the ropes to the ground. Verify that the rope is long enough.



Tip: *Before reeving the suspension rope, check that the overspeed safety device is reset by turning the yellow reset knob in the direction of the arrow (clock-wise).*

1. Push back the slack rope lever and insert the suspension rope through the eye of the slack rope lever and into the hoist until it stops.
2. Push the 'up' button on the Control panel and the steel wire rope passes through the hoist automatically. The end of the rope will come out from the bottom of the hoist. Make sure the outlet is free and the wire rope can come out.

   Tip: *If there is any difficulty reeving the suspension rope it helps to put a small bend in the end of the rope before feeding it into the hoist.*

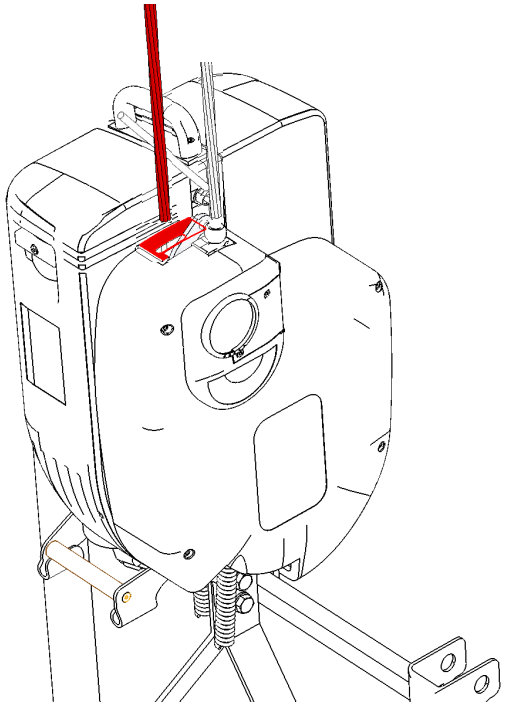


B. Attach the TITAN hoist to the stirrup

1. Lift the TITAN up from the ground by pushing the 'up' button on the Control panel. Line up the holes in the stirrup bar with the holes in the stirrup.

2. Attach the TITAN hoist to the stirrup of the platform with M12 bolts and self-locking nuts. Make sure that the TITAN hoist is mounted with the main hoist label towards the inside of the platform.

C. Reeve the safety rope in the TITAN hoist



At roof level, uncoil the safety ropes and lay them on the roof surface. Attach the safety ropes to the suspension system with the safety hooks fitted to the ropes and lower the ropes to the ground. Verify that the rope is long enough.

Push back the slack rope lever (or tension the suspension rope) to open the jaws of the slack rope safety device and push the safety rope through the slack rope compartment. Take out all slack by putting a weight on the tail end of the safety rope.

Tip: *Separately reeving the safety rope and the suspension rope, will avoid getting them twisted together.*

D. Carry out Daily Checklist

Carry out the Daily Checklist prior to your first ascent to install the top limit switch striker plates. Always check the suspension system for stability and safety before launching the platform.

E. Install Top Limit Switch Striker Plates

The striker plate activates the top limit switch and must be clamped on the safety wire at a distance of min. 20cm from the Talurit clamp.

IMPORTANT	**Clamp the striker plate to the safety rope ONLY so that the suspension rope passes freely through the slot in the plate.**

REMOVING the steel wire rope from the TITAN hoist

Tip: *Remove the safety rope first and keep the suspension rope taut, so that the slack rope safety device stays open and allows easy passage of the safety rope.*	
Safety rope	Manually pull the safety rope out of the slack rope safety device by hand.
Suspension rope	Push the 'down' button on the Control panel until the suspension rope no longer comes out of the top of the hoist and pull out the remainder of the rope by hand. ***Tip:*** *push up on the slack rope lever for easy removal of the suspension rope.* ***Tip:*** *Remove the last part of the steel wire slowly to avoid activating the overspeed safety device. Reset if required.*

After work is over check that:

- The platform is cleared of tools and equipment.
- All power has been switched off.
- Equipment has been secured where it will not be accessible to be tampered with.

8. MAINTENANCE

ROUTINE MAINTENANCE:
At least every 3 months under normal use or 50hrs whichever comes first.
Note: No specialized training is required to perform this basic maintenance.

1) Check all plugs socket connections of the hoist and central control box for any signs of water penetration.
2) Make a general inspection of hoist for excessive wear and damage.
3) Remove main cover and inspect mechanism for any signs of excessive dirt and corrosion. If required, blow out with air or rinse with water.
4) Check that traction roller rotates when reeving / de-reeving the steel wire rope through the hoist.
5) Check the slack rope safety device and overspeed safety device for excessive dirt and corrosion. If required, blow out with air or rinse with water. Check that the slack rope lever can move smoothly up and down. If necessary, lubricate with a dry wax-based spray lubricant.
6) Replace main cover.
7) Carry out the Daily Check List before using the platform.
8) Write a maintenance record indicating:
    - Any discrepancies noted and action taken.
    - Hour meter (optional) reading of the hoist.

ANNUAL MAINTENANCE: to be carried out by an authorized service center

1) Completely strip the hoist, clean and inspect all parts for wear and damage. Replace worn parts when necessary.
2) Clean, lubricate and re-assemble the hoist. Particular attention must be given to the slack rope safety device.
3) Place the hoist on a test rig and test that it can lift the rated Working Load Limit.
4) Check all plugs socket connections of the hoist and central control box for any signs of water penetration.
5) Reinstall the hoist and control box back on the platform and carry out the Daily Check List.
6) Write a maintenance record indicating:
    - Repairs carried out and/or parts replaced.
    - Hour meter (optional) reading of the hoist.

Special conditions:
The frequency of inspection and maintenance also depends upon the environmental and working conditions:

- When working with abrasive, adhesive or corrosive materials (epoxy, paint, cement, sand blasting, acids, salt water, spraying), the hoist should be protected with a suitable cover and the daily checklist carried out at least once a day.
- Always exercise caution regarding grounding, arcing and insulation, whenever welding or using electrical equipment and inspect all components carefully daily for potential damage.

9. TROUBLE SHOOTING

Problem	Probable cause	Solution
Hoists do not work when pressing the 'up/down' push button. GREEN 'OK' light OFF	No main power	Check power that power plug is properly connected or go down using the emergency manual descent
	Three phase hoists only: Phases are reversed	Use screwdriver to reverse phases on the phase reversal power plug of the control panel
Hoists do not work when pressing the 'up/down' push button. RED warning light ON	Emergency stop button has been depressed	Release emergency stop button
	Titan hoist Is not connected to the control panel	Check that hoist is correctly plugged in the control panel
During reeving, the hoist works in the 'up' direction, but the suspension rope does not reeve through	Steel wire rope is not entering the hoist properly	Remove steel wire rope and repeat reeving procedure (see Tip)
Hoists work for just a moment in the "up" direction and then stop. RED warning light ON	The platform is overloaded	Remove excessive load to automatically reset overload
The hoists do not work in the up and down direction	Top limit switch has been activated	Check for obstruction (e.g. hitting the striker plate)
Hoist hums, starts slowly or is sluggish, or fails to lift the loaded platform.	Serious voltage drop	Check the power supply and the specifications of the power supply cable
	Single phase hoist only: Start capacitor is defective	Hoist to be checked by an approved service center
	Service brake failure	Hoist to be checked by an approved service center

Problem	Probable cause	Solution
The hoists work for a long time and then stop. The electric motors are hot. RED warning light ON	The thermal protection has been activated	Let the motors cool down to reset automatically. ***Tip:*** *The 'no power' descent will still operate when the overheating protector is tripped.*
The hoist works both in the 'up' and 'down' direction, but the platform does not come down and the suspension rope is slack	The slack rope safety device is activated, and platform has come to rest on an obstruction	Operate the platform up to come off the obstruction.
The hoist works both in up and down direction but the platform does not come down and the suspension rope is under tension.	Overspeed safety device is activated.	Turn overspeed reset knob clockwise (see arrow) to reset. **Caution: never reset the overspeed until reason for tripping has been determined and the problem solved**
Overspeed flywheel is not turning	Dirt or corrosion in the overspeed safety device.	Hoist to be checked by an approved service center
Overspeed safety device cannot be reset	Too much load on the overspeed safety device	Push the 'up' button to relieve load on the overspeed safety device
Slack rope lever does not pivot properly	Slack rope mechanism is contaminated by grit or corrosion	Clean and lubricate slack rope safety device
IF PROBLEM PERSISTS, CONTACT YOUR LOCAL SERVICE REPRESENTATIVE.		

10. TITAN SAFETY DEVICES

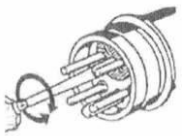
1. Automatic slack rope safety device:
The automatic slack rope safety device locks mechanically onto the safety rope if:
a) The suspension rope looses tension or breaks.
b) the rope is becoming slack when the platform comes down on an obstacle.

2. Overload detection device:
The overload detection device of each hoist is factory set to stop the 'up' direction of travel if the Working Load Limit (WLL) of the hoist is exceeded by 25%.
The RED warning light on the central control box will come ON in case of overload.
The overload detection devices of both hoists are connected in series. If one overload detection device is triggered, then the up movement of both hoists is halted.
To release the overload detection device, remove the excessive load.
***Tip**: In addition to removing the excessive load, it may be required to remove part of the normal load in order to reset the overload detection device. Once the overload detection device is reset, the platform can once again be loaded with the full normal load*.

3. 'No-Power' descent
In the event of a power failure the platform can be lowered at a controlled speed (approx 6 m/min.), by pulling the 'No-Power' descent lever on the electro-magnetic service brake.
***Warning:** Never use the emergency manual descent when normal powered movement is possible.*

4. Top limit switch
The top limit switch cuts the up and down movement when it is activated by the striker plate, which is clamped onto the safety rope at the top of travel.
When the top limit switch is triggered, the platform can be operated down by releasing the brake of the Titan hoist manually. Only a few centimeters are needed in order to reset the system.

5. Phase Protector *(for three phase hoist ONLY)*
All three-phase central control boxes are fitted with a phase protector, which cuts power supply if phases are reversed. When the phases are correctly connected, the GREEN 'OK' indicator light on the outside of the control panel, and the GREEN indicator light on the phase protector (only visible when control panel is opened) are ON and the hoists will operate.
If indicator lights are OFF, use a screwdriver to reverse the phases in the phase reversal power plug of the control panel



***WARNING: DO NOT** change any connections in the control panel*

6. Overheating protection for hoist electric motor

The hoist motors are fitted with a thermal contact, which cuts power to the motors in case of overheating.
When the overheating protection is activated, the ‘up’ movement is halted.
If a hoist motor has overheated, allow it to cool down to continue.
The overheating protectors of both hoists are connected in series. If one overheating protector is triggered, then the ‘up’ movement of both hoists is halted.

7. Overspeed Safety device *(Compulsory for “single hoist”-applications)*

The overspeed safety device locks onto the suspension rope when the suspension rope passes through the hoist (descent speed) at more than 15 m/min. The overspeed safety device can also be triggered manually by pressing the manual release button.
To reset the overspeed safety device, first drive the hoist up a few centimeters and then turn the reset knob clockwise in the direction of the arrow.

8. Use of Hand wheel to reset safety device in case of power failure

If the slack rope safety device or overspeed safety device has been activated and there is no power to the platform, it will be necessary to wind the hoist up a few centimeters manually, to be able to reset the safety device.

1. Pull out main power plug to cut off power supply.
2. Remove plastic plug in the motor cover to expose shaft for the handwheel.
3. Remove the hand wheel from its storage position and insert shaft into hub.
4. Wind the hoist in the up-direction counter-clockwise ½ turn at the same time as you pull up on the brake lever to open the brake.
5. Release brake lever and repeat.

TIP: *Grab the hand wheel firmly while opening the brake to prevent it from turning and going back down.*

6. The overspeed safety device must be reset manually. The slack rope safety device resets automatically.
7. Put plastic plug back on and return hand wheel to its storage position after use!
8. Plug in main power plug and resume.

11. TITAN STEEL WIRE ROPE

Warning: *Only use Type 8* Power Climber recommended steel wire ropes!*

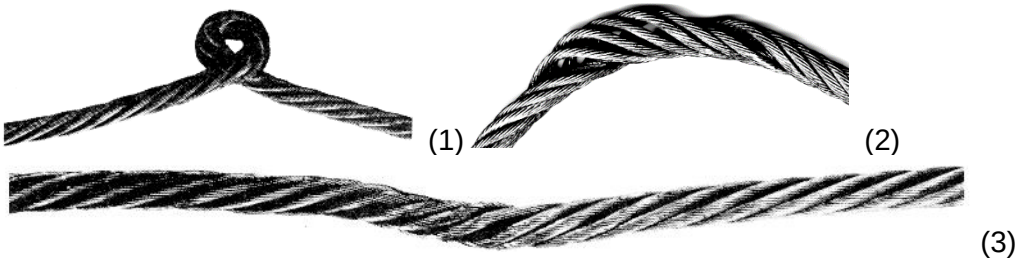
- The end of the steel wire ropes should be brazed to form a 'bullet' end with a maximum length of 10mm, without loose or broken wires.

- Use protective gloves to manipulate the steel wire ropes.

! WARNING !

Steel wires ropes must be replaced in any of the following conditions:

- More than 10 wires are broken on a length of 25cm.
- Excessive corrosion.
- Damage due to heat.
- Reduction of the nominal diameter by more than 10%.
  General rejection diameter for type 8* steel wire ropes: 7.5mm.
- Kinking (1), crushing (2), bird caging (3) or any other distortion of the wire rope structure.



12. SAFETY PRECAUTIONS

See European Standard EN1808 for details on Applications that are excluded from the EN1808 and other relevant exclusions.
TSP = Temporary Suspended Platform

1. **Power Supply to the TSP must be fitted with**
   a) Main switch
   b) Residual current device (or earth leakage circuit breaker) of 30 mA
   c) Over-current protective device (automatic fuse Type C)

   Note: check that the specifications of the electrical supply cable match the power requirement of the platform and will avoid a voltage drop due to cable length.

2. **Weather conditions**

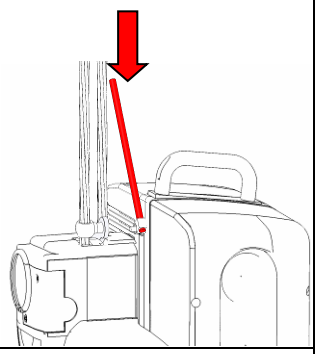
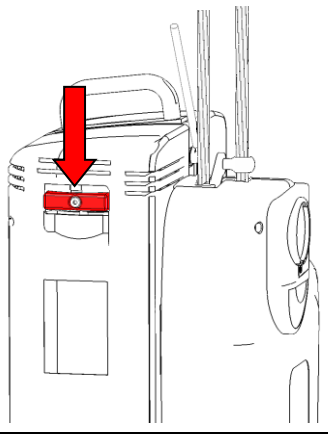
Temperature range:	-10ºC and +55º C
Humidity range:	30 % - 95 %
Contaminants:	Degree of protection IP 54
Max. wind speed:	12.5m/s (see note)

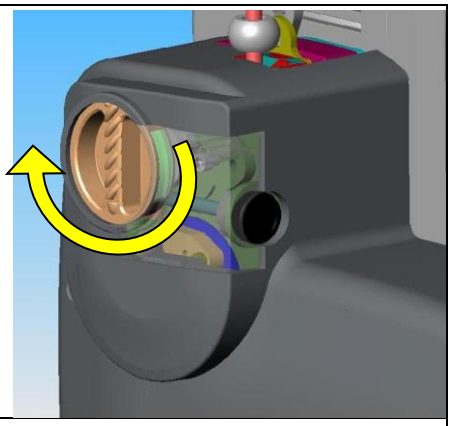
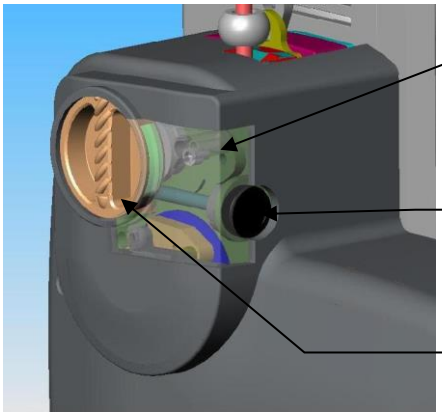
   Note: For TSP with a lifting height over 40m and intended to be used on locations exposed to wind speeds over 14 m/s, an adequate restraint system shall be provided.

3. **Precautions prior to use**
   a) Before using the equipment, operators must carry out the daily checks and make sure that the equipment is in perfect working condition.
   b) Before use, modular TSP equipment must be checked to prevent mixing of inappropriate components.
   c) Before use, check that sufficient space is available for operating the TSP.
   d) Before using the equipment the suspension system must be checked to ensure the stability of the TSP at all times.
   e) In case the area below the TSP is open to the public, preventive measures have to be taken to safeguard the people below (e.g. barriers, roof protected walkways, etc.).
   f) All hazards related to the platform encountering obstructions are not completely covered by the TSP's safety devices. The operator shall check for obstructions along the travel of the platform.
   g) Overload detection device may not protect TSP platforms in all configurations. The operator shall check that the loading of the platform is in accordance with the rated load indicated on the nameplate.
   h) An area must be available to allow operators to get on and off the platform.

4. **Precautions during use**
   a) The operators must stop working with the equipment and notify the supervisor if faults, damage to the equipment or other circumstances may jeopardize safety.
   b) A suitable communication method between the operators, the tag line operators and the supervisor is recommended.
5. **Suspension System**
   a) The platform can be suspended on different types of suspension systems such as roof beams (with counterweights), parapet clamps, davits, fixed suspension points, custom made suspension systems, roof rigs made from tubular scaffolding etc.
   b) Roof systems to be calculated for a max. load of W.L.L. x 3 (Maximum allowable stresses below yield).
   c) Check that roof beams are properly counterweighted (if applicable).
   d) Ensure that the suspension point is directly above the platform prior to installation.

13. DAILY CHECK LIST

TESTS MUST BE CARRIED OUT EVERY TIME BEFORE USING THE PLATFORM	
1	Visually inspect the **platform** for damaged, loose or missing parts.
2	Check the **suspension system** for stability before launching the platform. Check that all counterweights are in place and secured. Check that all steel wire ropes are attached on properly to the suspension system
3	Check that the GREEN **'OK' indicator light** on the control panel is **ON**.
4	Check that the **'Up/Down' push buttons** and the **hoist selector switch** are functioning.
5	Push **emergency stop button** and check that the platform cannot go up or down. (turn button in direction of arrow to reset)
6	Push down on the **Top Limit Switch** and check that it cuts the 'up' direction, but that platform can be driven in the 'down' direction. Repeat procedure for other hoist. 
↑ Raise the platform 1-2 meters up off the ground to continue the tests ↑	
7	a) ON ONE HOIST ONLY, Pull on the **'No Power' emergency descent** lever and check that the hoist can be lowered at a controlled speed. b) Continue releasing the service brake until the **slack rope safety device** is activated (about 14 degrees) and keeps the platform from tilting further. c) Repeat the procedure by manually lowering the other end of the platform. 

8	Run the platform up and down 1 m and check that the **overspeed governor** is rotating by looking through the transparent cover (next to the yellow reset knob). In normal circumstances you can clearly hear the clicking of the turning flywheel weights. Also check that the weights on the overspeed governor are not stuck and moving slightly as the governor rotates. 
9	 a) Run the platform down and press the **overspeed manual trip button** on ONE of the hoists. Down movement of hoist will stop. b) Pull on the **'No Power' emergency descent** lever and check that no further down movement is possible. c) To reset, power the hoist up about 10 cm and turn the reset knob clockwise till the overspeed safety device clicks back into its 'open' position and is rearmed. d) Repeat procedure for the other hoist. ***IMPORTANT: Make sure that the Overspeed Safety device is reset before running the platform.***
10	Run the platform to the top and during travel inspect the **steel wire ropes** for kinks, broken wires or other damage. Inspect the trailing **electrical supply cable** for damage. At the top of travel, check that the top limit switch **striker plates** are correctly fitted and also that the **top limit switches** are operated by the striker plates.
DO NOT USE EQUIPMENT THAT IS NOT OPERATING PROPERLY	
NEVER OVERRIDE LIMIT SWITCHES AND SAFETY DEVICES	