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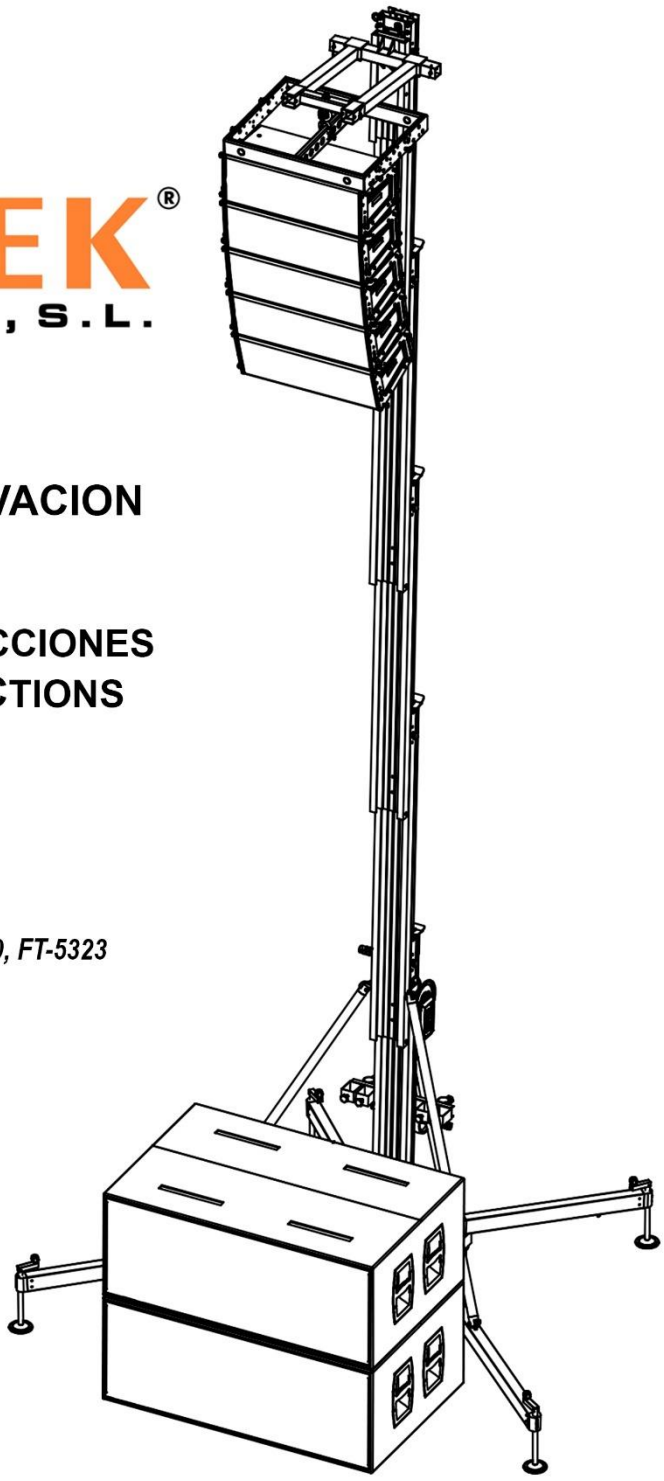

SISTEMAS DE ELEVACION
LIFTING SYSTEMS

MANUAL DE INSTRUCCIONES
OPERATING INSTRUCTIONS

PARA MODELOS:
FOR MODELS:

FT-6860, FT-7045, FT-6033, FT-6520, FT-5323

Rev. 11/4/2017

DYNSYS LOAD LIMIT SYSTEM

DYNAMIC OVERLAP

WIRE DRIVE

IMPORTANT

Read and understand precisely all points and aspects of this manual. Irresponsibly lifting loads can cause lethal accidents. Installation of lifting systems and proper use are only responsibility of the user.

It is recommended to attach this manual with tower system used.

If in doubt, consult the technical department of Fantek Industrial S.L.

CONTENT

CONTACT

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ILLUSTRATION INDEX

RULES AND SAFETY USE

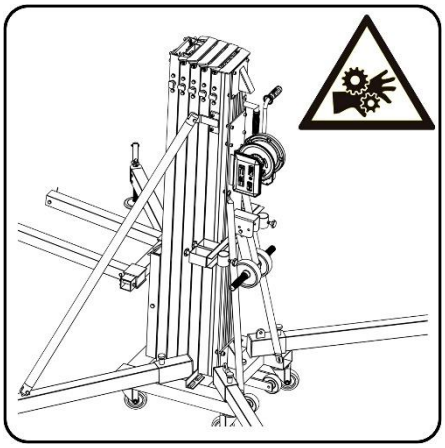

Figure 49

Keep hands and fingers away from moving parts of the tower.

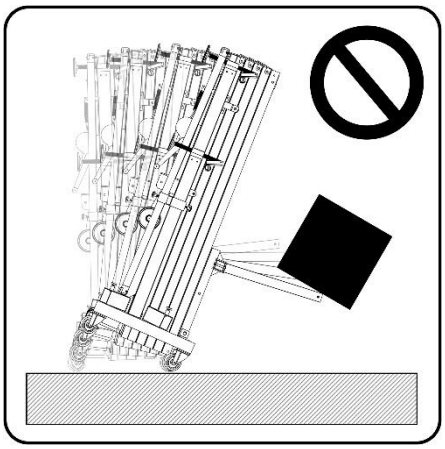

Figure 50

Not charge the tower without the legs stabilizers lowered.

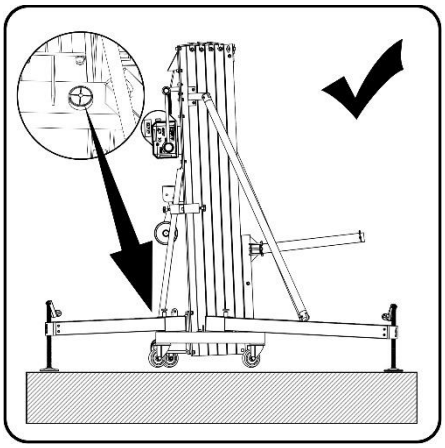

Figure 51

Do not lift the tower without proper leveling. To lift a load, the tower must always be stabilized. The wheels must not touch the ground.

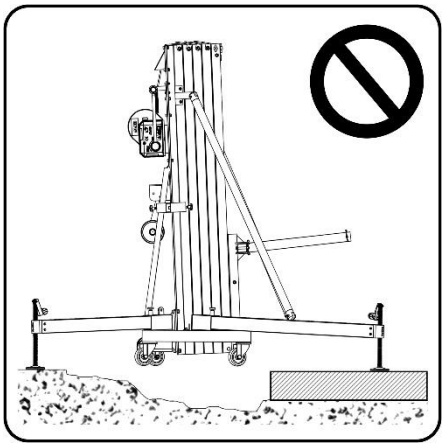

Figure 52

Place the tower on a stable Surface.

If the ground has a low degree of compaction (earth, gravel, etc..) consult the section of load data.

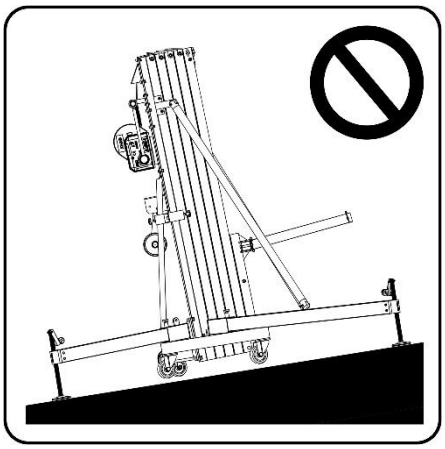

Figure 53

Do not use the tower on tilted surfaces that require pieces to level the tower.

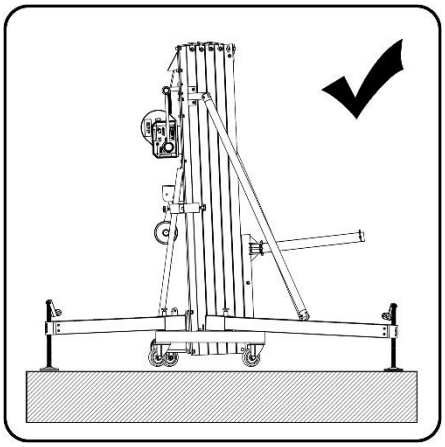

Figure 54

Mount the longest legs stabilizers in the part of the horns. Safety pins must lock the stabilizers.

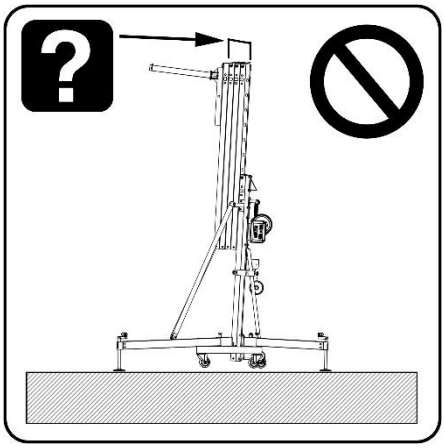

Figure 55

Lift the mast in the correct order.

Lift the mast of the tower starting always for the carried. The last mast lifted has to be the next to the section where the winch is placed.

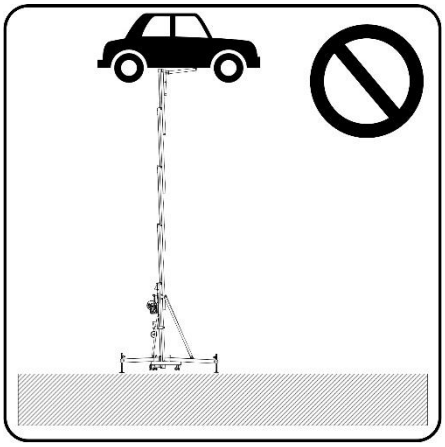

Figure 56

Before placing a load, make sure that the load never exceeds the maximum allowed. Consult the section of load data

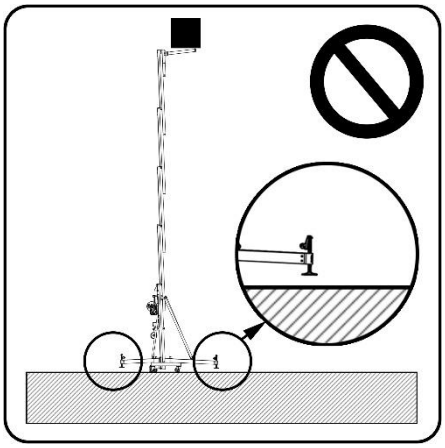

Figure 57

Never move a load without level.

Figure 58

Do not use ladders on the tower or leaning against it.

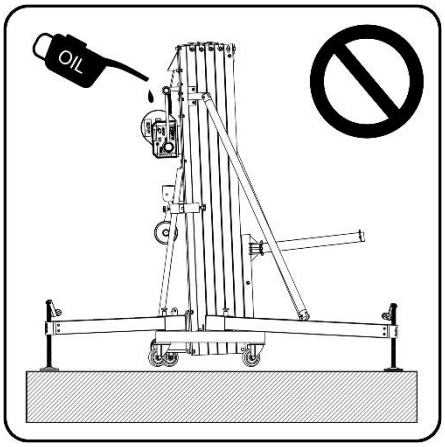

Figure 59

Not grease and lubricate the mechanism of the winch and the pulleys of the masts.

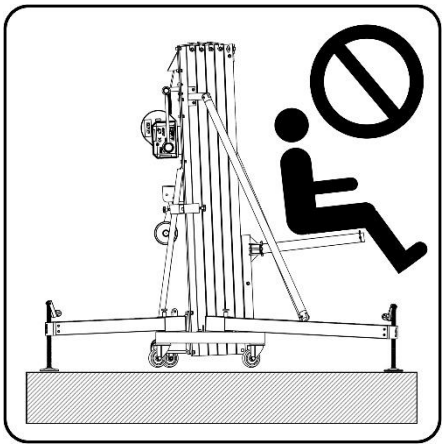

Figure 60

Not allowed to lift people or animals.

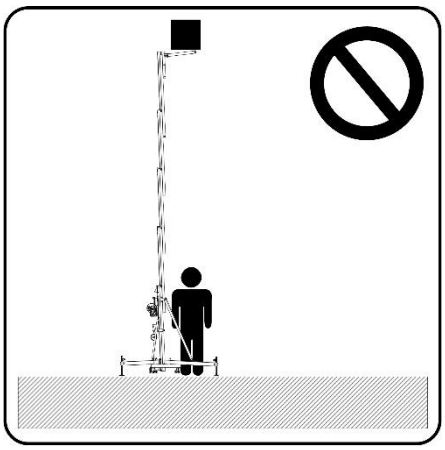

Figure 61

Do not stand under the load. The load must be secured to the tower in order to prevent that the load cannot fall down.

Figure 62

Verify that the tower is beyond the reach of power lines.

The tower is not electrically insulated and can transmit currents of power lines.

On the following table is recommended the average length between the highest part of the structure and the power lines.

Voltage	**Min. distance**	
Between phases	**Meters**	**Feet**
0 a 230v	1.5	4.92
230v a 400v	2.8	9.19
400v a 50Kv	3.4	11.15
50Kv a 200Kv	4.9	16.08
200Kv a 350Kv	6.5	21.33
350Kv a 500Kv	8.2	26.90
500Kv a 750Kv	11.3	37.07
750Kv a 1000Kv	14.2	46.59

Figure 63

Not use the tower as welding mass.

If necessary, use the grounding placed on the base.

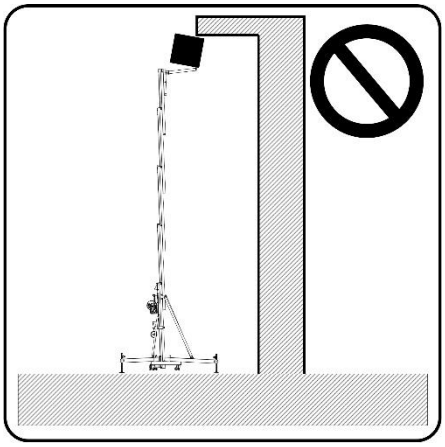

Figure 64

Not lift a load if there is danger of collision. Take at least 1.5 meters on any direction to lift safety the load.

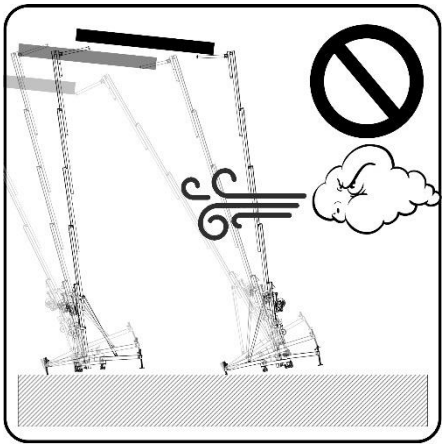

Figure 65

The tower can be used outdoor if the wind speed is low and If it doesn't put the installation in risk. The installation is always under responsibility of the owner.

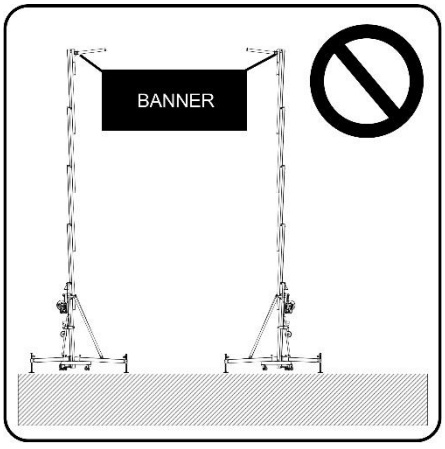

Figure 66

Do not use the tower as a support of banner or another type of decoration with strong wind. That can destabilize the tower and make it fall down.

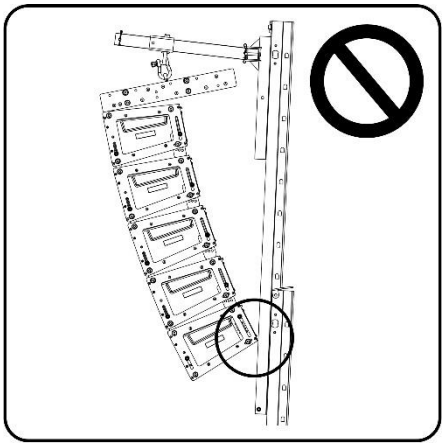

Figure 67

Prevent that the load do not touch the tower

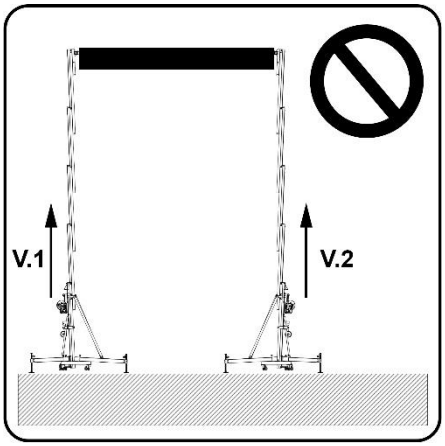

Figure 68

Do not lift structures that require more than one tower at different speeds

V1 ≠ V2 No lift

V1 = V2 Ok

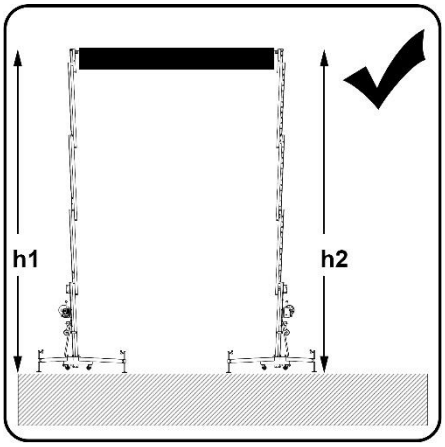

Figure 69

The structure must be levelled correctly. If not, the structure can fall.

Always h1 = h2

PARTS IDENTIFICATION

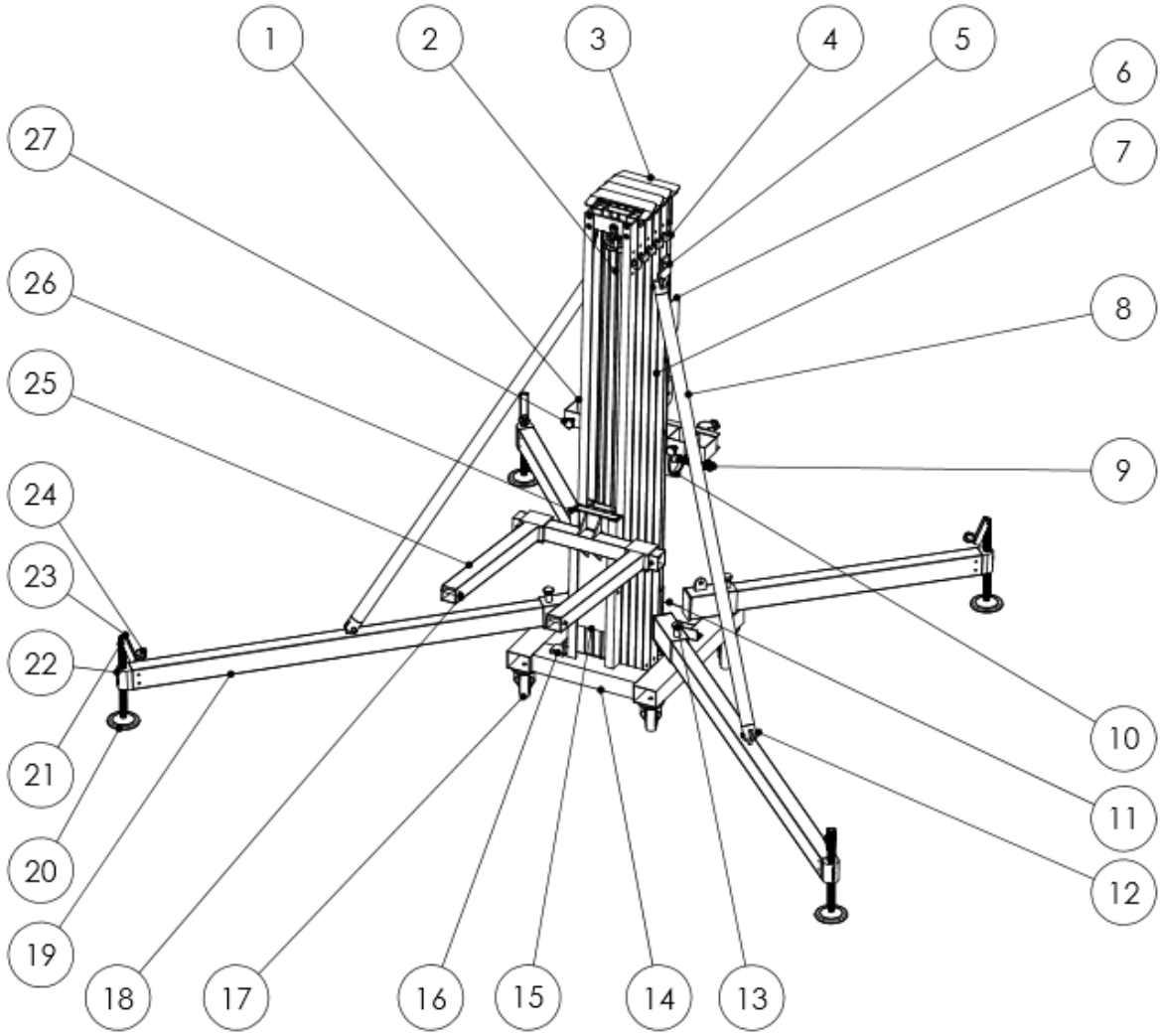

Figure 70. (Imagen representativa de torre tipo P.A.)

1	Support leg stabilizers carrier	11	Lower vertical wheel transport	21	Leveler asparagus
2	Steel cable	12	Pin reinforcement strut	22	Leveler support
3	Top boost reinforcement	13	Red knob base security system	23	Stabilizer support handle
4	Red knob mast security system	14	Tower base	24	Leveler knob
5	Strut reinforcement mast support	15	Steel carrier	25	Horns
6	Winch	16	Carrier brake system	26	Aluminum carrier
7	Tower mast	17	Base wheel	27	Leg stabilizer carrier knob
8	Aluminum reinforcement strut	18	Pin horn		
9	Protection sleeve	19	Leg stabilizer		
10	Horizontal transport wheel	20	Stabilizer plate		

HOW TO USE. STEP BY STEP

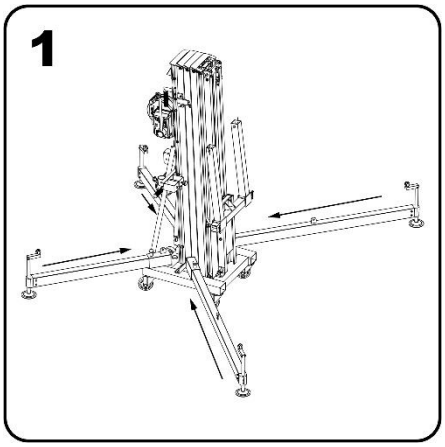

Figure 71

Fix and secure the legs stabilizers to the base.

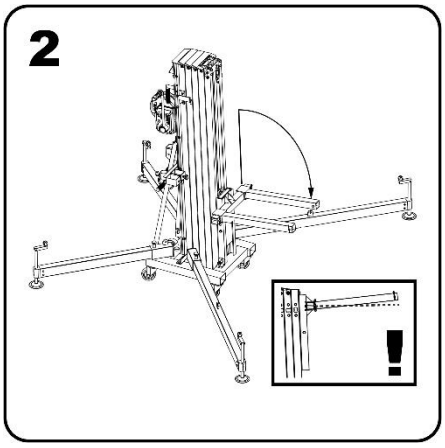

Figure 72

Turn the horns and adjust to the desired width. Ensure it with the pins.

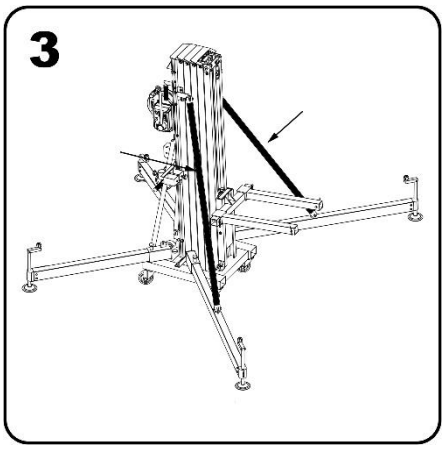

Figure 73

Place the reinforcement bars and fix it with its pins.

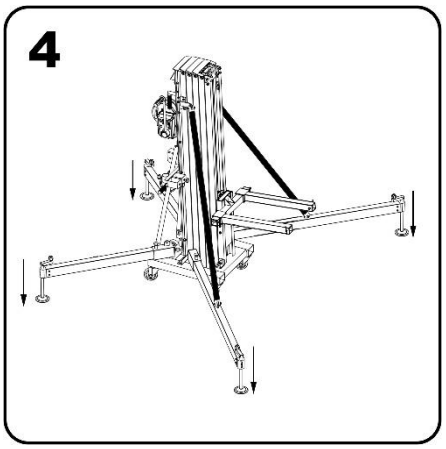

Figure 74

Place the tower in its working position and level until the bubble level is centered.

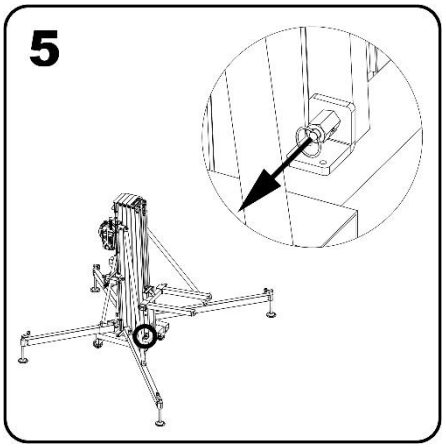

Figure 75

Unlock the security brake of the aluminum carrier.

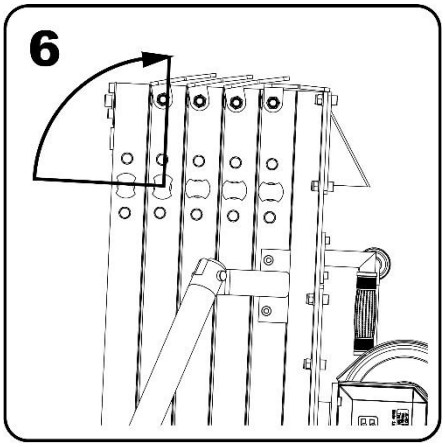

Figure 76

Unblock the security system of the mast.

Operate the winch handle to lift the carrier.

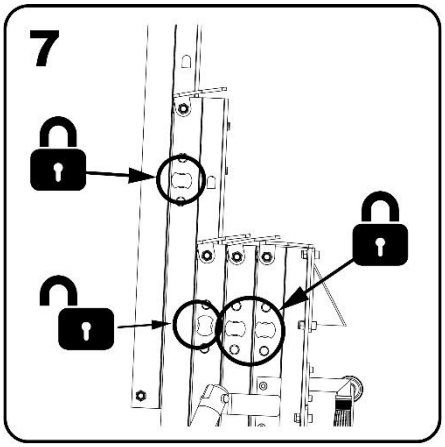

Figure 77

When the section reaches its limit, lock with the security system and unlock the following security system to lift the next mast. Do the same operation until you reach the required height.

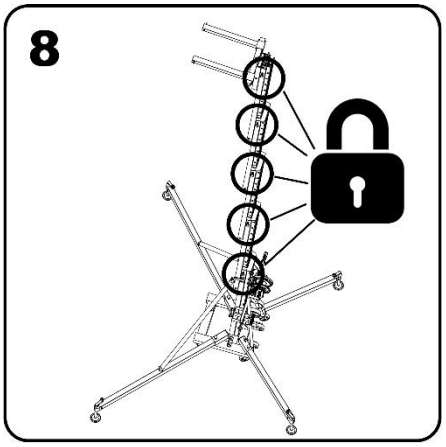

Figure 78

All security systems must be in locked position. Slacken the cable of the winch for the system can stabilize correctly.

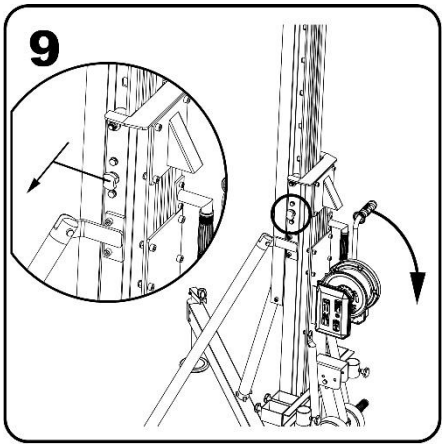

Figure 79

To lower the load. Tighten the cable and unlock the first security system. Turn the winch while maintaining the other hand unlocking security system.

Once the load has lowered and the carrier is down. Block the carrier and follow the steps from 5 to 1

ACCESSORIES

The P.A. towers has the following accessories.

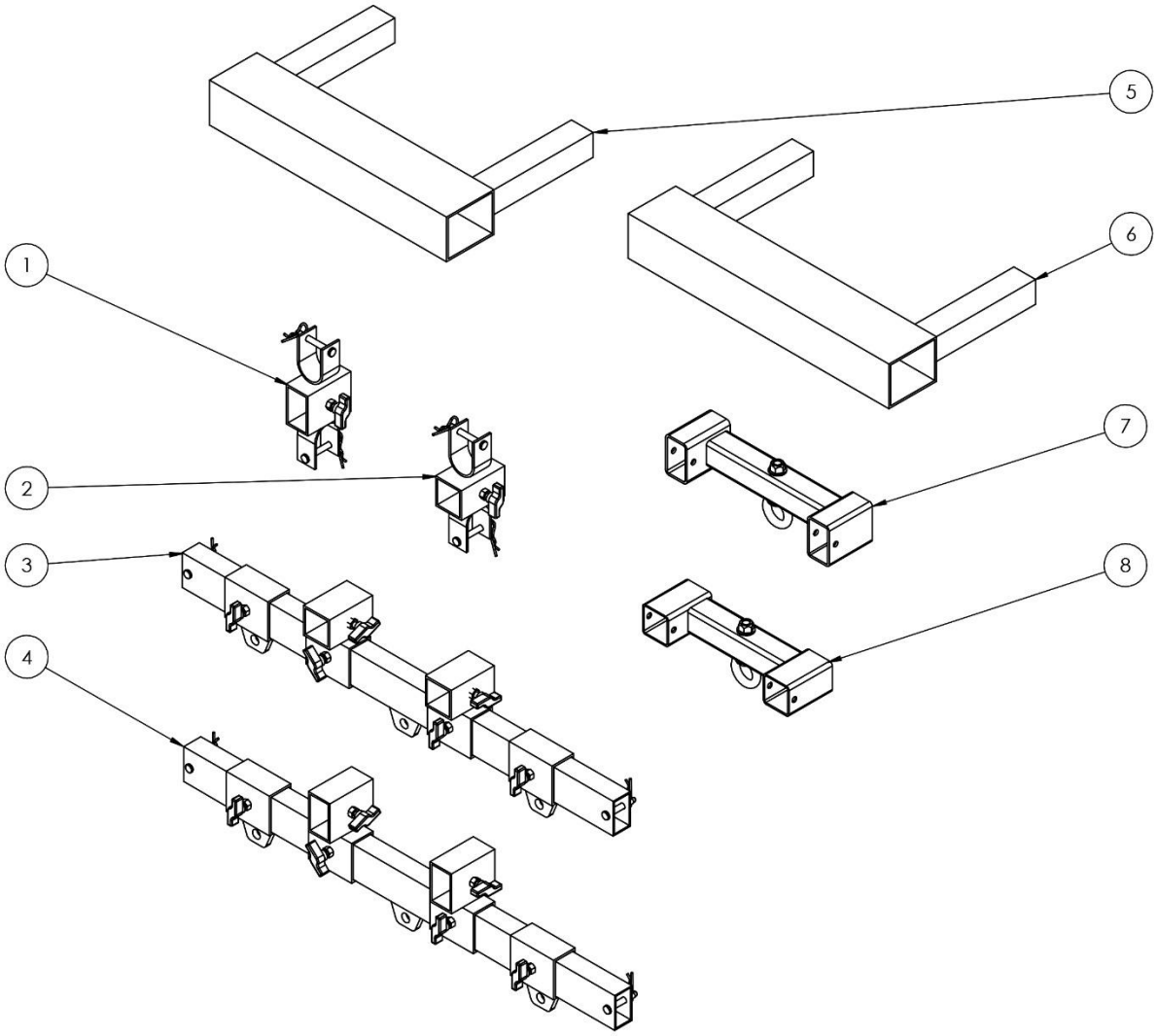

Figure 80

1	ATF2DS	**4**	ATF08PAM	**7**	ATF17PA
2	ATF1DS	**5**	ATFT200	**8**	ATF08PA
3	ATF17PAM	**6**	ATFT600		

Accessories are compatible with the following models of towers.

ACCESORIO	T600PA	T108PA	T200PA	T118PA	T117PA
ATF1DS			X	X	X
ATF2DS	X	X			
ATF17PA			X	X	X
ATF08PA	X	X			
ATFT200			X	X	X
ATFT600	X	X			
ATF17PAM			X	X	X
ATF08PAM	X	X			

Figure 81

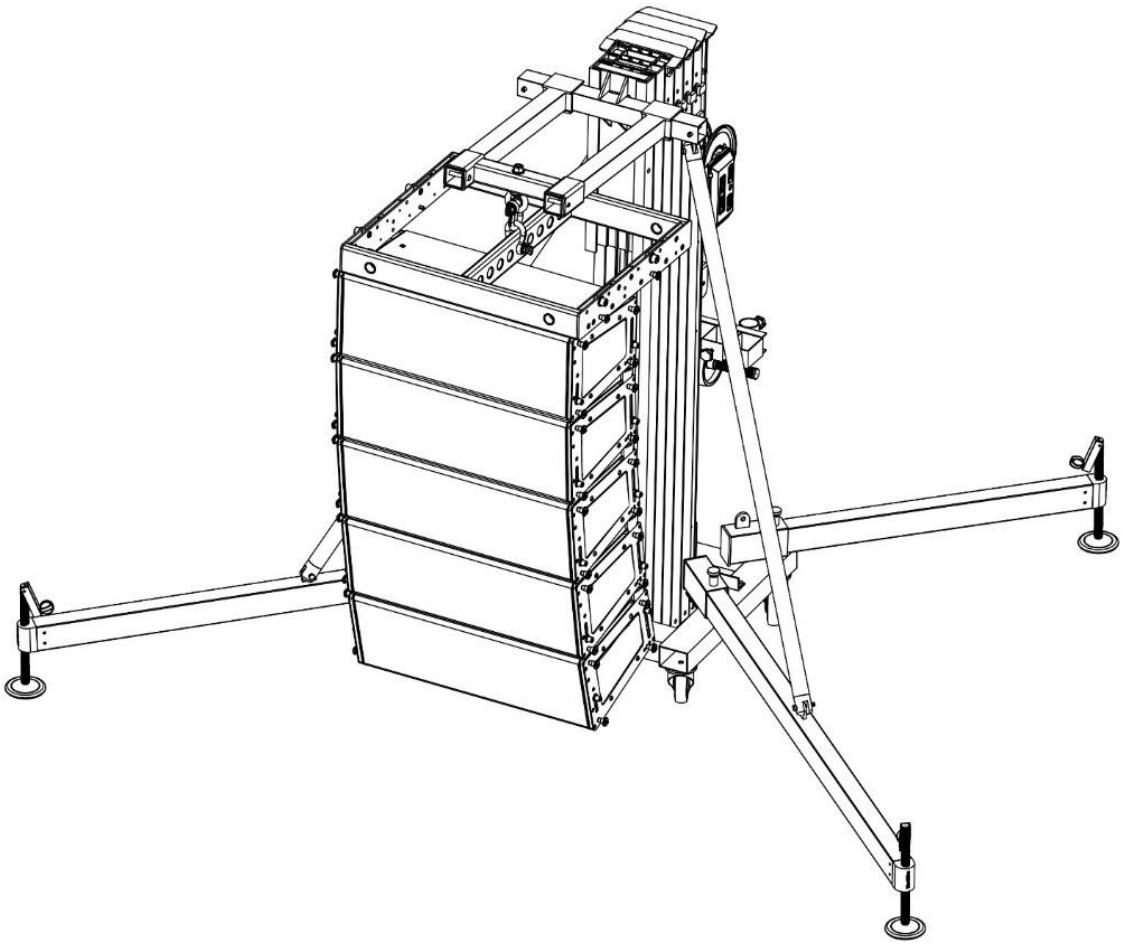

Figure 82

Example of tower FT6033 with accessory ATF17PA.

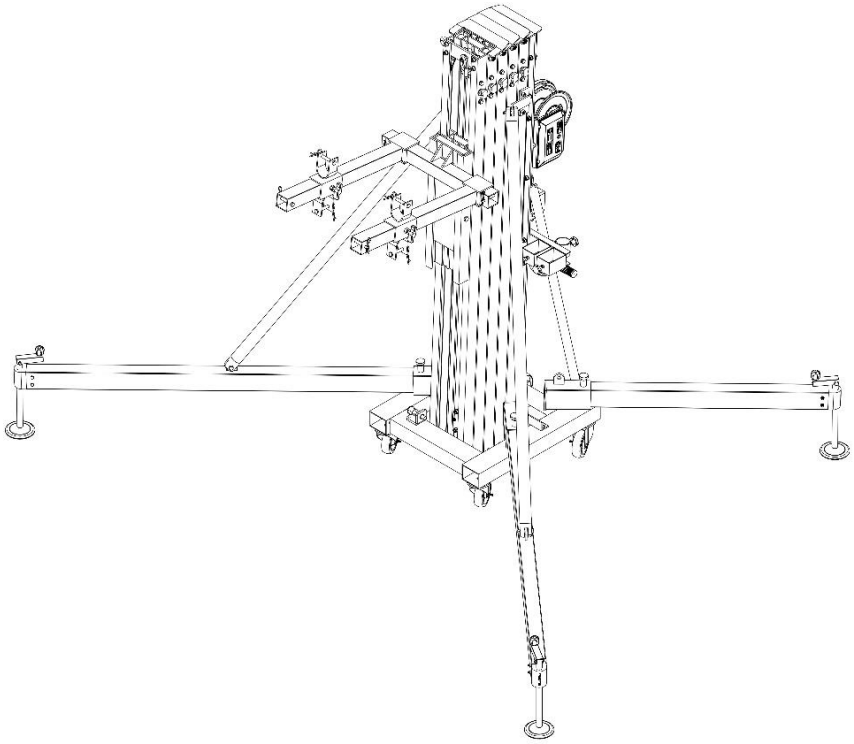

Figure 83

Example of tower FT6033 with accessory ATF1DS.

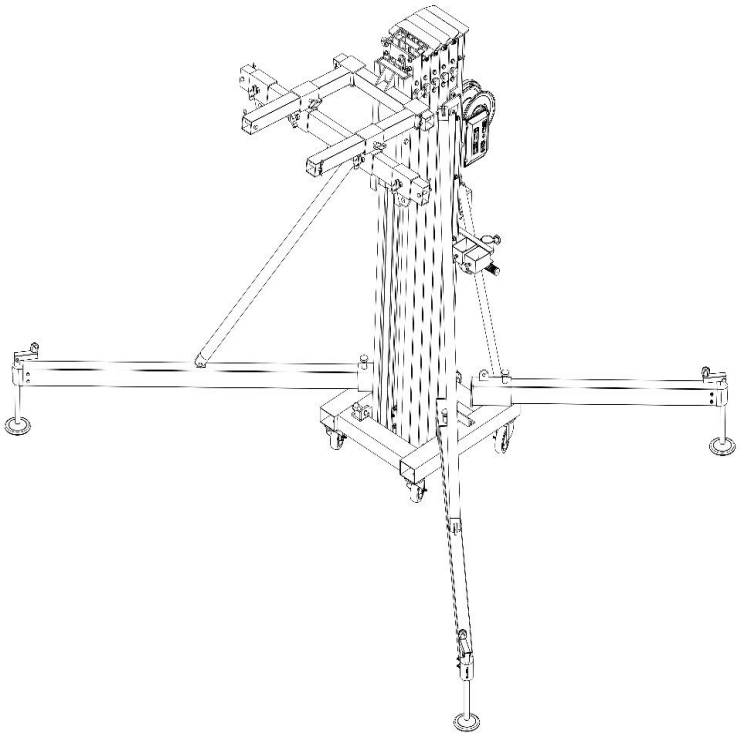

Figure 84

Example of tower FT6033 with accessory ATF17PAM.

NORMATIVA TENIDA EN CUENTA

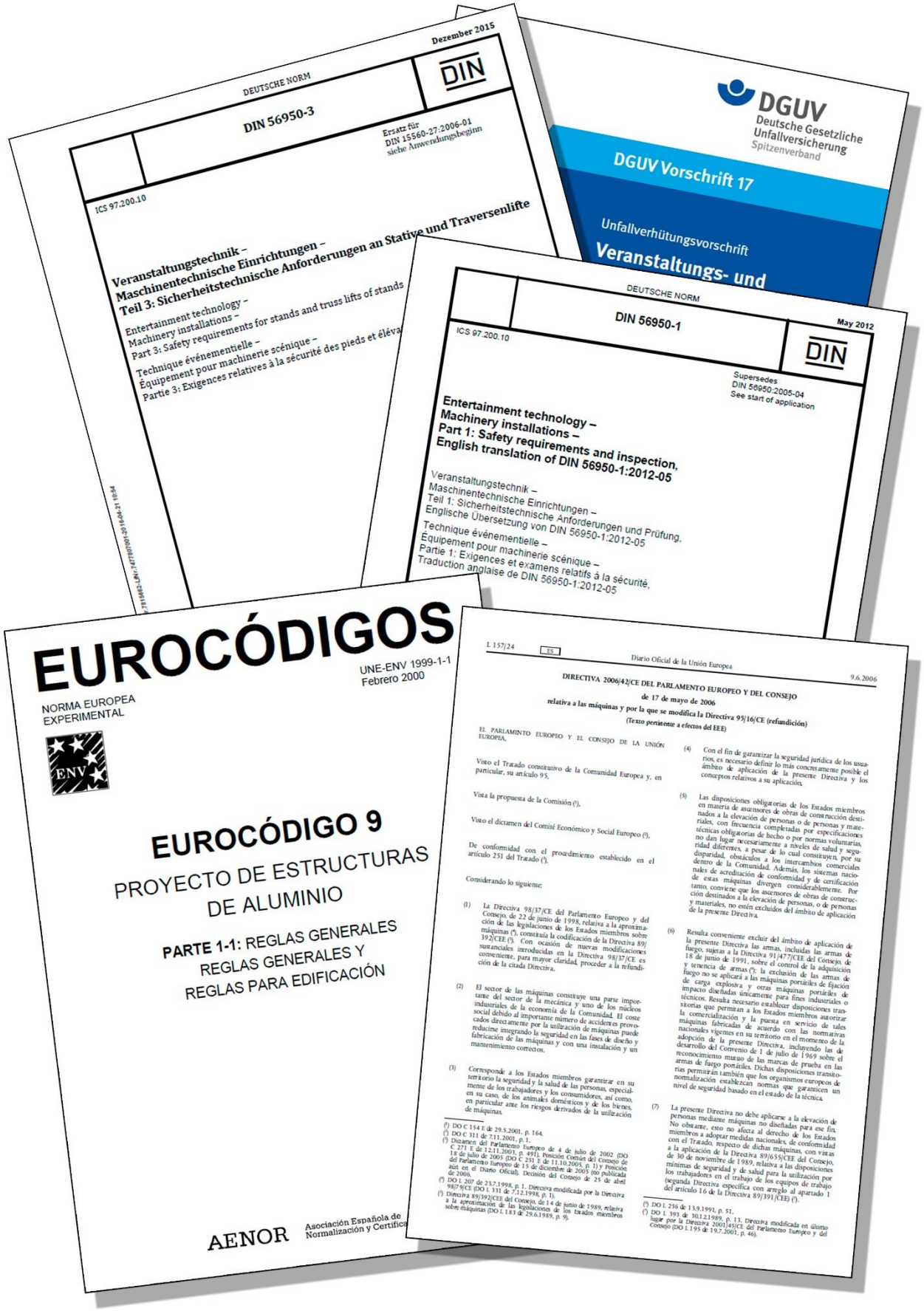

Figure 85

LOAD DATA

Before placing a load, make sure that it can be raised to the maximum height of the tower. Otherwise it could cause an accident or damage the tower.

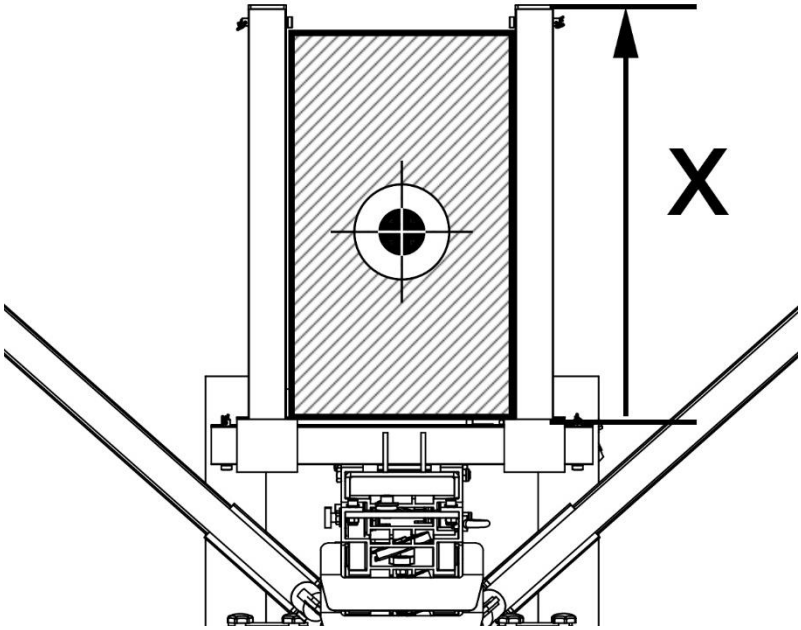

Figure 86

Place and position detal of the load.

Place of the load.

4. Determine the position where the load is to be placed and consult the tower capacity. Never exceed.
5. The "X" distance between the load is taken from the carrier to the end of the horns.
6. When it is possible, place the load as close to the carrier. This prolongs the life of the tower.

Load table.

P.A. lifting systems are designed so that the maximum load is placed in the central area of the horns allowing a better use of the system. Following can be found the maximum loads to be borne by each tower model for maximum working height.

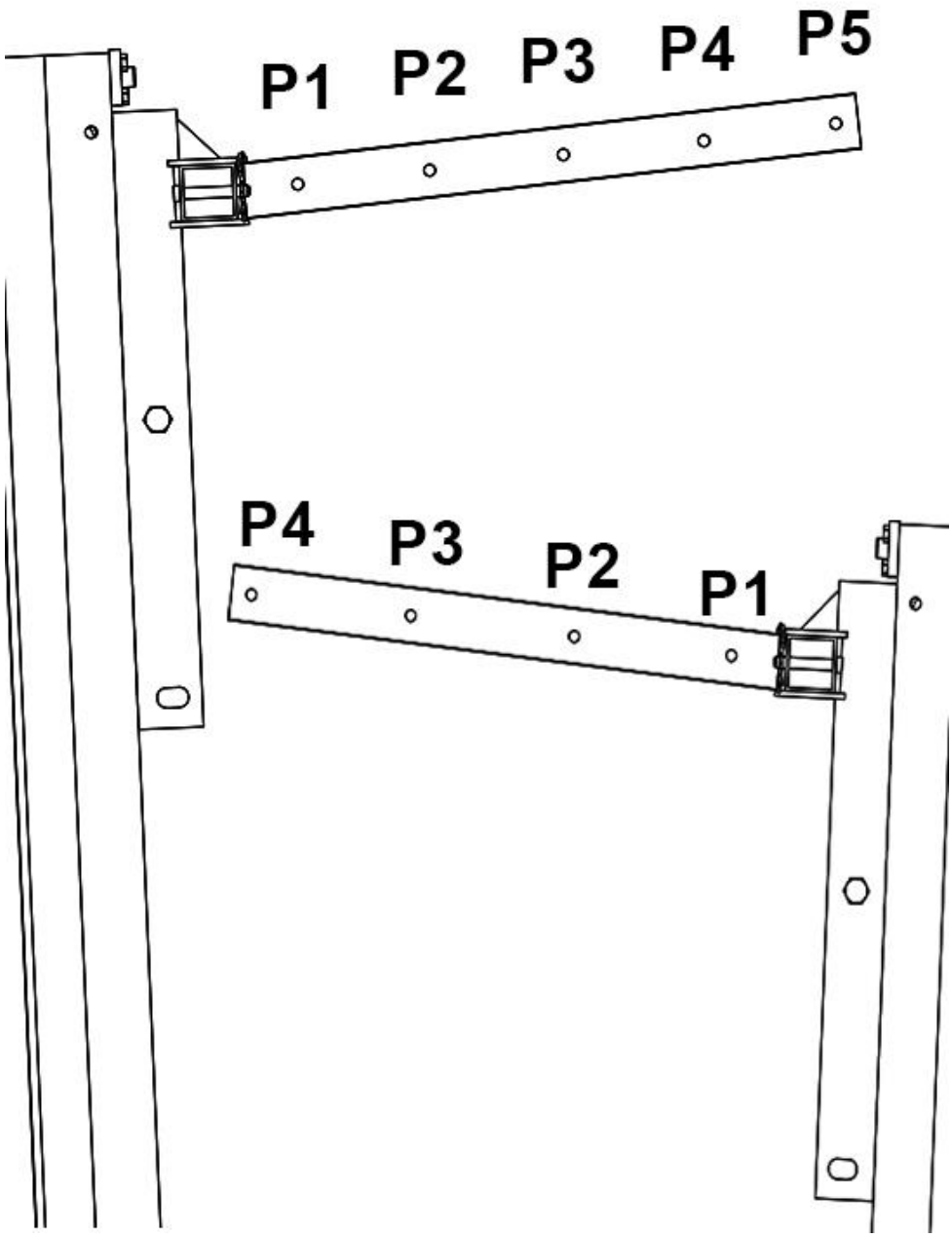

Figure 87

Detail of load positions.

USE AS MECHANISM.

The tower lifter works like a mechanism when the load is lifted using the winch.

USE AS STRUCTURE.

The tower lifter Works like an structure when all mast are blocked and the Steel wire doen't have strenght.

In that case, all parts of the tower Works like a big column to support load. You can lift the load using manual or electric hoists.

		AS MECHANISM					AS STRUCTURE				
		P1	P2	P3	P4	P5	P1	P2	P3	P4	P5
FT-6860	lbs	1323	1257	1180	1113	1036	1885	1775	1609	1268	1036
	kg	600	570	535	505	470	855	805	730	575	470
FT-7045	lbs	992	849	705	562	X	1135	882	716	562	X
	kg	450	385	320	255	X	515	400	325	255	X
FT-6033	lbs	728	661	595	518	X	1003	871	683	529	X
	kg	330	300	270	235	X	455	395	310	240	X
FT-6520	lbs	441	436	432	428	X	794	771	617	485	X
	kg	200	198	196	194	X	360	350	280	220	X
FT-5323	lbs	518	496	474	452	X	1003	838	772	452	X
	kg	235	225	215	205	X	455	380	350	305	X

Figure 88

Detail of load place

Degree of compaction load.

Hard surfaces such as dirt or gravel may vary depending on the resistance relative humidity. This relative humidity varies over the day, so that the resistance of the soil to absorb tower effort loaded, too. Place a tower under these conditions may result in the ground yield below the supports of the tower. Causing a serious accident.

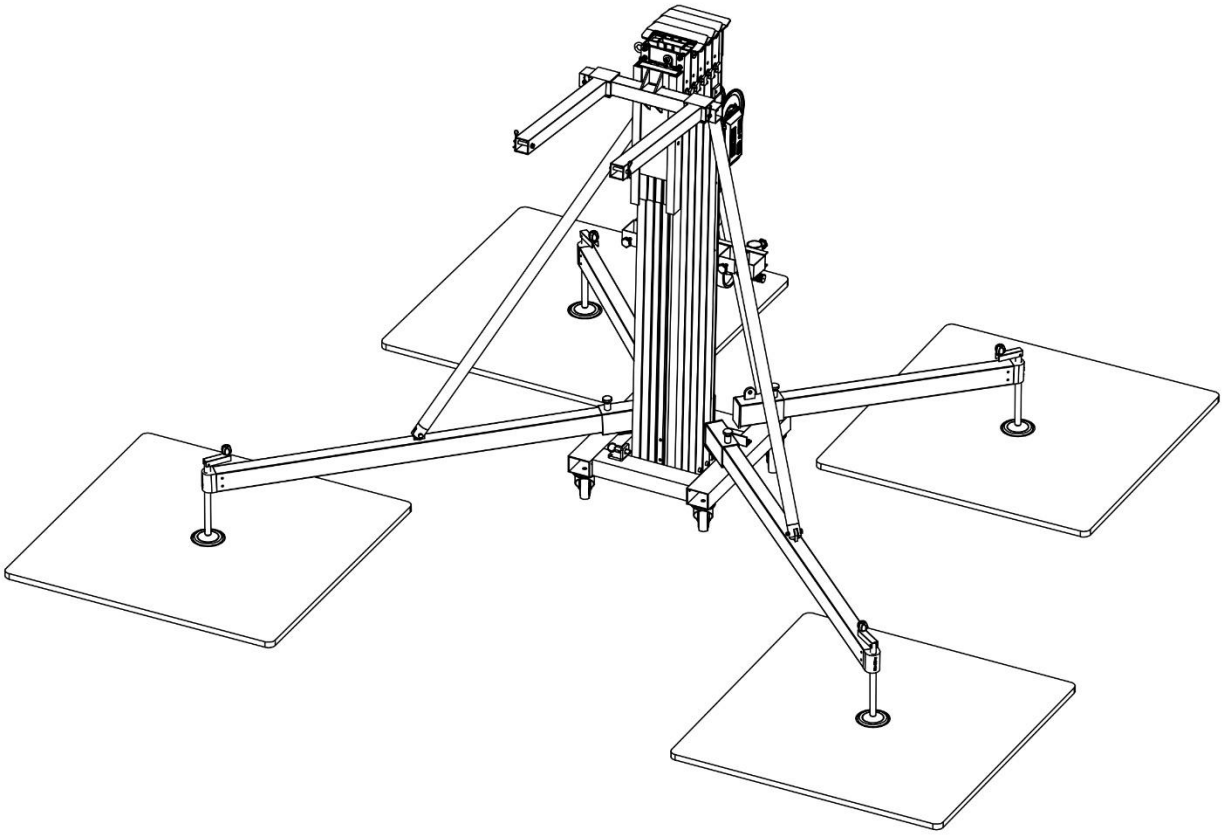

Figure 89

Detail of plates place. Support must be centered with respect to the plate.

To avoid this, it is advisable to put bases in the support, to facilitate uniform distribution on the ground. Expanding the contact surface of each support. The following table lists the minimum area of these surfaces.

TOWER MODEL	Side length of the plate in meters, and kg/m^2 that can support the ground.		
	150 Kg/m^2	**250 Kg/m^2**	**350 Kg/m^2**
T600PA	1.2	0.9	0.8
T108PA	1	0.8	0.6
T200PA	0.8	0.6	0.5
T117PA	0.8	0.6	0.5
T118PA	0.8	0.6	0.5

Figure 90

DYNSYS SYSTEM

The Dynsys system is an optional solution to control the maximum load in our tower lifters.

The Dynsys limits the máximum load avoiding to lift a load bigger than the máximum load. The limitation is do it for use as a machine system. For more information about the máximum load, check the load table.

In case of lift a load bigger than the máximum of the tower, the Dynsys detects the incriase of load and stops the elevation. In that case the load only can go down.

In case of limitation, the Dynsys advise with noise.

The Dynsys Works like a preventive maintenance. If the tower works with problems like damaged internals, bad state of steel wire, the dynsys limits the maximum load decreasing it till the tower works fine. If this happens, please contact with technical department or your local distributor.

The system allows to dismantle the lever. You can block the tower removing the lever. This is a form to ensure that nobody alien to the show can move the tower up or down. You only need to remove the Allen screws.

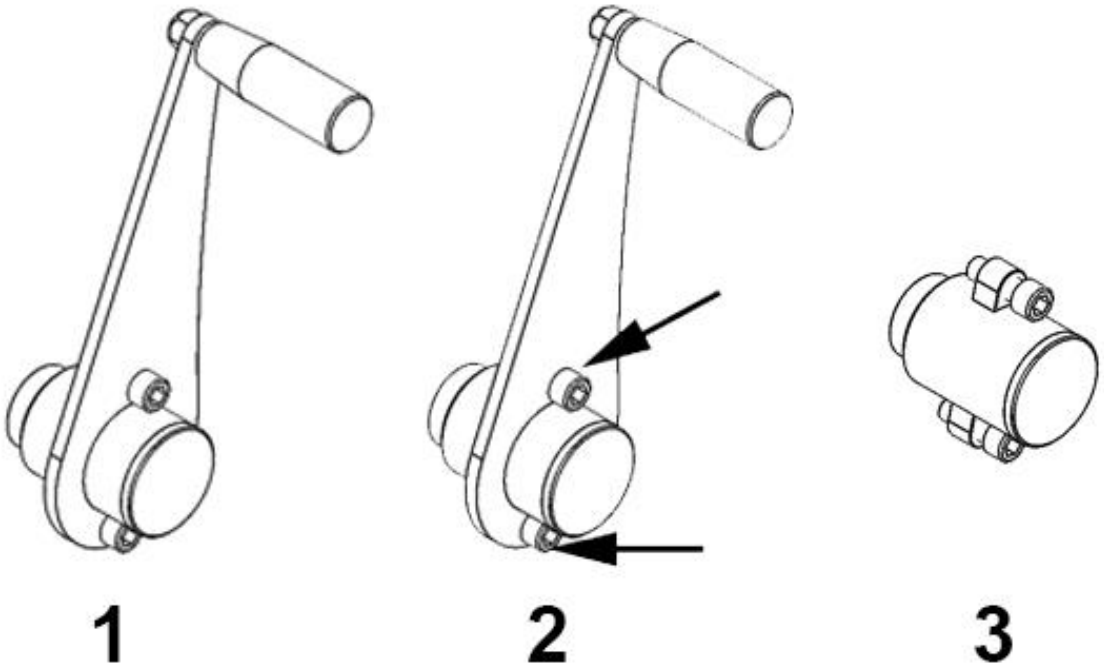

Figure 91

MAINTENANCE

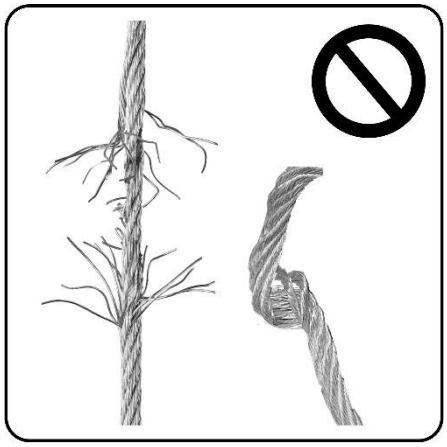

Figure 92

Cable damaged detail.

Check periodically the state of the cable. If the cable is broken must be replaced immediately with a new one. Do not use the tower with a cable shabby. If any doubt, contact with Fantek Industrial S.L.

In case of replacement of pieces. Replace only original parts Fantek Industrial S.L. Otherwise, the warranty is voided.

Is recommended a review of the tower by specialized staff of Fantek Industrial S.L. once a year.

To request any spare must attach the reference of the piece included in the spare manual that can be obtained in tecnico@fantek.net

TRANSPORT

To the transport of the towers:

- Verify that the legs stabilizers are securely fixed to the tower in the transport and they cannot be released.
- Check that the horns are well fixed with pins and cannot get out.
- Check that the carrier is properly secured to the carrier brake system.
- Check that all sections are locked.

With forklift

To transport the towers with a machine type forklift the ATCTTPA accessory is necessary. Follow the instructions of the machine operator transport manual. Take into account the height of what is transported. Avoid sudden turns and braking.

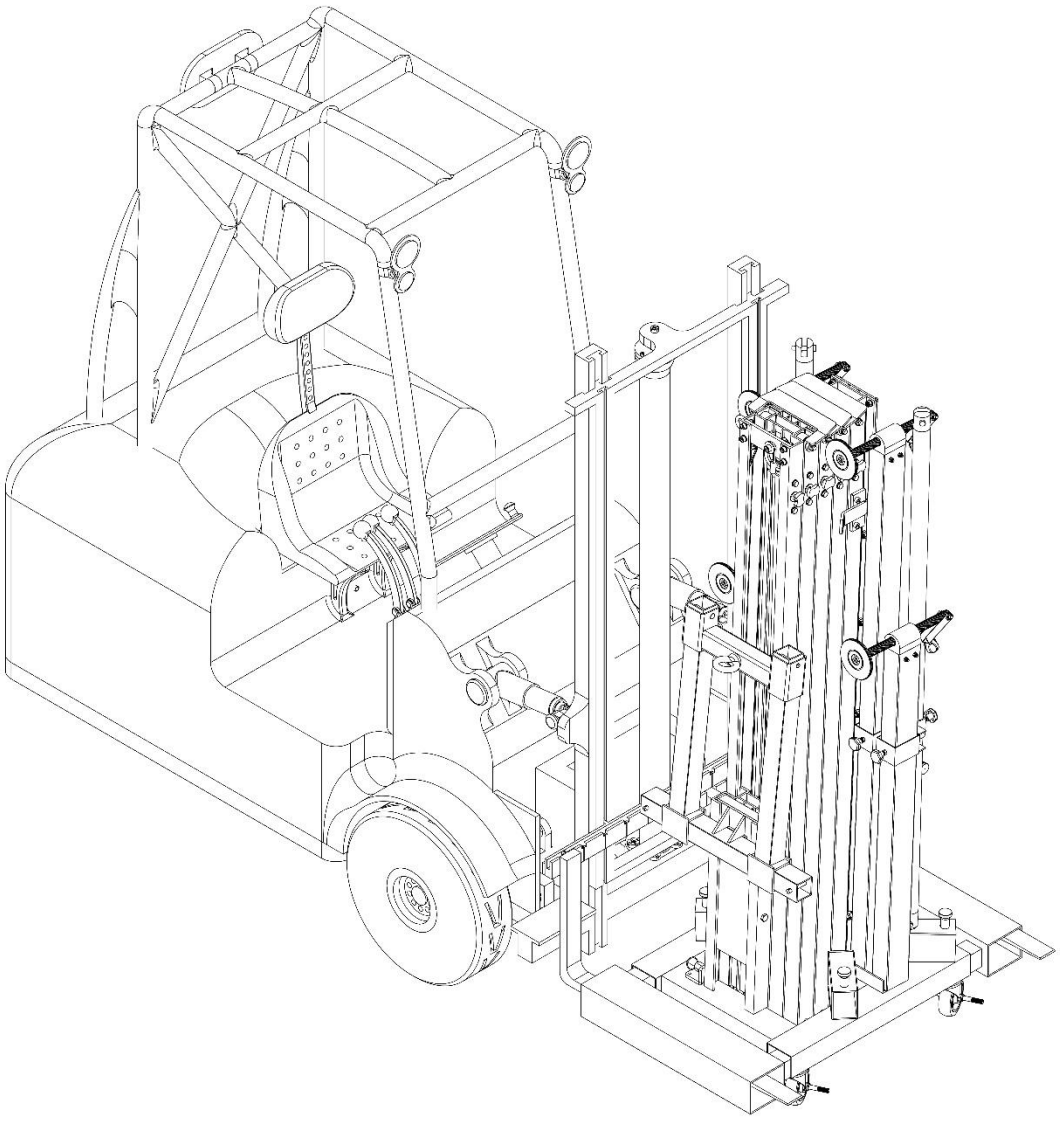

Figure 93

Detail of transport with forklift.

With truck or container.

For the transport by truck or container, always tie the tower by two points. Use ratchets not less than 1000 kg of force for the T-117PA, T-118PA and T-200PA models. Use ratchets no less than 2000 kg of force for the T-600Pa and T-108PA models.

Place ratchets so that the tower cannot move by inertia in curves or sudden braking.

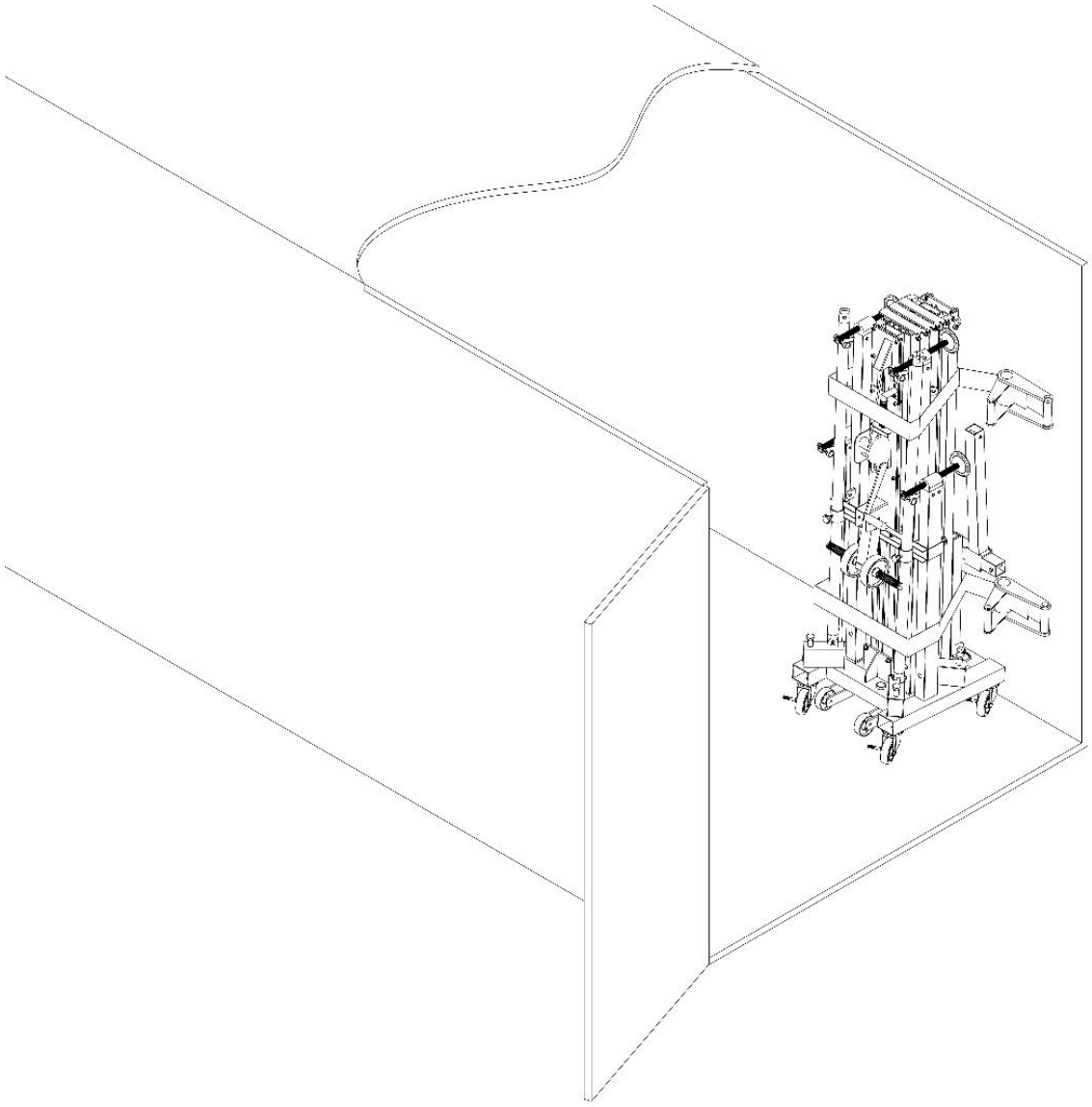

Figure 94

Detail tower place and shape holding.

In horizontal

For horizontal transport must actuate the horizontal wheel so that it protrudes from the tower. Once prepared and with the certainty that all moving parts are subject (legs stabilizers, carrier, etc ...), dump the tower between the people needed until the horizontal wheel contact with the ground.

Remember that these wheels are solid soul. So, the ground should preferably be solid enough so that the wheels can rotate with complete freedom.

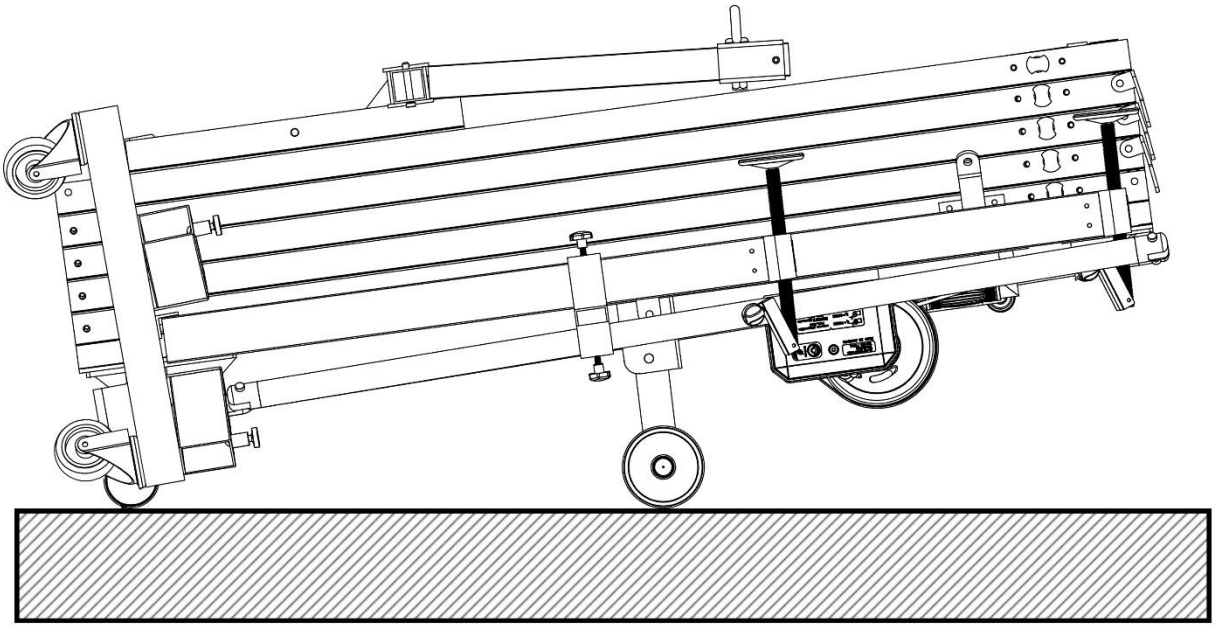

Figure 95

Detail of the tower position for transport in vertical format.

ESPECIFICATIONS

Modelo / Model	FT-6860		FT-7045		FT-6033		FT-6520		FT-5323	
Altura	1980	mm	1700	mm	1700	mm	1710	mm	1710	mm
Height	77,95	ft	5,58	ft	5,58	ft	5,61	ft	5,61	ft
Máxima altura	6800	mm	7000	mm	6000	mm	6500	mm	5300	mm
Maximum height	22,31	ft	23,21	ft	16,69	ft	21,33	ft	17,39	ft
Anchura	580	mm	520	mm	520	mm	440	mm	440	mm
Width	22,3	in	20,5	in	20,5	in	17,3	in	17,3	in
Longitud	900	mm	700	mm	700	mm	600	mm	600	mm
Length	35,3	in	27,6	in	27,6	in	23,6	in	23,6	in
Anchura patas desplegadas	2170	mm	2300	mm	2300	mm	1950	mm	1950	mm
Width- stabilizers lowered	85,4	in	90,6	in	90,6	in	76,8	in	76,8	in
Longitud patas desplegadas	1830	mm	1760	mm	1760	mm	1340	mm	1340	mm
Length operating	72,1	in	69,3	in	69,3	in	52,7	in	52,7	in
Hueco base suelo	50	mm	50	mm	50	mm	50	mm	50	mm
Ground clearance	1,97	in	1,97	in	1,97	in	1,97	in	1,97	in
Brazo de carga	945	mm	650	mm	650	mm	500	mm	500	mm
Loading fork	37,20	in	25,59	in	25,59	in	19,65	in	19,65	in
Carga mínima	25	Kg	25	Kg	25	Kg	25	Kg	25	Kg
Minimum load capacity	55,12	Lb	55,12	Lb	55,12	Lb	55,12	Lb	55,12	Lb
Carga máxima máquina	600	Kg	450	Kg	330	Kg	200	Kg	235	Kg
Max. load as machine	1322,8	Lb	992,1	Lb	727,5	Lb	440,9	Lb	518,1	Lb
Carga máxima estructura	855	Kg	515	Kg	455	Kg	360	Kg	455	Kg
Max. load as structure	1885	Lb	1135	Lb	1003,1	Lb	793,6	Lb	1003,1	Lb
Peso neto	255	Kg	165	Kg	156	Kg	112	Kg	101	Kg
Net weight	562,2	Lb	363,8	Lb	343,9	Lb	246,9	Lb	222,7	Lb
Cabrestante	1200	Kg	900	Kg	900	Kg	1200	Kg	1200	Kg
Winch	2645,5	Lb	1984,2	Lb	1984,2	Lb	2645,5	Lb	2645,5	Lb
Emisiones de ruido Noise emissions	70	dB	70	dB	70	dB	71	dB	73	dB

Figure 96

DECLARACION DE CONFORMIDAD

The tower lifters described complies with all the specific requirements of Directive 2006/42 / EC of the European Parliament and of the Council of 17 May 2006 on the Machinery Directive.

The tower lifters described meet all the specific requirements in DIN56950: 1/3.

The tower lifters described meet all the specific requirements in DGUV V17/18

Manufacturer:	FANTEK INDUSTRIAL S.L.
Person responsible of the technical data:	Jose Vila Ortiz
Address:	Pol. Ind. El Bony. C/Del Port nº3. 46470 – Catarroja – Valencia (Spain)
Descripción:	Frontal load lifter
MODEL FT-6860	**MAX. LOAD:** 855 kg
MODEL FT-7045	**MAX. LOAD:** 514 kg
MODEL FT-6033	**MAX. LOAD:** 455 kg
MODEL FT-6520	**MAX. LOAD:** 360 kg
MODEL FT-6023	**MAX. LOAD:** 455 kg

CE

Jose Vila Ortiz, Julio 2016

DGUV V17/18 NORM REGULATION. **Explanation**

DGUV V17/18 is a norm that regulates the stage and production elements in the entertainment industry. Lifting equipment and rigging are part of this norm and cover structures and other technical elements.

Adopt **DGUV V17/18** is totally voluntary (except in Germany) but its adoption is required by insurance companies and indeed is becoming a norm in the industry

The application of this norm on lifter towers is vital because, in theaters, stages, etc.., are used to move loads above artists, technical staff, etc... and in some cases, above viewers, representing a potential risk of fall.

NORM DGUV V17/18. Fields of application

This standard is oriented in two ways:

On the one hand, lifting towers adopt designs and materials in order to achieve a high degree of safety in quantities such as supported load, equilibrium, resistance to friction, etc.

Thus lifter towers **FANTEK DGUV V17/18** certified, they assure the user that have passed strict controls during design, choice of materials or load checks and effort.

On the other hand, in order to achieve optimal performance with these units, it is recommended, and a responsible use of the unit, (meeting basic norms such as obey the maximum load or balance), periodic maintenance which It must be carried out by expert technicians, checking the condition of the steel cable and winch, the functioning of the security pins and the folding/unfolding of all sections.

All the above tests are only mandatory in those countries with specific regulations on the matter, applied through regulations or laws. As manufacturers, we recommend passing all tests in order to prevent damage and ensure proper operation of P.A. lift systems.

NUMERO DE SERIE:	SERIAL NUMBER:	LAUFENDE NUMMER:

Primer test en fábrica	First test in factory.	Erstprüfung im Werk.

Fecha/Date/Datum	Testado por/Tested by/Prüfer

Examen a los cuatro años.	Four years test	UVV Prüfung (alle 4Jahre)

Fecha/Date/Datum	Testado por/Tested by/Prüfer

Examen anual a partir del cuarto año.	Annual test after the fourth year.	UVV Jährlicher Test nach dem vierten Jahr.

Fecha/Date/Datum	Testado por/Tested by/Prüfer

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Fecha/Date/Datum	Testado por/Tested by/Prüfer

Todos los test mencionados solo son obligatorios en aquellos países con regulación específica en la materia, aplicada mediante regulaciones o leyes. Como fabricantes, sumamente recomendamos pasar todos los tests con el objetivo de prevenir cualquier daño y mantener perfectamente nuestras torres elevadoras.

All the tests mentioned are only mandatory in those countries with specific regulations in this respect, applicable by domestic rules or laws. As a manufacturer, we highly recommend to pass all the tests to prevent any damage and to ensure a perfect operation of our lifting towers.

Alle genannten Tests sind nur in den Ländern vorgeschrieben, wo diesbezüglich spezielle Regelungen gelten, die durch inländische Vorschriften oder Gesetze Anwendung finden. Als Hersteller raten wir dringend zur Durchführung aller Tests, um jeglichen Schaden zu verhindern und einen einwandfreien Betrieb unserer Hu blifte zu gewährleisten.