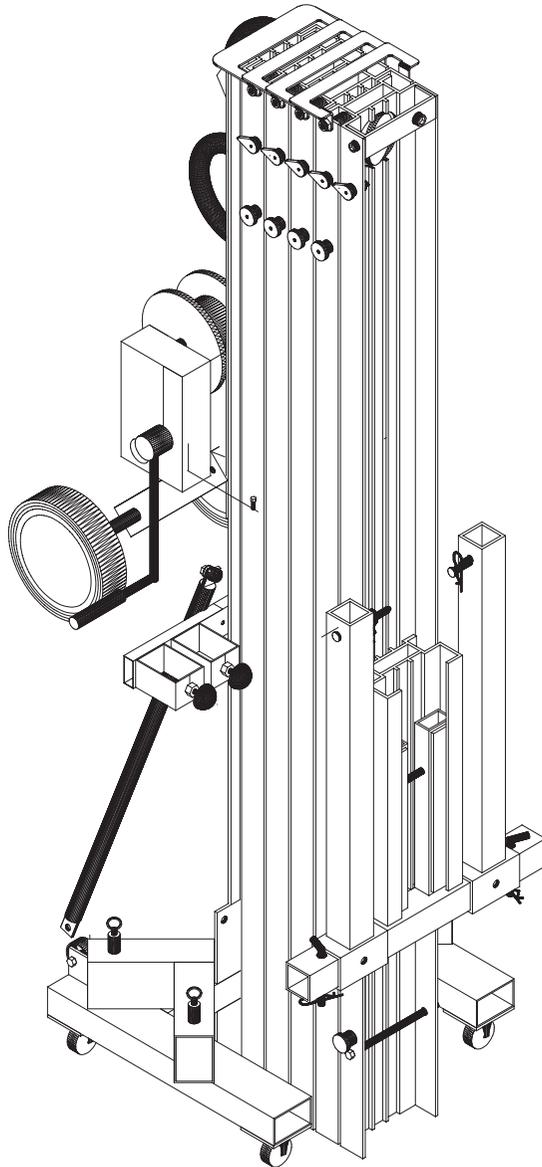


## PRO LIFTING TOWERS

Using & installation user manual



**LW 461R**  
**LW 476R**



# LW 461 R

# LW 476 R



## **IMPORTANT**

ALL DRAWINGS IN THIS USER MANUAL ARE BASED ON LW 476R LIFTING TOWER. THE MODEL LW 461R, INCORPORATES THE SAME OPERATING METHOD.

<i>INTRODUCTION</i>	1
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## INTRODUCTION

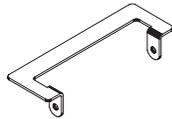
**400 series** has been a big change in the way of work when professionals needs to lift heavy loads. The big success resides in the loading at the ground level avoiding unnecessary efforts that before can not be solved easily.

As usual in **WORK®** products, all the components have been oversized with the goal of achieving a superior security:

- High resistance aluminium profiles.
- Powerful autoblocking bolts.
- Steel made pulleys.
- Autoblocking certified winches.
- 2 iron braces placed in the back side to reinforce.
- Bubble level indicator vial
- High resistance legs.
- Strong cable of security made of steel under the DIN normative

The transport of both tower models, can be converted in a very simple operation due to the wheels placed on the both towers base and two additional wheels with a big size and folding to the body of the tower which always solve the uncomfortable operation of managing the tower loading up or getting of from a lorry or track. LW476 & 461 towers have the best features to get lifted the most complicated loads. Their materials, made of steel, assure to the user the security and reliability without renouncing to the comfort and easy use.

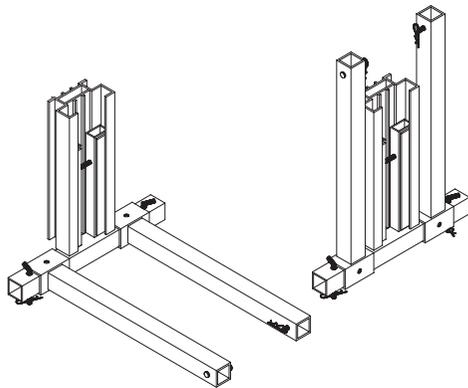
## FEATURES



Upper reinforcing piece in each section to avoid deformations with high loads.



Double blocking system:  
 - For transportation (upper pin bolt)  
 - Folfing/unfolding (lower pin bolt).



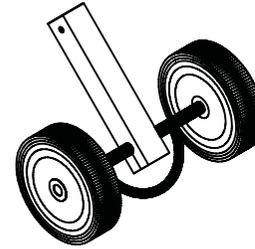
Horizontal support for elevating loads purpose.

and mast provide an extra firmness  
 Additional wheels for an easy load up or get down process from a lorry or track.

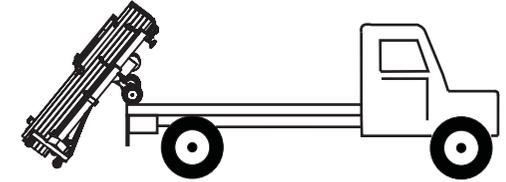


## FEATURES

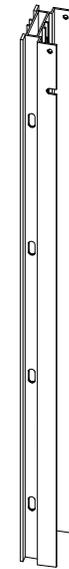
**For the transport, LW 461R and LW 476R incorporate a folded wheel system**



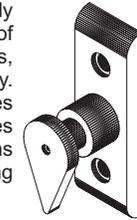
With this system, is posible to make more easy the transport process in a lorry or track, the wheel allow to lean the tower over the lorry base and to displace it So the winch does not suffer scratches or hits.



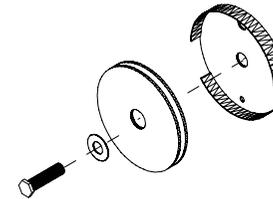
## FASTENER SYSTEM



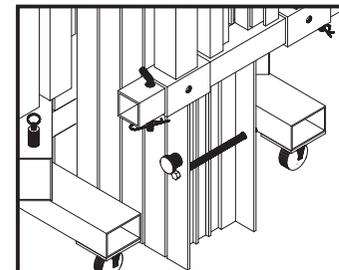
This system uses a profile especially designed to heavy loads. the width of these profiles and the wall thickness, ensure a great firmness of the assembly. They incorporate a lane with fixing holes which houses safety pins. these holes are large enough so that the pins introduced easily and quickly providing a fast deployment of the tower.



Safety pins have been oversized, both in diameter as the piston as the main safety part. the lock/unlock system is performed exerting a small flip and rotate, allowing this operation so simple and complete security.



The pulley system (which raised or lowered each profile), is responsible for transmitting the stress generated in the winch and raise each section, for this reason, these pulleys have a proper design to handle the wire, covering the entire system in a compact assembly.



For added security during transport, these towers incorporate a locking system that prevents the movement of the profiles. This bolt, which is placed in the most external profile, **MUST BE UNBLOCKED BEFORE** unfolding the lifter.

## SPECIFICATIONS

	MAX LOAD (KG)	MIN LOAD (KG)	UNFOLDED LIFTER		FOLDED LIFTER		WEIGHT (KG)
			HEIGHT (M)	BASE (M)	HEIGHT (M)	BASE (M)	
LW 461 R	250	30	6,1	2,00 x 1,85	1,90	0,70 x 0,60	140
LW 476 R	220	30	7,6	2,00 x 1,85	1,90	0,70 x 0,60	163

	CABLE						WINCH	
	COMPOS. (GALVANIZED)	Ø (mm)	RESIST. (N / mm2)	LOAD (KN - KP)	(KG/M)	ROLL.	Ø BOBBING (mm.)	REDUCT. RANGE.
LW 461 R	6 x 19+1	6	1770	19,6 - 1990	0,126	CROSSED TO RIGHT	48	3.75 : 1
LW 476 R		6						

STANDARDS & REGULATIONS	
LW 461 R	DIN 15020 / VGB 1 / VGB 8
LW 476 R	DIN 15020 / VGB 1 / VGB 8

Standards and Regulations applied on winches incorporated on each lifting tower.

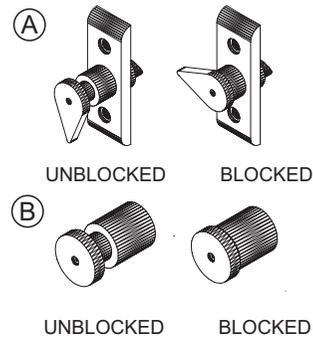
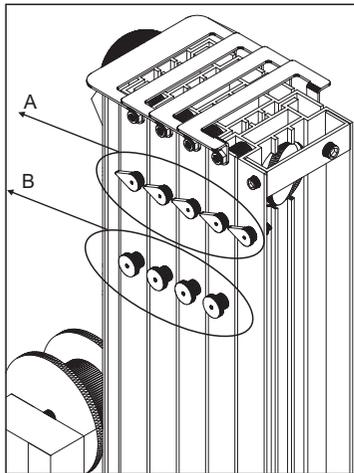
## DOUBLE BLOCKING SYSTEM

### INTRODUCTION

New V.1204 blocking system applied to **LW 461 R & LW 476 R**, incorporates two security blocking systems.

The first system (**marked as A**), is the automatic system. It allows block a profile in a security point during the folding process.

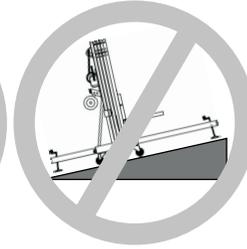
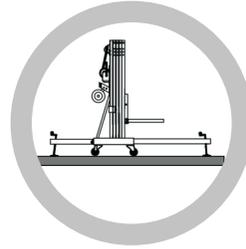
The second system (**marked as B**), is the manual system. It allows to block the profiles to transport the lifter and to block the fixation position.



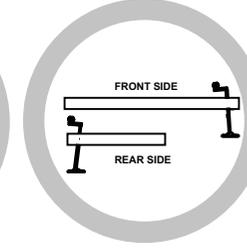
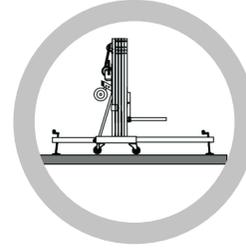
## SAFETY RULES



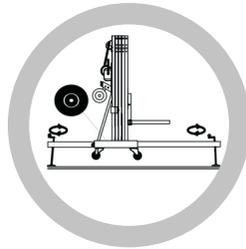
Do not elevate the tower without using the stabilize legs.



Place the tower over a flat and stable surface. Do not install it in a place where the use over the stabilize leg would not be enough to reach a perfect balance.



The two largest legs must be placed in the frontal tower side and the shortest ones at both winch sides.



Act individually over the stabilize leg up to the wheels lose contact with the ground and ensuring a perfect balance of the tower. This balance will be showed in the vial.



Do not move away the stabilizer legs after the load is elevated.

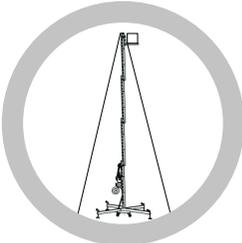
## SAFETY RULES



Do not move the tower after the load is elevated



Do not lean elements (like stairs, platforms, scaffoldings, etc.) over the tower which can make pressure over it and to destabilize



For outdoor installations ensure the tower with security tights to ground. NEVER fix them to surfaces with oscillations like structures, etc.

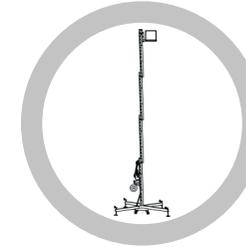


Do not use the tower like support for banners or decorative support. With heavy wind, these elements could act as "sail" and to knock over the tower.



Do not use the tower in heavy wind conditions. Take into account that if the exposed height and surface is maximum, the tower stability is reduced.

## SAFETY RULES



The load must be firmly placed over the support the nearest possible gravity center of the tower, in order to facilitate its balance.



Do not overload the tower beyond the max. weight recommended in the manufacturer specifications.



In the moment you elevate the tower, check that it does not take contact with elements or objects which with the tower could hit or come off.

Be aware specially with the electrical conduction, due to the towers are not electrically isolated, it can represent a serious electric shock danger.



Do not stay down to the tower after the tower elevation nor elevation or folding process.



This tower is not designed to elevate persons. Do not use it for a different purpose that it has been designed

## SAFETY RULES



Keep the hands and fingers moved away to mobile elements of the towers like profile unions.



Do not lubricate the brake system of the winch, the mechanism could lose efficiency.



Do not catch the cable during the elevation or folding process.



Avoid the non-desired tower manipulation by non-qualified people.



Check periodically the good winch conditions of the and cable security. In order to guarantee the security cable integrity, consult the section about the winch operation.



**NOT TAKE INTO CONSIDERATION THESE RULES COULD CAUSE THE KNOCK OVER OF THE TOWER OR ITS LOAD, PROVOCATING DAMAGES IN PEOPLE AND PROPERTIES**

## INSTALLING THE LIFTING TOWER

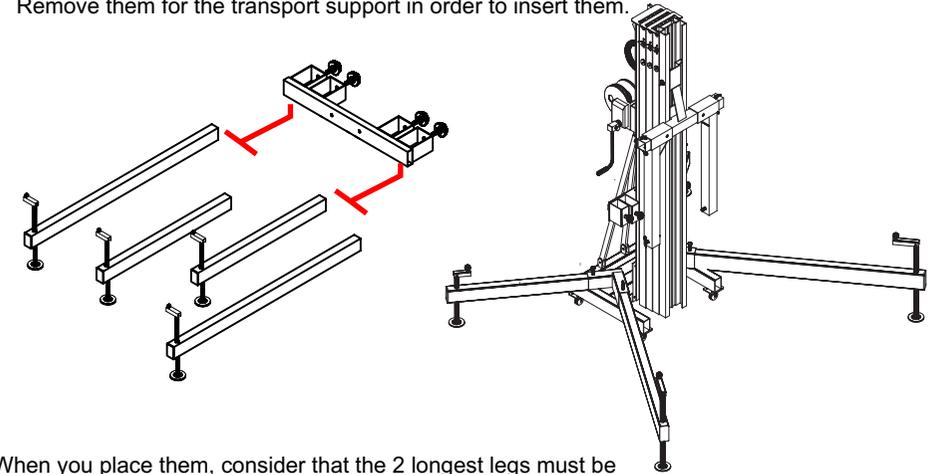
Place the tower over a flat and stable surface to install the tower, discarding its use over rolling platforms or surfaces which would be able to bear as much its own weight as coupled load.

The installation area must be free of debris, stone, etc. that reduce the firmness of the tower at ground.

Moreover the tower must not be placed near elements which can obstruct the vertical folding process like balconies, cornices, etc.

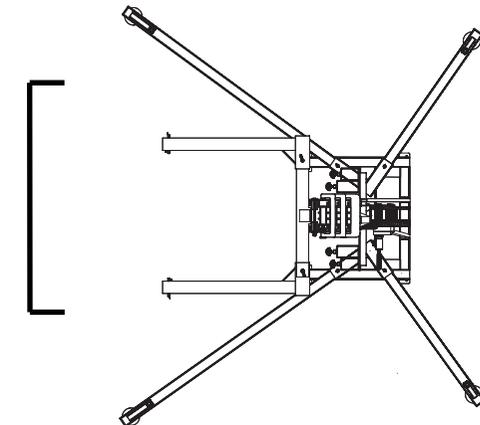
Be aware specially with the proximity of electric cables which the tower could take or crimp them. Consider that the tower is not electrically isolated, so, it can be load with electricity and to constitute a serious electric shock risk.

The tower disposes of two sets of legs with different length in order to settle the tower. Remove them for the transport support in order to insert them.

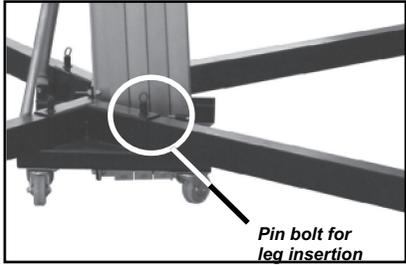


When you place them, consider that the 2 longest legs must be placed in the frontal side of the tower and the shorter ones in both sides of the winch frontal side of the tower and the shorter ones in both sides of the winch.

**The longest legs placed in the frontal side.**



## INSTALLING THE LIFTING TOWER



In order to insert the legs, use corresponding pin bolt and insert the leg to correct position triggering the bolt To ensure the set stability.

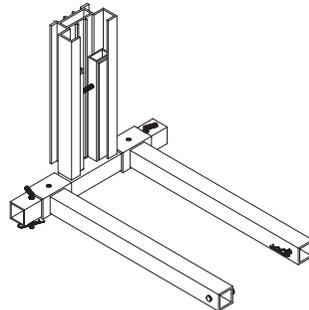
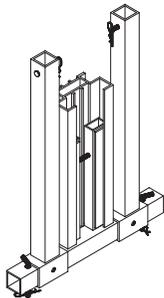
Rotate the crank of the stabilizer placed on each legs up to the wheels located in the base do not touch the ground. During this process, control the vial in order to act individually over each stabilizer up to obtain a perfect balance.



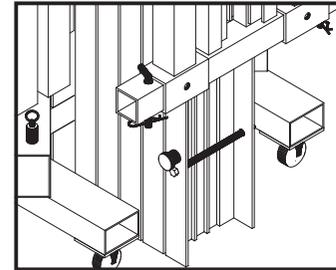
Vial for level control

## PLACING THE LOAD

Once the tower will be balanced and fixed to the ground, you can proceed to place the load on the incorporate support.



Support in stand position for transport. Extract the pin bolts and place it in horizontal position in order to locate the load.



For added security during transport, these towers incorporate a locking system that prevents the movement of the profiles. This bolt, which is placed in the most external profile, **MUST BE UNBLOCKED BEFORE** unfolding the lifter.

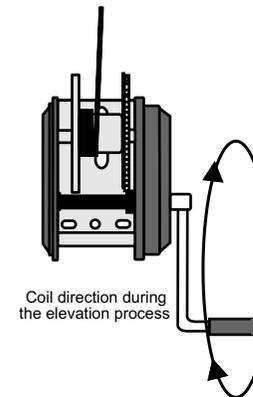
**NOTE: REMEMBER TO RELEASE IT BEFORE UNFOLDING THE LIFTER AND TO BLOCK IT WHEN THE LIFTER WILL BE FOLDED..**

## WINCH OPERATION ( Special Care)

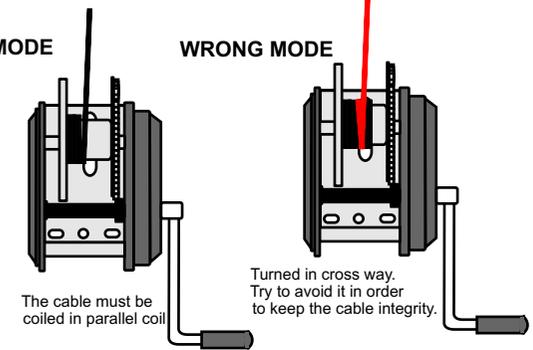
During the tower elevation process, pay attention to the cable rolling. This cable must be coiled in parallel turns around the winch cylinder **NEVER MUST BE PRODUCED CABLE CROSSES IN DIFFERENT DIRECTIONS.**

In this way, that cable can be endangered or got worn, causing, at the end, the break of the cable.

If any spiral is rolled in this way, turn the winch in opposite sense up to release of wrong turn. Then, proceed to coil again in an appropriated way



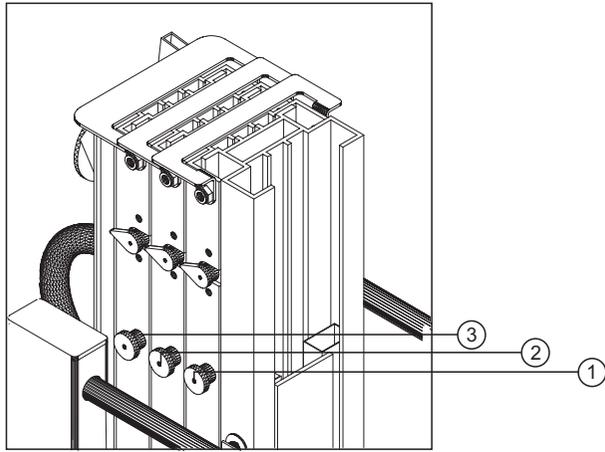
CORRECT MODE



WRONG MODE

The cable must be coiled in parallel coil

## LIFTING PROCESS

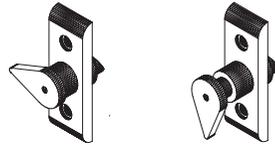


1. When the lifter is in the required position, secured with the legs and attached with the front support to attach the load horizontally, is the time to raise the load coupled.
2. Block ALL the automatic safety pins (**A system**).
3. Unblock the most external safety pin (**marked 1**) in **B system**.
4. Turn the winch clockwise, the profile that incorporates the support with the load, begin to rise.  
Be careful controlling load in each moment to avoid oscillations.  
During this process the bolt of A system placed in this profile will insert automatically in the fixation holes, until the elevating process extract it and continue until the next fixation hole.  
Once you reach the approximate height required, block the pin, now, rotating the winch a few more turns, is inserted into one of the holes of the rail.
5. Now proceed in the same way with the second profile:  
Check the bolt (**A system**) in the second profile is in blocked position and **UNBLOCK** the bolt of **system B (marked as 2)**.  
Turn the winch to unfold the second profile
6. Finally, deploy the last profile, unblocking the last pin (**marked as 3** and proceed in the same way as points 4 and 5.
7. The lifter is fully deployed as shown in the drawing on the next page.

AUTOMATIC PIN BOLT (A System)

Blocked

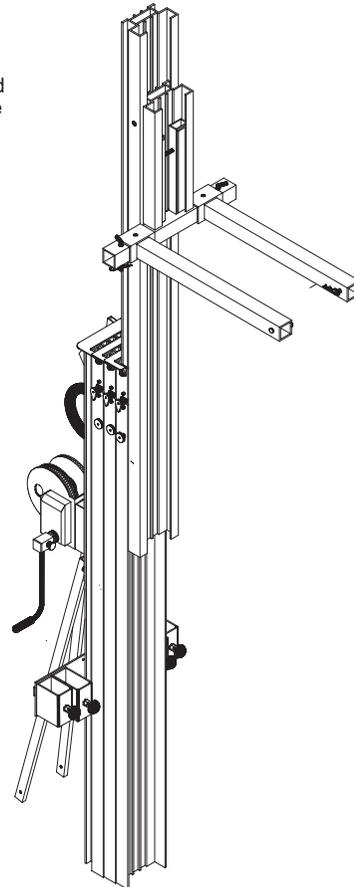
Unblocked



MANUAL PIN BOLT (B System)

Blocked

Unblocked

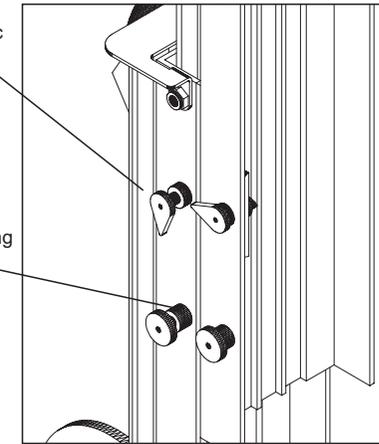


## DESCENT/FOLDING PROCESS

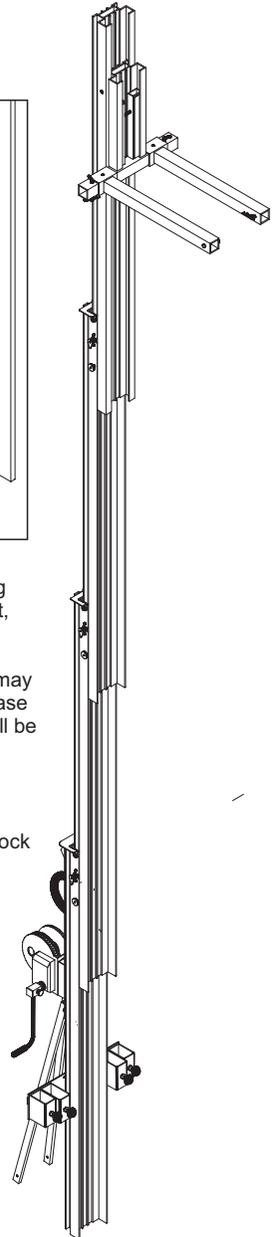
1. For the lifter descent / folding process, proceed in reverse way.  
First of all,  
**UNBLOCK THE A system BOLT** in the last profile.

Unblock the automatic bolt (**A system**)

In block position, extract the bolt (**B system**) and keep it on this position during all folding process.



2. Extract the B system bolt (**marked as 3**) and keep it during all profile folding process. The safety bolt is in blocking position, therefore, simply releasing it, the profile will be blocked.
3. Turn the winch counterclockwise carefully to avoid load oscillations, which may be higher due to the height. Once this section reaches the rest position, release the B system bolt (marked as 3), and continue using the winch, the bolt will be inserted in the next fixation hole and the profile will be blocked.
4. Block again the A system bolt of the folded profile.
2. Now we have to descend the next profile. Perform the same operation, unblock the A system bolt and extract the B system bolt (**marked as 2**) and use the winch to fold this new profile.
3. Finally, proceed with the first profile unblocking the A system bolt and extracting the B system bolt (marked as 1) and using the winch to fold the last profile.
4. Remove the load of the horizontal support.
5. Place the horizontal support arms in the transport position.
6. Check ALL transport bolt (**A system**) will be in block position
7. Remove front and rear legs and insert them into their accommodation.
8. Now the lifter is ready for transport.



## CONFORMITY DECLARATION

The described Truss-Lifts meets all the requirements specified in the Directive 2006/42/EC of the European Parliament and the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC.

Applicant : **EQUIPSON, S.A**  
Address : Avda. El Saler, 14 Pol. Industrial L'Alteró  
46460 SILLA - Valencia (Spain)  
Representative : **EQUIPSON, S.A**  
Address : Avda. El Saler, 14 Pol. Industrial L'Alteró  
46460 SILLA - Valencia (Spain)  
Description : Lifts for Truss Systems

**WORK®** LW 415 R  
**WORK®** LW 425 R  
**WORK®** LW 461 R  
**WORK®** LW 476 R



Juan José Vila  
(Product Manager)  
October 22, 2009



The test report was carried out from the submitted type-samples of a product in conformity with the specification of the respective standards. The certificate holder has the right to fix the CE-mark on the product complying with the inspection samples.

## BGV C1 REGULATION, Explanation

**BGV C1** is a regulation for Staging and Production Facilities for the Entertainment Industry. Lifting and rigging equipment is just part of this standard and cover structures and other technical matters.

Adopting

**BGV C1** is entirely voluntary (except in Germany) but its adoption is generally required by insurance companies and therefore it has effectively become an industry standard.

The application of this standard over lifting towers is vital due to in theatres, stages, etc. are used to move loads over performers and, in some cases, above spectators, representing a potential falling risk.

## BGV C1 REGULATION, Application fields

This standard is orientated in two ways:

By one side, the lifting towers adopt designs and materials in order to achieve a high security degree in magnitudes like load supported, balance, friction resistance, etc.

So a **WORK®** lifting tower **BGV C1** certified ensures the customer that has passed strict test during its design, materials choice or load and effort verifications.

By other side, in order to achieve an optimum operation with these units, is recommended as much a responsible use of the unit, complying basic rules like maximum load accepted or tower balance as maintenance periodic, which must be carried by expert technicians, checking the good state of the steel cable and winch, operation of the safety bolts and folding/unfolding of the entire profile system.

**ANNUAL TEST (passing the fourth year)**

Checked by

Date

Signature

Tested elements and conclusions

**ANNUAL TEST (passing the fourth year)**

Checked by

Date

Signature

Tested elements and conclusions

**ANNUAL TEST (passing the fourth year)**

Checked by

Date

Signature

Tested elements and conclusions

# BGV C1, TESTS & CHECKS

MODEL

SERIAL NUMBER

**INITIAL CHECK (First year)**

Checked by

Date

Signature

Tested elements and conclusions

**FOUR YEARS TEST**

Checked by

Date

Signature

Tested elements and conclusions

# BGV C1, TESTS & CHECKS

MODEL  SERIAL NUMBER

## INITIAL CHECK (First year)

Checked by

Date

Signature

Tested elements and conclusions

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## FOUR YEARS TEST

Checked by

Date

Signature

Tested elements and conclusions

## ANNUAL TEST (passing the fourth year)

Checked by

Date

Signature

Tested elements and conclusions

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## ANNUAL TEST (passing the fourth year)

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Checked by

Date

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Tested elements and conclusions



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

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