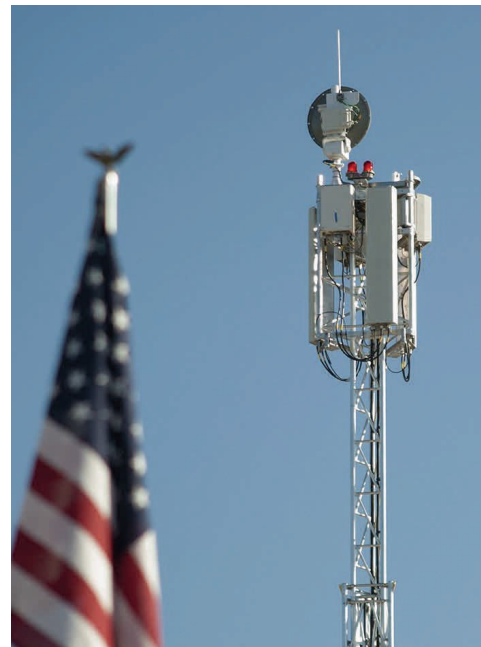


T2-100UG is the most deployed 100ft unguyed Aluminum Telescopic tower in the world. This tower model has been deployed in over 65 countries worldwide	
Model	T2-100UG
Tower Construction	American Aircraft Aluminum 6061-T6
No. of Sections	4
Sections ID	F2, E2, D2 & C2
Length of the Section	30 ft.
Sections Overlap	7 ft.
Overlap Reinforcement System	Radial Pressure Slide Bars (Patent# 8,046,970)
Maximum Height w/o Mast	100 ft.
Standard Mast Length	8 ft.
Maximum Height w/ Mast	106 ft.
Nested Height w/o Mast	31.5 ft.
Raising System	AC or DC Winch (Multiple Voltage Available)
Tilting Mechanism	AC or DC Winch (Multiple Voltage Available)
Type of Retraction	Positive
Winch Manual bypass	Yes
Lockable Mechanism	Yes – Safety Stop
Multiple height Lockable	Yes – Every 20"
Multiple Safety Redundancy	Yes
Tower Operations Temperature	-40°F / +120°F
Maximum Pay Load*	350 lbs.
Maximum Wind Load (Sail Area)*	20 sq.ft.
Maximum Wind Speed*	70 mph.
Approximate Tower Weight	1600 lbs.
<small>Tower Specifications— All Aluma Tower Company, Inc. towers are designed to TIA-222-G Structural Standards for Antenna Supporting Structures and Antennas. - * Number applies to the top section (payload section) of the tower when fully erected (deployed)</small>	



Aluma Tower

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Super Scorpion



Aluma Tower Company, Inc (Aluma), an ISO9001 registered small business and SHARP / OSHA awardee, has been in the business of designing, manufacturing, fielding and servicing mobile telescoping tower-trailer systems for more than 50 years. Aluma has extensive experience manufacturing military tower-trailer-shelter systems (both COTS and COTS based NDI) that withstands the harsh environments of today's battlefields, yet are quick and easy to operate, lightweight and highly mobile, rugged, reliable, and above all, safe. Among Aluma's largest customers are the US Government (Department of Defense, FEMA, and State Department), Telecom Service Providers, First Responders, Emergency Management and Surveillance companies.



Super Scorpion is a Military Certified Trailer/Tower System

Mil-STD-810G

1. High and Low Temperature
2. Solar Radiation
3. Rain
4. Humidity
5. Sand & Dust

TOP-01-1-011A

1. Belgium Block
2. Imbedded Rock Course
3. 2-inch Washboard
4. 2-to-4-inch Radial Washboard
5. 3-inch Space Bump
6. Perryman No. 2
7. Perryman No. 3

Super Scorpion - Mission Ready Cell-on-Wheels

This system was designed using the standard "Scorpion" open-trailer as a baseline, maintaining all of the characteristics noted in this document, which have been proven to withstand harsh environments and conditions over the past decade. Aluma's engineering team has analyzed every aspect of the unit against the test conditions it will be subject to and incorporated multiple changes to the system to ruggedize and enhance its performance capabilities.

Outlined here are a number of the changes that have been incorporated into the baseline "Scorpion" design as a part of the evolution of the "Super Scorpion"

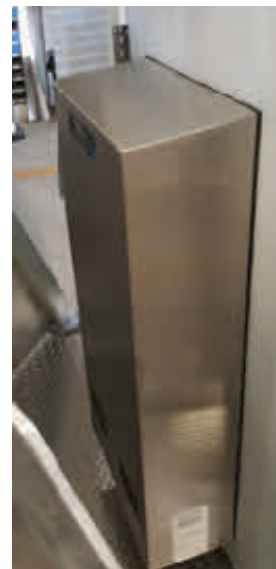


Double Bracketed Torsion Axles - While the baseline system included torsion axles, they are traditionally only supported by a single bracket on the road and curb side of the system. The updated design provides twice the bracket locations increasing the reliability, safety and structural integrity of the axle system. This new Axle bracket is design specifically to survive through the most harshest of road conditions.

HMMWV Tires & Sealed Wheel Wells - While the baseline can be upgraded to include HMMWV tires for use on un-improved roadways, the HMMWV tires will be standard on the "Super Scorpion", tires can be provided with run-flats if customer desires. Also the "Super Scorpion" wheel wells are a enclosed system designed to protect the mission equipment installed on the trailer deck from debris.



Vibration Isolation - Aluma's engineering team worked with a Harmonics Engineer to specify coil and cup isolators for each major component of the system, this was done to prevent damage to components during transport on un-improved roads. Special attention was given to the radio cabinet, generator, tower, fuel tank, storage box, etc.



ECU Isolation Package - Aluma's engineering team worked directly with the manufacturer of the radio cabinet ECU to design a vibration isolation package for the internal components of the unit. The ECU on the "Super Scorpion" has built in isolators that isolate the internal components from the ECU housing.



Adjustable Tongue Height & Multiple Voltage Electrical Brakes - The tongue incorporates a larger channel and additional bracing that allows for coupling from multiple vehicles, taking into consideration hitch heights of various commercial and military trucks. The total adjustable range of the coupler is 18 1/2 to 38 1/2 inches. The "Super Scorpion" is also armed with a 4 wheel electrical brakes capable to be used by 12V or 24V military and any commercial prime mover

Road Debris Shield - Based on feedback from customers over the years, who have deployed not only Aluma, but other trailer tower systems in less than ideal conditions, the road debris shield was incorporated to prevent damage from rocks and other road debris coming from the prime mover.



Communication Cabinet NEMA 4X with 25RU in each bay, the Radio Cabinet was specially designed to survive the most extreme conditions, armed with sealed I/O Ports (multiple sizes available), and an HVAC system selected to cool/heat the network equipment. The system is mounted on a set isolators capable to reduce /eliminate the impact and vibration on all internal components, radio cabinets are available in multiple standard and custom configurations.

- Built with non-corrosive material (alum 6061-T6) and steel surfaces are all hot dip galvanized
- Up to 106FT (30M) Telescopic, Self-supporting (unguyed) light-weight, corrosion resistant aluminum tower, no need for guy wires. Can be safety deployed in under 15 minutes by two people
- Tower features continuous engaging and locking mechanism
- C-130 , C-5 & C-17 Certified Unit
- GVWR of 14000lbs. Allows trailer to be towed by commercial truck (F-250 or equivalent)
- Meet all US DOT and FMCSA requirements
- Multiple redundant safety features
- Lower deck taking in consideration the Human-Factor and easy access to all trailer components
- Capable to host multiple size generators
- Multiple safety features, including tower's wash-down motor and series of limit switch to prevent over-extension, over-retraction and over-tilting
- Low center of gravity making the system perfect for un-improved roads
- 18cu.ft waterproof storage enclosure for all equipment and tools needed for setup. No special tools needed
- Smart Tower and Smart generator capabilities
- Optimized trailer platform size allows maximum maneuverability and mobility to support urban and rural deployments
- Low cost of ownership with excellent Deployed Operation Availability and Mean Time Between Failure



Fuel Tank - Double-walled all aluminum fuel tank with baffles strategically placed to support over 200 Gal's of Fuel. Mounted on vibration isolators and located over the trailer axles to improve balance of the overall system. Designed to meet all FMCSA requirements, the pressure tested fuel tank is a unique feature that can be adjusted to meet customer specifications. A 200 gal. tank can provide fuel to small generator for a 2 week uninterrupted period.



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