

**Make sure to read and fully understand this manual, and its specific notes and warnings, prior to assembly and erection of the structure.**

# **PROLYTE H30V RIGGING TOWER MANUAL ASSEMBLY INSTRUCTIONS**

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- 3 Scope of use
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## **1. SYSTEM DESCRIPTION**

The Prolyte H30V Rigging Tower is a lifting tool where the load is constrained by a horizontal and vertical V-shaped truss frame. The H30V Rigging Tower has a loading capacity that is limited by the construction. In general rigging towers are used where the lifting of loads from a building structure is impossible, very expensive, or when traditional telescopic winch stands do not have a sufficient load capacity, or when the MPT-Tower does not fit the purposes. This H30V rigging tower is used with a vertical mast of standardized H30V truss as compression absorbing elements, H30V truss as outriggers and a 60 mm tube as stabilizer brace.

## **2. LIMITATIONS OF USE**

The H30V Rigging Tower is to be used with Prolyte trusses only. Loads to the trusses and towers shall be vertical only, no side loading is allowed to the system, with an exception for wind loads. The system may be used up to wind force 8 maximum.

The H30V Rigging Tower is designed as temporary lifting structure for in- and outdoor use. When horizontal loading is applied, other than wind forces, appropriate measures, such as placing guy-wires (cable-stays) and ballast, have to be taken to ensure stability.

The H30V Rigging Tower is to be built by competent and trained persons only. For all other applications contact your local dealer or Prolyte.

## **3. SCOPE OF USE**

Prolyte H30V Rigging Towers are designed for the lifting of speaker clusters or audience lights over stages, dance floors, exhibition area's, public area's, parking lots, etc. This can either be a single (stand-alone) Tower, or a Goal post configuration (two towers with a single span).

H30V rigging towers are to be built to a maximum height of 7,5m (7 metre mast length).

Prolyte- H30V Rigging Towers comply with the European Machine Directive and bear the CE-mark.

### **WARNING**

Prolyte H30V Rigging Towers are not designed to lift people!

## 4. IDENTIFICATION

The H30V Rigging Tower (H30V-RT) is composed of the following parts:

	Description	Code	weight	remarks
1, 2	Tower trusses	H30V	5.1kg/m	Max. height 7 m
3	Square 30 3-way corner 60°	RT-H30V-C002	12.2kg	V-shaped corner block
4	Layher spindel attachment	ACC-Spin-ATT-30	2 kg	Pipe with trussclamps to adapt Screwjacks
5	Layher spindel, 40cm long	ACC-Spin-LAY-40	12 kg	Hot dip zinc plated screwjack, 20cm adjustable
6	Hinge part square truss	CCS6-H	0.58kg	
7	Topblock rigging tower H30V	RT-009H	12,2kg	Top section with removeable 30mm spigot
8	Stabelizer attachment H30V	RT-STAB-H30V	2,7kg	Frame with clamps to attach bracing to trusses
9	Stabelizer attachment H30V	RT-STAB-H30V-TOP	6,4kg	Frame with side-entry clamps to attach bracing
10	Stabelizer tube 60 mm	RT-T60-CC298CC	8kg	Stabelizer tube with conical CCS7 couplers
11	Conical Coupler	CCS6-600	0.14kg	
12	Spigot	CCS6-603	0.04kg	
13	Safety R-spring	CCS6-605	0.01kg	
14	Spigot	CCS7-703	0.11kg	
15	Safety R-spring	CCS7-705	0.01kg	

The embossed ring on the ends of the conical coupler receivers, and stickers featuring the Prolyte logo can clearly identify the MPT towers and truss.

### NOTE

Make sure the system is built only of genuine Prolyte components, which are clearly and positively identified as Prolyte products. Copies do exist, and even though they may appear to fit to Prolyte trusses, they do not have identical strength and safety characteristics.

## 5. DIMENSIONS & LOADING

**The maximum allowable height** of a complete H30V Rigging Tower shall be no more than 7 m, including spindles and top-section.

**The maximum allowable load** to a H30V rigging tower of 7 m is:

Outdoor (max. wind force 8): 550 kg

Indoor (no wind): 700 kg

The max. load relates to the height of the tower. Please consult our engineering department if you want to deviate from the given values.

**The amount of Ballast that should be applied is:**

Outdoor (max. wind force 8): 100 kg per leg

Indoor (no wind): no ballast needed

The necessary amount of ballast relates to the height of the tower, applied load and load surface.

Please consult our engineering department if you want to deviate from the given values.

**Loading dimensions:**

The total surface of the load may not exceed 2,5 square meters at the front, and max. 1,25 square meters at the sides.

**The surface area per H30V rigging tower base** is approximate 3.80x 3.20m

### WARNING

Payloads are to be vertical only at all times. Side loads are NOT permitted.

## 6. GENERAL INFORMATION

### NOTE

Make sure only one competent person is chosen to be responsible for and in charge of all coordinating actions and supervising the entire building, erecting and dismantling process.

### WARNING

Even if local legislation might be lacking any demands on personal safety, it is strongly advised to use fall protection-equipment when climbing the system during building, particularly at over 2m high from ground level, when falling hazards are prominent.

- 1) First identify all separate components and types of **Prolyte** truss to be used, ensure that you are fully conversant with this manual before you start using any of these parts, components and trusses!
- 2) Never use trusses parts or vital components such as wire ropes (or chains), that show visual damage, deformation wear or have any other reason to doubt the safe functioning within the system. Make sure to check each item before each time of use.
- 3) Make sure that the system is built on solid ground. In situations where it has to be built on grass, sand or any unstable subsoil, under fill the screw jacks with plywood pads of 300x300x20mm (minimum size for each screw jack).

### NOTE

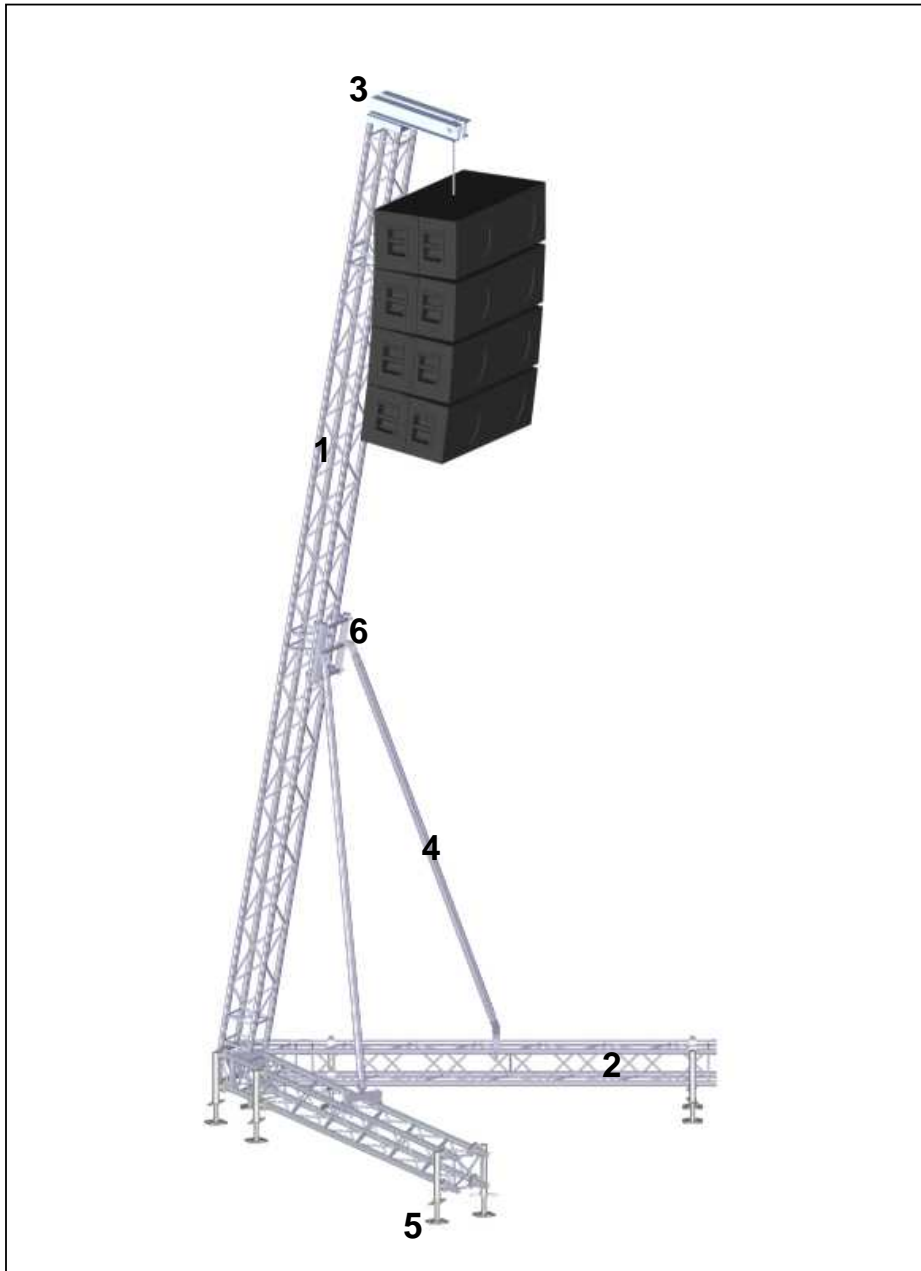
The ground pressure on the screw jacks underneath a tower can easily be more than 0,95 ton with dead load, live load, wind load and full ballast imposed!  
Never erect the tower when any doubt remains on the safety of the underlying ground.

- 4) Check the building site for obvious hazardous objects such as power lines. Keep a safe distance of at least 8m from those in any possible direction of sway in the wind, or the distance as specified in the national or local codes or regulations for safe operation of mobile cranes. Always check the planned tower-building activity with the power-company.
- 5) Check the building site for obstacles such as lamp-posts, trees or tree-tops, overhead piping, in house constructions, or any other higher objects that might hamper erection of the towers or might endanger it when swaying in the wind or so.
- 6) Check local authorities for possible risks in subsoil, such as low stability peat or bog fillings, sewer or large drainage pipes, waterlogged soils in slopes etc.
- 7) Measure the area where the tower needs to be and make sure there is enough room for all components including the outriggers with the plywood padding (the free and cleared building site for each tower, needs to be app. 3.5m wide, 7.5m deep and 8m high).<sup>(1)</sup>
- 8) The complete tower should be totally level when built. If the tower is not exactly level this may result in constructive weakness of the system.
- 9) Avoid dynamic loads. Do not turn the hoist on and off when hoisting the load in place. Lift the load as steady as possible.
- 10) Make sure the load can not turn once hoisted in place. Use tag-lines if needed.
- 11) Make sure the screw jack bracing attachments are placed correctly in alignment to the geometry of the truss sections.

<sup>1</sup> Except in the situations of hazardous objects or obstacles as mentioned above.

## 7. ASSEMBLY INSTRUCTIONS

### Assembly of a H30V Rigging Tower



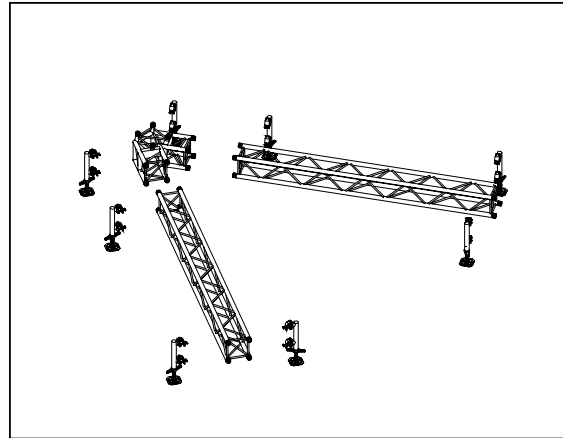
1. Mast
2. Legs/outriggers
3. Top section
4. Stabilizers
5. Spindles
6. Stabilizer attachment

Inspect all components before using them on visual wear & tear, deformation, damage or any other shortcomings. NEVER use parts or component that are not visually correct or you suspect have been subject to other damage.

**1**

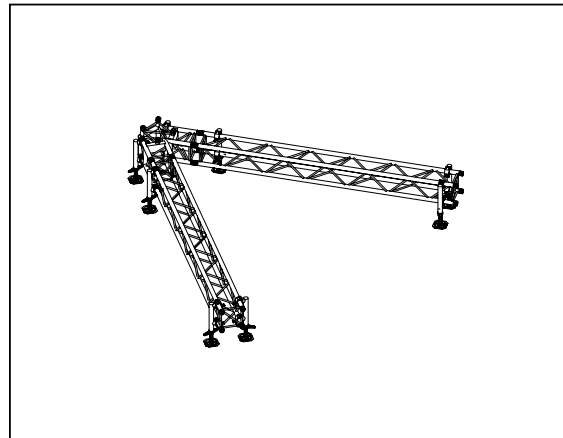
Assemble and connect the corner and the legs of the base.

**2**



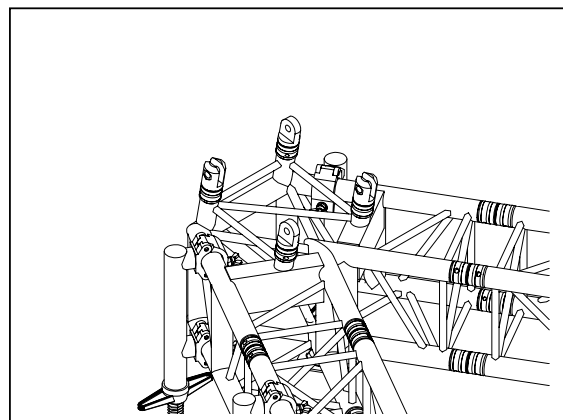
Level the V-shaped base, starting with the corner. Adjust the screwjacks as far as necessary, work from left to right.

**3**



Then level the complete base by adjusting the screwjacks at the end of the legs. Work from front to rear side.

**4**

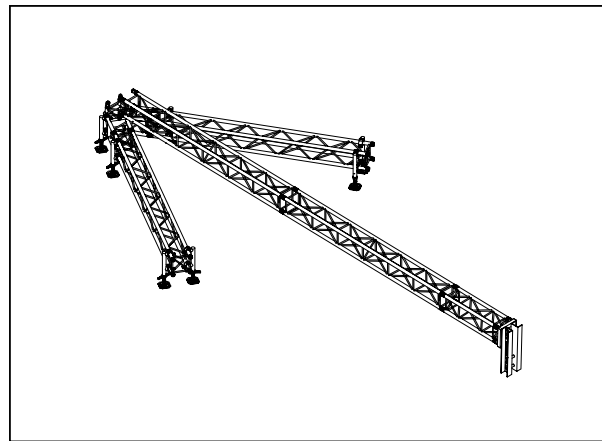
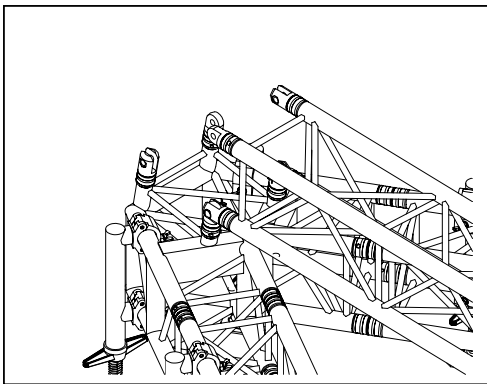
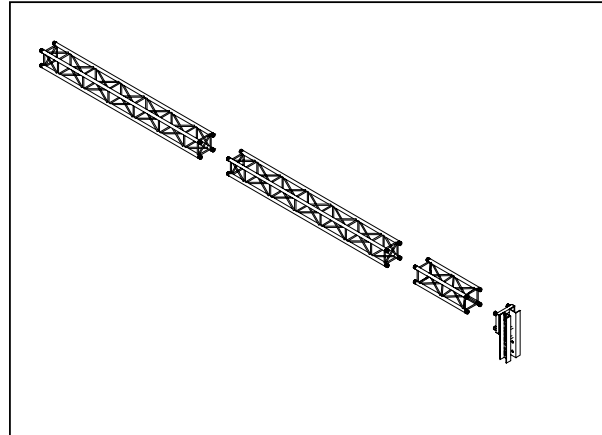


Unscrew the intermediate screwjacks until their footplates rest on the ground.

Place the hinge-parts as shown on the drawing, to facilitate the erection of the mast. Mount the other hinge-parts in a similar way to the bottom end of the mast.

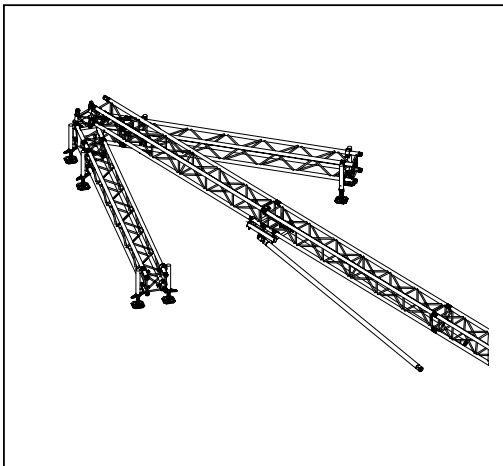
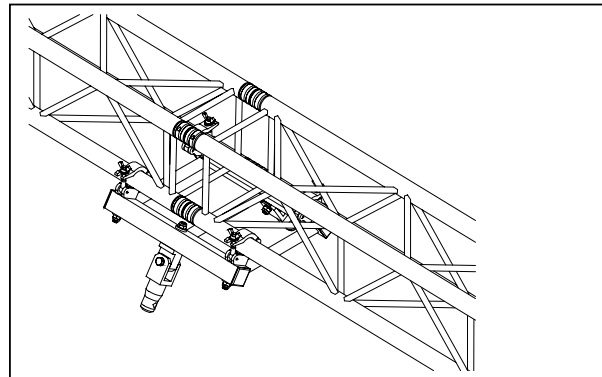
Build the mast from the parts as shown on the drawing. Other lengths may be used. Make sure the stabilizer adapter is placed at the connection of two trusses.

6



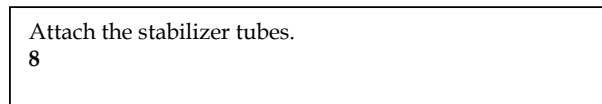
Mount the stabilizer attachment to the trusses.

7



Attach the stabilizer tubes.

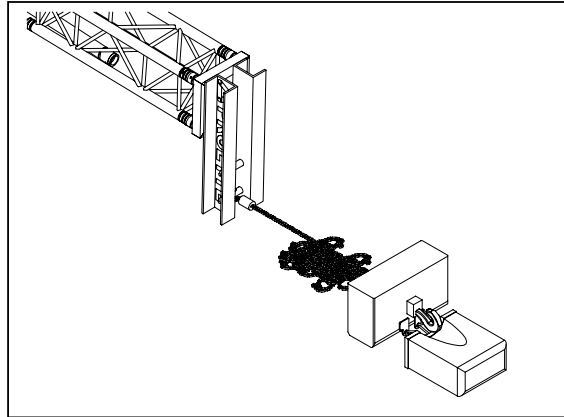
8



Attach the top hook of the hoist chain that will hoist the load in place.

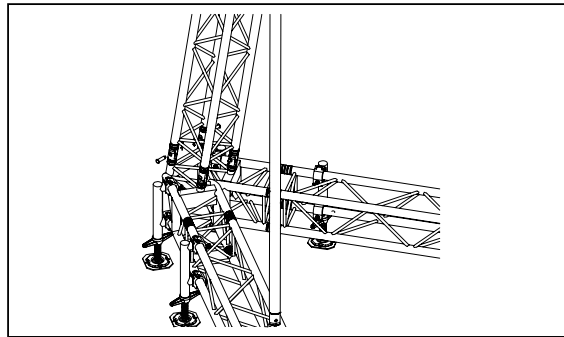
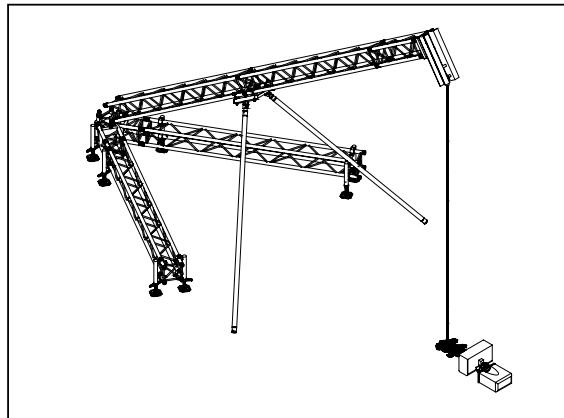
Note: The rigging tower is not designed to accommodate double reeved chains.

9



Use two people to lift the mast in place. A third person should be ready to mount the hinge spigot from the back once the mast is completely erect.

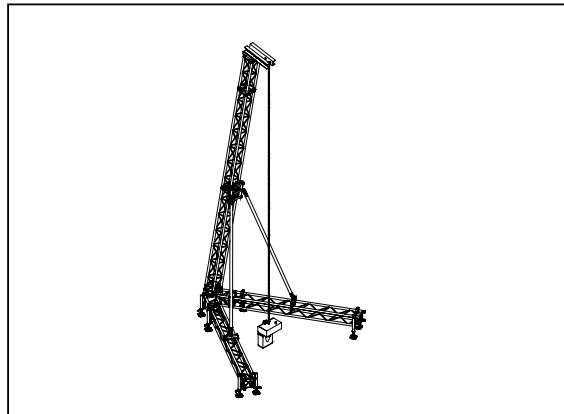
10



Mount the stabilizer tubes, by means of the stabilizer attachments to the trusses in the legs.

All bolts of the clamps should be tightened with the aid of a torque wrench, the used torque should be no more or less then 50N/m.

11



Before the load is raised check the vertical position of the tower and proper surface contact of the screw jack dishes. Adjust the screw jacks if necessary. Determine the weight of the load before lifting. Run the system up to trim height, and secure it in this position by means of a secondary independent support such as a clutch chain or wire rope. Check if the tower is in an exact vertical position, using a level with a plumb-position-eye. Correct any angles in tightening or releasing the screw jacks of the base outriggers

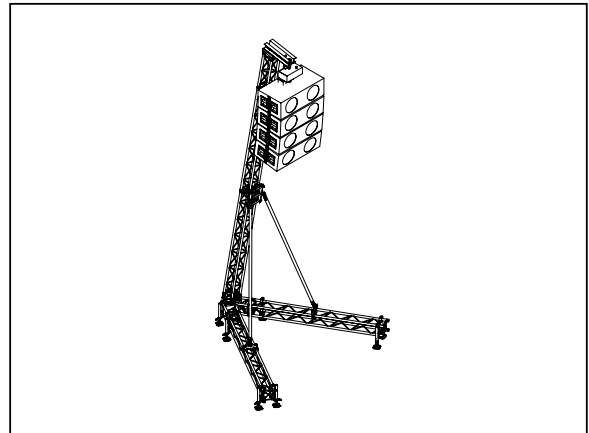
Apply the prescribed amount of ballast to the legs of the tower.

**12**



Make sure that the hook of the hoist chain is slinged exactly in the middle of the shaft of the top section, in such way that an even distribution of the load to both sides of the top section is achieved. To provide the hook from sliding along the shaft, the best slinging method would be a choke hitch.

**13**



Always make sure that the floor or subsoil is sufficiently capable of carrying the load of the tower as it is transferred through the screw jack dishes. Use plywood panels or similar material to increase bearing capacity if needed. When in doubt check with a competent person.

**14**

### **WARNING**

Neglecting the addition of the appropriate amount of ballast and/or not applying part of the guy wires is dangerous. Under influence of wind this can result in failure of the complete structure.

**WARNING:**  
**NOT FOLLOWING THE GUIDELINES IN THIS**  
**MANUAL MAY CAUSE DANGER, PROPERTY**  
**DAMAGE, INJURIES OR EVEN DEATH.**



## 8. SYSTEM DIMENSIONS

