

# CASE STUDY

## THE OLDEST TOWER



### THE PROBLEM

Tower Solutions was incorporated in 1999 with the goal to create self-erecting towers. The sleek towers that we see today however are vastly different from the initial designs. The underlying mechanism behind the tower had been in use as a stationary jack for lifting heavy objects. This was beneficial because it made the process safer and faster while also having a higher load capacity. The vision for Tower Solutions was to take this original design and integrate it into a portable and easily constructed tower.

The first problem the initial design sketches for the tower faced was that it was grossly overbuilt. In an attempt to make the tower indestructible, the tower was designed to be much heavier than it needed to be and was not portable. Four of these stationary towers were sold to Disney at the Paris Disney Show, where they were used to provide lighting for the castle. These towers were also sold internationally and were able to lift a payload of up to fifteen thousand pounds.

Another one of the major issues the tower faced was that it used welded aluminum, which led to inaccurate dimensions and poor structural tolerance. In addition, the tower required constant maintenance as numerous parts were always needing to be fixed or replaced.



### WHY TOWER SOLUTIONS

Tower Solutions specializes in making portable towers that are both lightweight yet durable. With enhanced support through use of heavy-duty leveling jacks and wide outriggers, towers are able to withstand high levels of wind, and require a low rate of maintenance. Because there are no pneumatic or hydraulic components, the tower is able to self-assemble in all normally specified environments and temperatures with the push of one button. Their use of an aluminum body allows for lightweight resistance to corrosive elements while also providing the strength to carry payloads of up to 2000 lbs. Towers are adaptable, and can be used on almost any type of surface or terrain without problem. As opposed to other existing towers which all rely on tilt up or telescoping technology and required a large crew to erect, Tower Solutions only requires one person and can be easily set up in only 15 minutes.

Go to  
[towersolutionsinc.com](https://www.towersolutionsinc.com)  
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SURVEILLANCE



COMMUNICATIONS



TACTICAL SUPPORT



LIGHTING

# TOTALLY AUTOMATIC SELF-ERECTING MOBILE TOWERS



**FAST**  
80 Feet in  
5 Minutes



**SIMPLE**  
1 Man  
Setup



**STRONG**  
Lifts 1 Ton  
Payload



**STABLE**  
Withstands  
Hurricane Winds

## THE PROCESS

To make the tower lighter and more portable, the design was streamlined, using aluminum extrusions instead of welded parts. The advantage of using these extrusions lied in its simplification of the assembly process, while also improving the strength and stiffness of the tower.

Tower Solutions' oldest modern tower was built in 2001 for a small telephone company in northern Minnesota. Over the years, the tower was primarily used at special midwestern events such as county fairs and car races where it served as a cell phone line. Despite almost two decades having passed, the tower was also used by Verizon at the 2018 Superbowl, and is still being operated to this day on a weekly basis.

## THE BENEFIT

Tower Solutions' patented gear technology creates a lightweight yet rigid self-assembling tower structure that is able to reach up to 80 feet in 5 minutes with the push of one button. The key elements that separate Tower Solutions from the rest of its competition is its ease of setup and use. Other existing towers rely on tilt up or telescoping technology and require a large crew to erect, but Tower Solutions only requires one person and can be easily set up in only 15 minutes with an optional guide-wire capability. Each tower is extremely durable, and must be able to withstand and survive headwinds of up to ninety miles per hour. Their use of an aluminum body allows for lightweight resistance to corrosive elements while also providing the strength to carry payloads of up to 2500 lbs.

## CUSTOMIZATION

Tower Solutions versatility lies within their wide range of towers that each vary in size, weight, and payload capacity. In addition to this, customizations on each tower may be reached through a number of features and accessories that are available to meet the customers exact needs.

## CATEGORIZED INTO TWO SUBGROUPS:

### The Large Tower Series

Primarily composed of towers that can reach 80 feet in height and are all self-supporting.

### The Small Tower Series

Offers compact units that are easily transportable and require a proper mounting pad or vehicle to ensure stability while raised.

Further specifications  
for towers are available upon request



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