# USER MANUAL


MADE IN THE U.S.A.

GSA Schedule

SCHEDULE
GS-07F-5916R

# AL2
# LIFT SERIES

## *FAST MECHANICAL LIFT SYSTEM*

REV 06/2016

BLUESKY MAST®
elevating solutions™

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# AL2 Lift Series User Manual

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## DISCLAIMER OF WARRANTIES AND LIABILITY

**DO NOT ATTEMPT TO DEPLOY THIS MAST IF YOU ARE NOT EXPERIENCED IN SIMILAR DEVICES**

You are responsible for your own safety and survival and that of those persons around the mast. This manual is to be used as an aid and only to be used at your own risk. Nothing will replace good sound judgment when deploying the mast.

The information provided in this manual should be used as a guideline and not absolute fact. Many variables are involved in deploying a mast system such as weather, soil conditions, guying distances, cantilevered payloads, surrounding obstacles, accuracy and precision of guying, etc.

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## REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

If you find any mistakes or you can help improve this material, please contact BlueSky Mast via US Mail at:

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Odessa, FL 33556
USA

Or

Phone: 877-411-6278
International: 718-802-3266
Fax: 866-411-6278
email: support@blueskymast.com

Cage Code: 3JWX5

DUNS Number: 137469404

We will send you a reply concerning incorporating your suggestions. Thank You.

## Limited Twelve (12) Month Warranty

This BLUESKY MAST, INC. equipment is warranted to be free from defects in material and workmanship under normal use and service. BLUESKY MAST, INC. shall repair or replace defective equipment, at no charge, or at its option, refund the purchase price, if the equipment is returned to BLUESKY MAST,INC. not more than twelve (12) months after shipment. Removal or reinstallation of equipment and its transportation shall not be at the cost of BLUESKY MAST, INC. except BLUESKY MAST, INC. shall return repaired or replaced equipment freight prepaid to a continental United States address.

This Warranty shall not apply to equipment which has been repaired or altered in any way so as to affect its stability or durability, or which has been subject to misuse, negligence or accident. This Warranty does not cover equipment which has been impaired by severe weather conditions such as excessive wind, ice, storms, lightning, or other natural occurrences over which BLUESKY MAST, INC. has no control, and this Warranty shall not apply to equipment which has been operated or installed other than in accordance with the instructions furnished by BLUESKY MAST, INC.

Products are manufactured from anodized aluminum in various colors. Color fading and varying shades of color will inevitably occur with exposure to sunlight and environmental conditions and is not considered a defect in the material or product

Claimants under this Warranty shall present their claims along with the defective equipment to BLUESKY MAST, INC. immediately upon failure.

Noncompliance with any part of this claim procedure may invalidate this warranty in whole or in part.

This warranty is expressly in lieu of all other agreements and warranties, any implied warranty of merchantability or fitness for a particular purpose is limited in duration to the duration of this warranty. BLUESKY MAST, INC. Neither assumes nor authorizes any representative or other person to assume for it any other liability in connection with the equipment delivered or provided. In no event shall BLUESKY MAST, INC. Be liable for any loss of profits, loss of use, interruption of business, or indirect, special or consequential damages of any kind.

In no event shall BLUESKY MAST, INC. be liable for damages in an amount greater than the purchase price of the equipment. Some states do not allow limitations on how long an implied warranty lasts, or allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

# Safety Precautions

## Important Safety Precautions

Part I: Power Lines, Lightning and Grounding

- LOOK UP AND LIVE! Before erecting the mast, check for overhead power lines. Never deploy this mast where there is any possibility of direct or indirect contact with a power line. Keep the mast a distance equal to or greater than twice its height away from power lines. This will ensure that the Antenna, masts, guy ropes or cables will not contact power if it falls either during installation or later. Any person touching any part of a mast or even standing near a mast that contacts a power line can be seriously injured or killed.

- BEWARE OF UNDERGROUND POWER LINES! Ground stakes might penetrate underground power lines. Before deploying any ground stakes, be sure to check the area for warnings of buried cables and contact your local power company to verify. Any person touching any part of a mast or even standing near a mast that contacts a power line can be seriously injured or killed.

- Keep guy ropes away from power lines to eliminate the possibility of a power line falling on the guy rope.

- Never touch a mast or structure that you suspect may be accidentally energized electrically.

- Never work with a mast or related structure during electrical storm activity.

- Contrary to popular belief, most lightning injuries and damage do not come from direct lightning strikes. There are several ways that lightning can injure you:

    - "Step Potential" is potentially hazardous voltage that can exist on the ground like stepping on a live wire. This results from electrical energy diverted into the ground from lightning striking nearby. It is the most common injury causing lightning effect.

    - Flashover is when lightning strikes a nearby object and then jumps to another nearby object. This is usually what injures people standing under trees in an electrical storm.

- Do not stand near the mast, deploy or retract the mast during electrical storm activity.

- Always ground the mast.

# Safety Precautions

## Important Safety Precautions

Part II: Guy Ropes and Fasteners

- Inspect all guy ropes and fasteners for wear or damage before use. Serious injury or death may occur if a guy rope failure causes a mast to fall.
- Mark guy ropes clearly to prevent personnel from tripping over them. Personnel who trip may suffer injury and may also pull up a guy rope and cause the mast to fall.
- Monitor the tension of the guy ropes to ensure proper tension.
- Ensure that stakes and anchors are secure in the ground before attaching guy ropes. Use extra caution when anchoring guy ropes, especially in sandy or loose soil.
- Never fasten a guy rope over a sharp edge or in a manner that causes abrasion. This may cause guy rope failure. Pad any contacting surfaces if necessary.
- Do not install guy ropes across roadways or other paths of travel. Always clearly mark guy ropes.
- Ensure guy ropes are clear of branches and other obstructions.
- Use only authorized parts. Unapproved substitutes may not be strong enough for the equipment.
- Periodically inspect the mast to ensure that it remains structurally sound and properly installed.
- Never overload the mast or structure. Use ONLY the equipment and accessories in proper quantities as described by the manufacture specifications. Do not use unauthorized equipment or modifications.
- BE CAUTIOUS of ice that may form on the antenna/mast. The area around the antenna/mast should be marked and roped off to avoid falling ice. Special care must be taken when retracting the mast or structure to avoid falling ice.
- Use additional guy ropes for the mast, if heavy ice loading or wind is expected or anticipated.
- Ensure that the wind speed is not excessive during deployment/retraction operations. Maximum safe wind speeds are available from manufacturer for your specific mast.

# Safety Precautions

## Important Safety Precautions

Part III: Wind Conditions

- BlueSky Mast recommends that you do not to attempt to actively deploy in winds that exceed 15 mph.
- During windy conditions it will be necessary to incrementally guy the mast as it is being deployed.
- Incremental Guying will add time to the deployment but increase the protection of personnel and equipment.

Use this chart to determine approximate wind speed:

| VISUAL OBSERVATIONS | KM/H | MPH | DEPLOYMENT CONDITIONS |
|---|---|---|---|
| Smoke Rises Vertically | <1 | <1 | **Safe** |
| Wind Direction Shown by Smoke | 1-6 | 1-3 | **Safe** |
| Wind Felt on Face, Leaves Rustle | 7-12 | 4-7 | **Safe** |
| Leaves & Twigs in Constant Motion, Wind Extends Light Flag | 13-18 | 8-11 | **Use Caution** |
| Dust and Loose Paper Blown Freely, Small Branched Move | 19-26 | 12-15 | **Use Caution** |
| Small Trees Begin to Sway | 27-35 | 16-22 | **Dangerous Conditions** |
| Large Branches in Motion, Wind Whistles Through Wires | 36-44 | 23-27 | **Dangerous Conditions** |
| Whole Trees in Motion | 45-55 | 28-34 | **Dangerous Conditions** |

# Payload Capacity - Wind Load - Anchor Radius - Load Tables

## Deployable Payload

A mast installation can be exposed to several types of loads. The physical weight of the instrument and its attachments is referred to as the **payload**. The mast can support much more weight when properly guyed and stabilized but BlueSky Masts will only recommend payloads that are safe to carry during the deployment process and we call this the **deployable load**. The remaining reserve load capacity represents the margin designed to absorb any subsequent environmental load that the mast may encounter. The primary environmental load on a mast is **wind load**.

The payload capacity on a BlueSky Mast is governed by the installer's ability to safely elevate the payload to the desired height. As poles are inserted into the tripod and the mast begins to climb, the mast tip has a tendency to lean off-center and away from its position of greatest strength. An iterative process of incremental guying and mast pole elevation may be required to successfully deploy the mast. For best results, please limit your deployment to the height and payload combinations given in the table below.

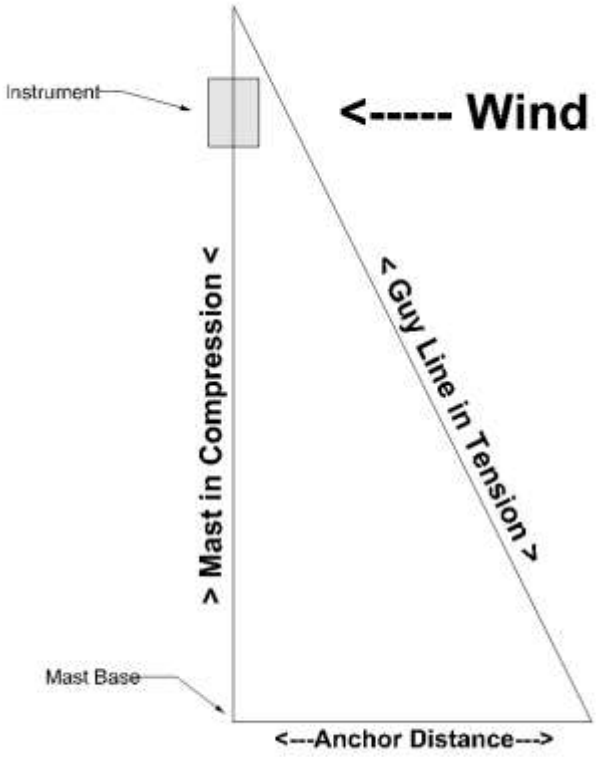
| AL2 Mast Model | Height (ft.) | Deployable Load (lbs.) |
|---|---|---|
| 2 Meter | 7.5 ft. | 100 |
| 3 Meter | 10.5 ft. | 85 |
| 4 Meter | 13.5 ft. | 70 |
| 5 Meter | 16.5 ft. | 65 |
| 6 Meter | 19.5 ft. | 60 |
| 7 Meter | 22.5 ft. | 57.5 |
| 8 Meter | 25.5 ft. | 55 |
| 9 Meter | 28.5 ft. | 52.5 |
| 10 Meter | 31.5 ft. | 50 |
| 11 Meter | 34.5 ft. | 40 |
| 12 Meter | 37.5 ft. | 35 |
| 13 Meter | 40.5 ft. | 30 |
| 14 Meter | 43.5 ft. | 25 |
| 15 Meter | 46.5 ft. | 20 |

# Payload Capacity - Wind Load - Anchor Radius - Load Tables

## Wind Effects

When wind blows on a mast and its instruments, the guys restrict the top of the mast and its instruments from moving off center. The mast's reaction to wind will put tension in the guy line and force the top of the mast downward in compression, the amount of which will vary depending on the anchor distance as described below.

The size and shape of the instruments determine the amount of force they produce in any given wind condition. Don't forget that the mast itself is a surface area exposed to the wind and its wind load will need to be added to the instrument wind load to get the total wind load on the system. The mast wind loads are given in the table at the end of this section and clearly show the benefits of Secondary Guying.



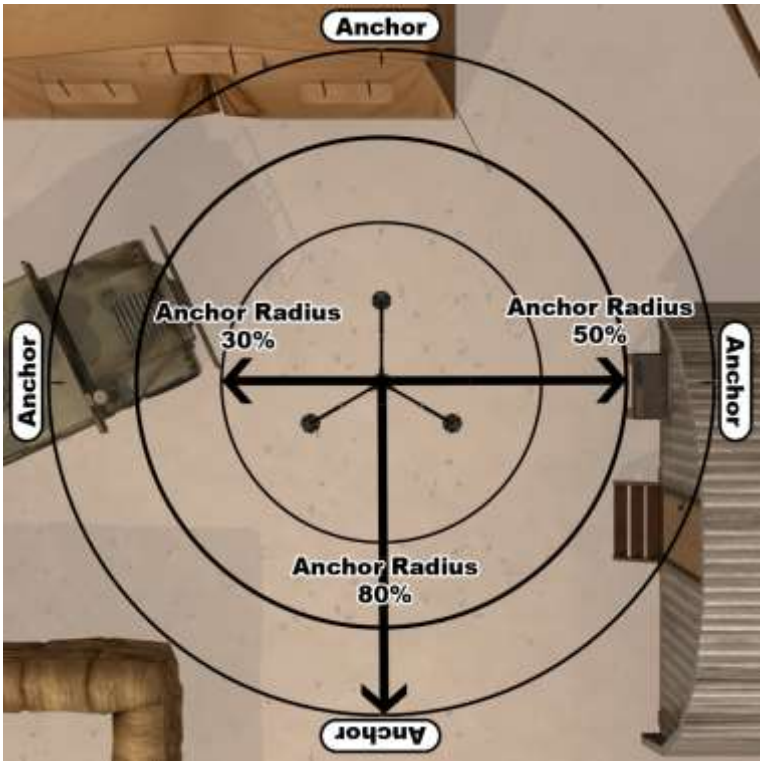

## Guying

Guy lines are used to **maintain the position** of the top of the mast directly over the center of the tripod. This is its position of greatest strength, which will maximize the load carrying capacity of the mast in terms of payload as well as wind survivability. When no wind is present, the guy lines remain critical to stabilize the top of the mast and to keep the instrument mounts level.

# Payload Capacity - Wind Load - Anchor Radius - Load Tables

## Anchor Radius

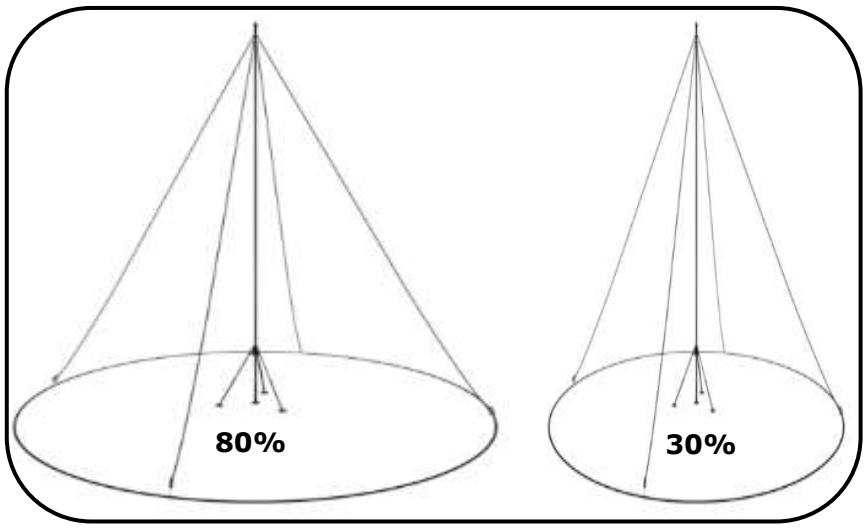
Ideal guying is set with an anchor radius of 80% of the mast height. Many applications of mast deployments are not able to afford an installation footprint of this size and installers may find it more convenient to place the guy anchors much closer to the mast as shown in the figure to the right. BlueSky Mast does not recommend configurations utilizing less than 80% guy radius, but if your site dictates that you must deviate from the recommended configuration it is imperative that the installer is aware of the effects of the reduced anchor radius and its effect on total payload capacity and wind loading.




**The angle of pull on the guy line relative to the anchor radius may produce a lever effect increasing the mast compression due to wind loading by a factor of 5 !**

| Guying Distance (% of Mast Height) | Anchor Radius Factor |
|---|---|
| 10% | 10.00 |
| 20% | 5.00 |
| 30% | 3.33 |
| 40% | 2.50 |
| 50% | 2.00 |
| 60% | 1.67 |
| 70% | 1.43 |
| 80% | 1.25 |
| 90% | 1.11 |
| 100% | 1.00 |

The table at left shows the affect the anchor radius has on the multiplying factors of compressive loads produced on the mast by a horizontal wind force. Below are examples of various anchor radii.



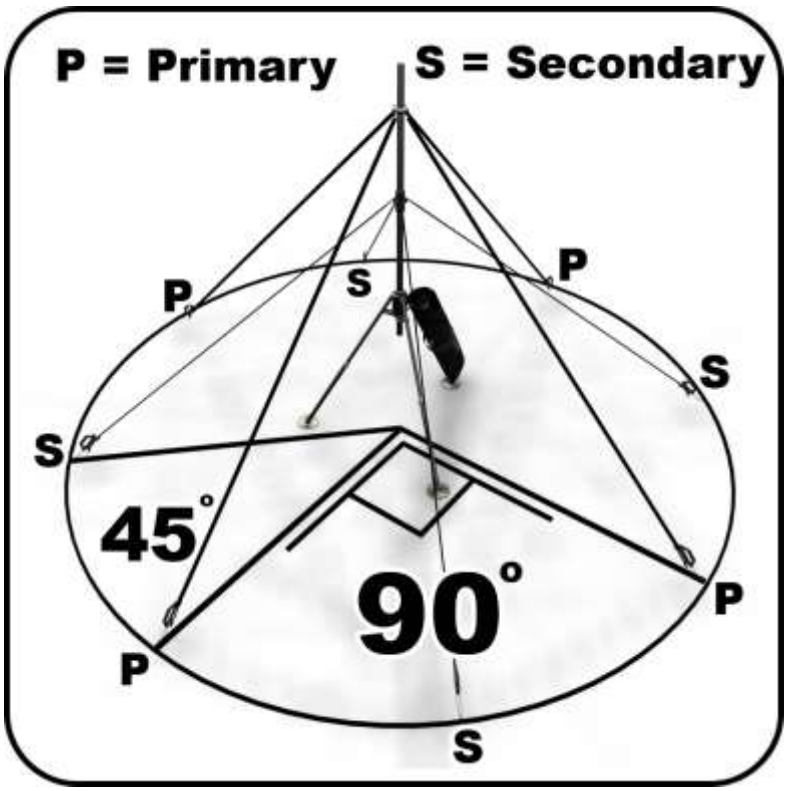
# Payload Capacity - Wind Load - Anchor Radius - Load Tables

### Primary and Secondary Guy Placement

BlueSky utilizes a 4 guy configuration to help minimize the affect wind loading has on the mast. The primary guys are always deployed from the top of the mast and extend out at a 90 degree angle from each other.

The secondary guys are deployed halfway down the mast between the top of the tripod and the primary guys. They are also deployed at 90 degrees of each other and 45 degrees of the primary guy ropes.

The primary and secondary guys are always deployed at the same distance or anchor radius from the base of the mast.




### Guying Distance from Base of Mast

Use the chart to the right as reference to determine the proper distance to place the guy stake for the guys from the base of the mast.

If you are unable to utilize the 80% rule then refer to the load characteristics of your mast in the tables following this section to understand the impact to the payload capacity and wind loading of your mast.

| Model Height | % Anchor Radius / Distance of the Guys from the Base of the Mast | | |
|---|---|---|---|
| | 80% | 50% | 30% |
| 2 M | 6 ft | 3.75 ft | 2.25 ft |
| 3 M | 8.4 ft | 5.25 ft | 3.15 ft |
| 4 M | 10.8 ft | 6.75 ft | 4.05 ft |
| 5 M | 13.2 ft | 8.25 ft | 4.95 ft |
| 6 M | 15.6 ft | 9.75 ft | 5.85 ft |
| 7 M | 17.2 ft | 10.75 ft | 6.45 ft |
| 8 M | 20.4 ft | 12.75 ft | 7.65 ft |
| 9 M | 22.8 ft | 14.25 ft | 8.55 ft |
| 10 M | 25.2 ft | 15.75 ft | 9.45 ft |
| 11 M | 27.6 ft | 17.25 ft | 10.35 ft |
| 12 M | 30 ft | 18.75 ft | 11.25 ft |
| 13 M | 32.4 ft | 20.25 ft | 12.15 ft |
| 14 M | 34.8 ft | 21.75 ft | 13.05 ft |
| 15 M | 37.2 ft | 23.25 ft | 13.95 ft |

# Payload Capacity - Wind Load - Anchor Radius - Load Tables

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 2 m AL2 Lift System (7.5 ft)<br>Primary Guying Only<br>100 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 2 m AL2 Lift System (7.5 ft)<br>Primary & Secondary Guying<br>100 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 3 m AL2 Lift System (10.5 ft)<br>Primary Guying Only<br>85 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 3 m AL2 Lift System (10.5 ft)<br>Primary & Secondary Guying<br>85 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

# Payload Capacity - Wind Load - Anchor Radius - Load Tables

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 4 m AL2 Lift System (13.5 ft) Primary Guying Only 70 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 4 m AL2 Lift System (13.5 ft) Primary & Secondary Guying 70 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 5 m AL2 Lift System (16.5 ft) Primary Guying Only 65 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 5 m AL2 Lift System (16.5 ft) Primary & Secondary Guying 65 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |

# Payload Capacity - Wind Load - Anchor Radius - Load Tables

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 6 m AL2 Lift System (19.5 ft)<br>Primary Guying Only<br>60 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 6 m AL2 Lift System (19.5 ft)<br>Primary & Secondary Guying<br>60 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 7 m AL2 Lift System (22.5 ft)<br>Primary Guying Only<br>57.5 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |

| Fully Operational | Survivable | Mast Failure | | |
|---|---|---|---|---|
| 7 m AL2 Lift System (22.5 ft)<br>Primary & Secondary Guying<br>57.5 lbs Deployed | | | | |
| | Wind Speed (mph) | 70 | 90 | 110 |
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | 80% Guy Distance | | | |

# Payload Capacity - Wind Load - Anchor Radius - Load Tables

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**8 m AL2 Lift System (25.5 ft)**
**Primary Guying Only**
**55 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**8 m AL2 Lift System (25.5 ft)**
**Primary & Secondary Guying**
**55 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**9 m AL2 Lift System (28.5 ft)**
**Primary Guying Only**
**52 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**9 m AL2 Lift System (28.5 ft)**
**Primary & Secondary Guying**
**52 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

# Payload Capacity - Wind Load - Anchor Radius - Load Tables

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**10 m AL2 Lift System (31.5 ft)**
**Primary Guying Only**
**50 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**10 m AL2 Lift System (31.5 ft)**
**Primary & Secondary Guying**
**50 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**11 m AL2 Lift System (34.5 ft)**
**Primary Guying Only**
**40 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**11 m AL2 Lift System (34.5 ft)**
**Primary & Secondary Guying**
**40 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

# Payload Capacity - Wind Load - Anchor Radius - Load Tables

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**12 m AL2 Lift System (37.5 ft)**
**Primary Guying Only**
**35 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**12 m AL2 Lift System (37.5 ft)**
**Primary & Secondary Guying**
**35 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**13 m AL2 Lift System (40.5 ft)**
**Primary Guying Only**
**30 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**13 m AL2 Lift System (40.5 ft)**
**Primary & Secondary Guying**
**30 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

# Payload Capacity - Wind Load - Anchor Radius - Load Tables

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**14 m AL2 Lift System (43.5 ft)**
**Primary Guying Only**
**25 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**14 m AL2 Lift System (43.5 ft)**
**Primary & Secondary Guying**
**25 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**15 m AL2 Lift System (46.5 ft)**
**Primary Guying Only**
**20 lbs Deployed**

| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

| Fully Operational | Survivable | Mast Failure |
|---|---|---|

**15 m AL2 Lift System (46.5 ft)**
**Primary & Secondary Guying**
**20 lbs Deployed**

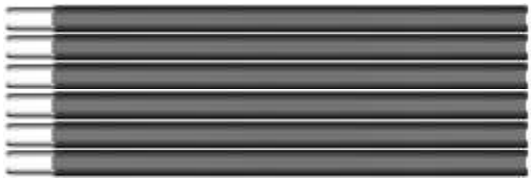
| | Wind Speed (mph) | 70 | 90 | 110 |
|---|---|---|---|---|
| Mast Only | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 1 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 2 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |
| 3 Sq Ft Panel | 30% Guy Distance | | | |
| | 50% Guy Distance | | | |
| | **80% Guy Distance** | | | |

# AL2 Lift Series - Basic Component Overview

## BlueSky Mast Lift Series (2 to 6 Meters)

Base Pole

2 to 6 Center Mast Poles



Pole Bag

Hammer

18” Mounting Pole

Winch Handle

Lift Base Plate

Wheeling Carry Bag

AL2 Lift Tripod with Winch

Reference Pack

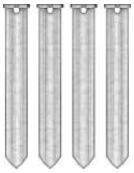

8 Tripod Stakes

Staking Kit Bag

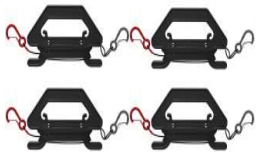
## BlueSky Mast Lift Series (7 to 10 Meters)

1 to 4 Additional Center Mast Poles

4 Guy Stakes



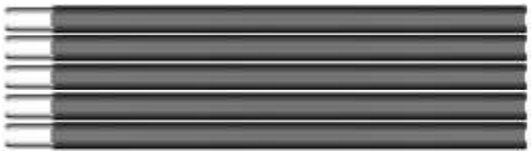
4 Guy Handles



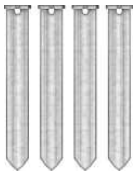
Primary Guy Ring

## BlueSky Mast Lift Series (11 to 15 Meters)

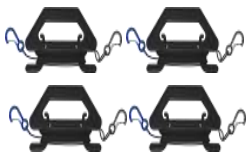
1 to 5 Additional Center Mast Poles



4 Guy Stakes



4 Guy Handles



Secondary Guy Ring

Pole Bag

# Deploying the AL2 Lift Series Mast with Primary Guying

# (For Models 2 to 10 Meters)

# AL2 Lift Series User Manual

**Primary Guying Only (2 - 10 Meters)**

## 1. Inspect the Site before Deployment

A. Ensure that the following conditions are met prior to deployment:
   I. There are no overhead wires or power lines.
   II. There are no buried power lines or unexploded ordinance.
   III. The ground is capable of holding tripod stakes if stakes are required.

## 2. Unpack the Wheeling Carry Bag or Hard Case

A. Remove the pole bag and stake bag.

## 3. Set up and Orient the Tripod

A. Remove the tripod from the wheeling bag or hard case and stand it up with the base plates on the ground.
B. Release the Velcro strap on the tripod and unfold the tripod legs
C. Verify the cross bar on each of the 3 tripod legs is fully deployed by pushing down on it until the sliding pin is resting completely at the bottom of the slot.



## 4. Raise the Tripod

A. Loosen the turn knob on each of the 3 tripod legs. Make sure the legs are fully extended and all 3 base plates are flat on the ground.
B. Tighten the turn knobs on each of the 3 tripod legs.


# AL2 Lift Series User Manual
## Primary Guying Only (2 - 10 Meters)

### 5. Level the Tripod

A. Level the tripod by using the three bubble levels and adjusting the tripod legs.
B. When the air bubbles in both levels are centered between the level marks at the middle of each bubble level, the tripod is level.
C. Fully tighten the turn knob on each tripod leg.


**Warning:** **Improper leveling can result in excessive leaning when fully deployed, which can damage the system and cause serious bodily harm**

### 6. Secure the Tripod

A. Using the tripod stakes located in the black stake bag, drive a stake through each of the two holes on all three of the tripod base plates.
*B.* Make sure the stainless steel head on the tripod stakes contact the top of the tripod base plates. Once the head has firmly contacted the tripod base plate, stop hammering, continued hammering may damage the tripod base plate.
C. If the ground is too hard to hammer the stakes deep enough for the head to contact the base plate, then drive the stakes into the ground at an angle towards the center of the tripod to maximize the surface area contact of the stake so that the tripod base plate is secure and cannot lift up.
D. When tripod stakes cannot be used such as on a roof top, on a paved or hard surface, or inside a building, then the tripod base plates should be secured by sandbags or other weights, preferably utilizing BlueSky's optional Telescoping Tripod Struts (Part # BSM2-K-T712-BSP-STR).
E. If securing the tripod using weights, then the higher the mast is raised the more weight will be needed at the base to counteract the payload at the top and keep the mast from tipping over.
F. Recheck bubble levels to make sure tripod is level.




# AL2 Lift Series User Manual
**Primary Guying Only (2 - 10 Meters)**

### 7. Insert the First Mast Pole
A. Release the cam lock and insert a mast pole up through the bottom of the tripod until the silver insert of the mast pole is visible at least 4 inches above the top of the tripod.
B. Secure the mast pole by locking the cam lock on the tripod.




### *8.* Add the Mounting Pole
A. Locate the mounting pole (it is 1/2 the length of a mast pole) and slide it over the silver insert of the first mast pole in the tripod.
B. Make sure the castle cut on both poles nest fully together and there is no silver visible in the seams of the joint.




### *9.* Add the Primary Guy Ring
A. Locate the Red Primary Guy Ring and slide it over the top of the mounting pole.
B. Pin it into the last hole at the base of the mounting pole.
C. Pull on the stainless steel push pin to make sure it has engaged properly.

# AL2 Lift Series User Manual
## Primary Guying Only (2 - 10 Meters)

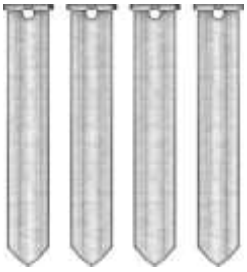
**10. Attach Your Device or Devices to the Mast**

A. Attach your devices to mounting pole / mast.
B. Secure any loose cables to the mounting pole.


⚠ **WARNING: Use Velcro straps or some other form of cable management to secure instrument cables to the mast to reduce strain on cables and prevent damage to cable connections. Loose cables can also cause the mast to lean to one side and**

**11. Locate the four Primary Guy Ropes and Guy Stakes**

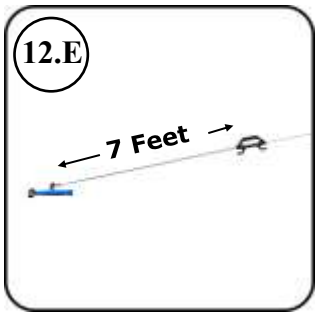
A. Locate the four Primary Guy Ropes with Red Clips and four galvanized steel guy stakes



**12. Attach the 1st Primary Guy Rope.**

A. Attach the red clip on the free end of the 1st primary guy rope to the ROUND **HOLE** on the red primary guy ring.
B. Unwind the 1st primary guy rope while walking away from the mast taking one **NORMAL** step for each meter of height of the mast. Example 10 meters equals 10 **NORMAL** steps. Do not use exaggerated steps.
C. Drive a guy stake into the ground at the length that you determined based on the previous step.
D. Standing in place above the guy stake, unwind the rest of the guy rope off the handle and then attach the stainless steel clip onto the guy stake.



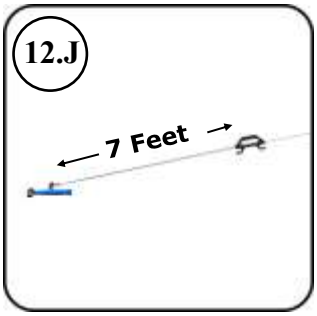

***Helpful Hint:*** *Walk the 1st guy rope in the opposite direction of the sun. This will help you align the 2nd guy rope (opposite of 1st guy rope) without interference of the sun.*

# AL2 Lift Series User Manual
## Primary Guying Only (2 - 10 Meters)

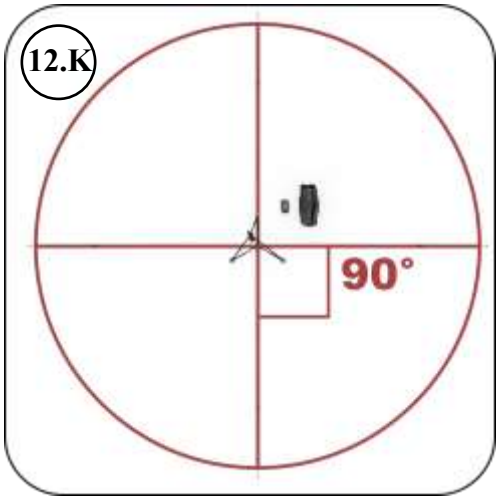
### 12. Attach the Primary Guy Ropes (continued)

F. Attach the stainless steel clip on the free end of the 2nd primary guy rope to the **SQUARE HOLE opposite the round hole** on the red primary guy ring.
G. Unwind the 2nd primary guy rope (opposite of 1st primary guy rope) at the same number of **NORMAL** steps you used for the first guy rope. Do not use exaggerated steps.
H. Visually confirm that the 2nd primary guy rope is in line with the 1st primary guy rope directly opposite the tripod.
I. Drive a guy stake into the ground and clip the free end of the guy rope to the stake.
J. For mast heights of 10+ meters - Slide the handle towards the mast approx. 7 feet. This will take up the slack in the guy rope during deployment and prepare you for incremental guying (if required).






K. Repeat the steps above until all four primary guy ropes have been properly deployed **90 Degrees** from each other.
L. When all guys have been deployed, inspect the spacing and orientation and make any adjustments now.





***Helpful Hint**: If you are deploying the mast to a shorter height than the purchased height or are in a tight spot, then see the guying addendum in this manual for help in determining your spacing and load specs.*

# AL2 Lift Series User Manual
## Primary Guying Only (2 - 10 Meters)

### 13. Attach the winch handle

A. Pull the quick release pin on the outside of the winch housing and slide the winch handle in. Release the pin to secure the winch handle.

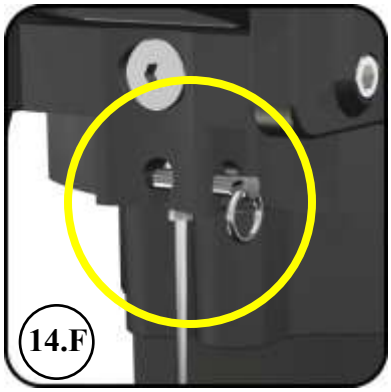


### 14. Set Up the Lift System

A. Locate the lift base plate.
B. Set it on the ground directly below the mast pole in the tripod.
C. Pay out enough cable by rotating the winch handle counter-clockwise to be able to go through the pulleys on the base plate and back up to the cross bars on the tripod.

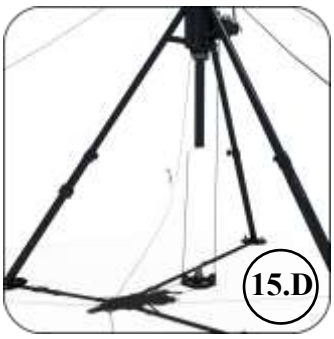



D. Locate the ball stop holder on the bottom of the tripod opposite the winch.
E. Pull the pin and guide the ball stop into place.
F. Release the pin to secure the ball stop

### *15.* Raise the First Mast Pole

A. Crank the lift base plate up until the tapered cone on the base plate firmly nest into the bottom of the first mast pole and the cable is taut.
B. Slowly release the cam lock on the tripod allowing the full weight of the first mast to rest on the lift base plate.
C. Raise the mast pole by cranking the winch handle clockwise until only 4 inches of the bottom of the mast pole is visible below the cam lock on the tripod.
D. Lock the cam lock on the tripod and then slowly lower the lift base plate to the ground by cranking the handle counter-clockwise.




### 16. Raise the Mast Poles

A. Get another mast pole out of the pole bag (not the base pole) and place the bottom of the mast pole onto the tapered cone of the lift base plate. Make sure the tapered cone on the lift base plate is fully nested inside the mast pole.
B. Holding the new mast pole in one hand to guide it, begin cranking the mast pole up making sure that the castle cut on both poles nest firmly together and no silver is visible in the seams of the joint.
C. Crank up until the cable is taut and then slowly release the cam lock and allow the weight to settle onto the just-added mast pole.
D. Continue raising the mast up through the tripod only until there is about 4 inches of the bottom of the mast pole visible below the cam lock on the tripod.
E. Lock the cam lock.
F. Repeat this process until you have reached the desired height.


**Warning:** **Keep your feet and body clear below the tripod. Slippage of the mast poles may occur if the cam lock is not engaged fully, causing damage to objects located within the tripod area below the cam lock.**

# AL2 Lift Series User Manual

## Primary Guying Only (2 - 10 Meters)

**WARNING: If at any point the mast begins to slip while the cam lock is locked - STOP. Use the 7/16 wrench provided with the system and tighten the nut on the cam lock a quarter turn until slipping no longer occurs.**

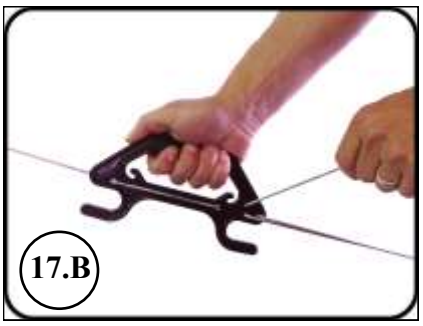
**WARNING: If you experience excessive leaning during the deployment due to heavier loads or high winds then be sure to use incremental guying as outlined in step 17.**

### *17.* Incremental Guying (if required)

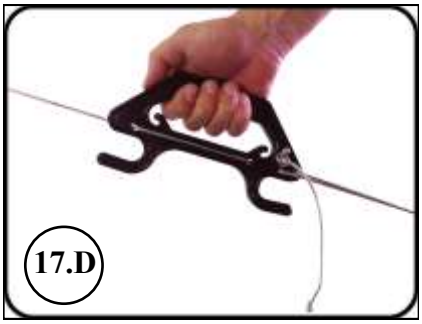
**May be required when less than two people are available to hold the primary guy ropes during deployment with heavy loads or high winds.**

Heavy loads or windy conditions can exert extra force on the center mast poles during deployment causing them to bind in the tripod and create potentially unsafe conditions. Excessive leaning during deployment is an indicator that incremental guying is required. When these conditions exist, it will be necessary to incrementally guy the mast during deployment before reaching the desired height. Incremental guying will add time to the de-

A. Start with the guy rope that is opposite the direction that the mast may be leaning.
B. Pull on the knotted end of the rope stay until you have removed enough slack from the line to allow only the insertion of a single mast pole.
C. Tie a slip knot in the slack to prevent the line from pulling back through the hole on the rope stay.
D. Adjust the guy rope by sliding the rope stay towards the mast to tighten and away from the mast to loosen.
E. Adjust the remaining 3 primary guy ropes the same way to allow for only enough slack for a single mast pole to be inserted.
F. Continue raising the mast sections utilizing incremental guying until the full height has been achieved.







### 18. Insert the Base Pole

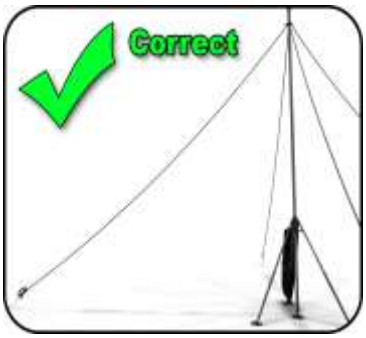
A. Get the base pole out of the pole bag and place the bottom the base plate onto the tapered cone of the lift base plate. Make sure the tapered cone on the lift base plate is fully nested inside the base pole.
B. Holding the base pole in one hand to guide it, begin cranking the base pole up making sure that the castle cut on both poles nest firmly together and no silver is visible in the seams of the joint. You may have to slightly rotate the bottom pole to get the poles to nest perfectly.
C. Crank up until the cable is taut and then slowly release the cam lock and allow the weight to settle onto the base pole.
D. Lower the base pole slowly until the lift base plate on the bottom of the base pole firmly contacts the ground and the cable goes slack.
E. Lock the cam lock.




### 19. Adjust the Primary Guy Ropes

Adjust the guy ropes so that the mast is straight and perpendicular. If the guy ropes are too loose it will allow the mast to lean. If the guy ropes are too tight then they put unnecessary strain and load on the mast causing it to bend or bow. The tension should be firm, not slack nor taut.

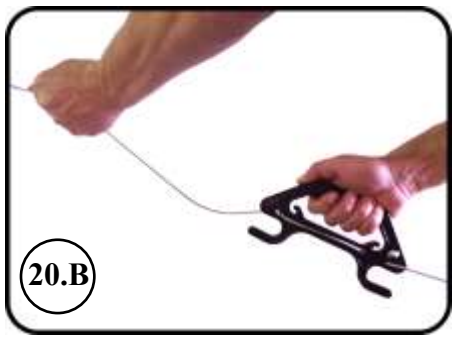
A. Adjust the primary guy ropes so that the mast is straight and perpendicular starting with the guy rope that is opposite the direction that the mast may be leaning.
B. Adjust the primary guy rope by sliding the rope stay towards the mast to tighten and away from the mast to loosen.
C. Adjust the remaining 3 primary guy ropes the same way to allow till the mast is straight and perpendicular.
E. It may be necessary to do this several times till the mast is straight and perpendicular.
F. Rotate the mast to align any directional devices if necessary.

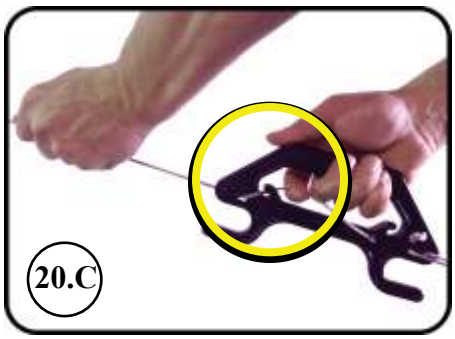



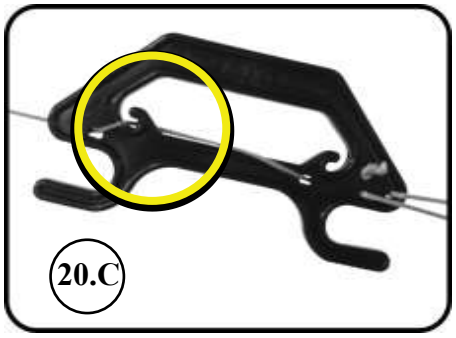

# AL2 Lift Series User Manual
## Primary Guying Only (2 - 10 Meters)

***20. Locking & Securing the Primary Guy Ropes.***

A. Make sure the mast is completely straight and perpendicular to the ground.
B. Pull a small amount of slack in the line.
C. Grab the rope and wrap it around the rope lock to secure the Primary Guy Ropes




**21. Adjust your devices and the Base Pole**

A. Adjust any directional devices by rotating the mast at this time.
B. Re-level the tripod by simply tapping or nudging the base pole with your foot in the correct direction until the bubble levels on the tripod read correctly.

**WARNING: Never adjust the tripod legs while under load.**

**22. Stake the Lift Base Plate**

*A.* Using the tripod stakes, drive a stake through both holes of the lift base plate.
*B.* Make sure the stainless steel head of the tripod stake contacts the base plate. Once the Head has firmly contacted the base plate, stop hammering. (Continued hammering may damage the base plate.)
C. If the ground is too hard to hammer the stake deep enough for the head to contact the base plate, then drive the stake into the ground at an angle towards the center to maximize the surface area contact of the stake so that the base plate is secure.



### *23.* Secure the Winch and Winch Cable.

A. Remove the ball stop from the ball stop holder.
B. Wind the free cable onto the winch and secure the ball stop on the winch.
C. Remove the handle and place it back into the wheeling carry bag.



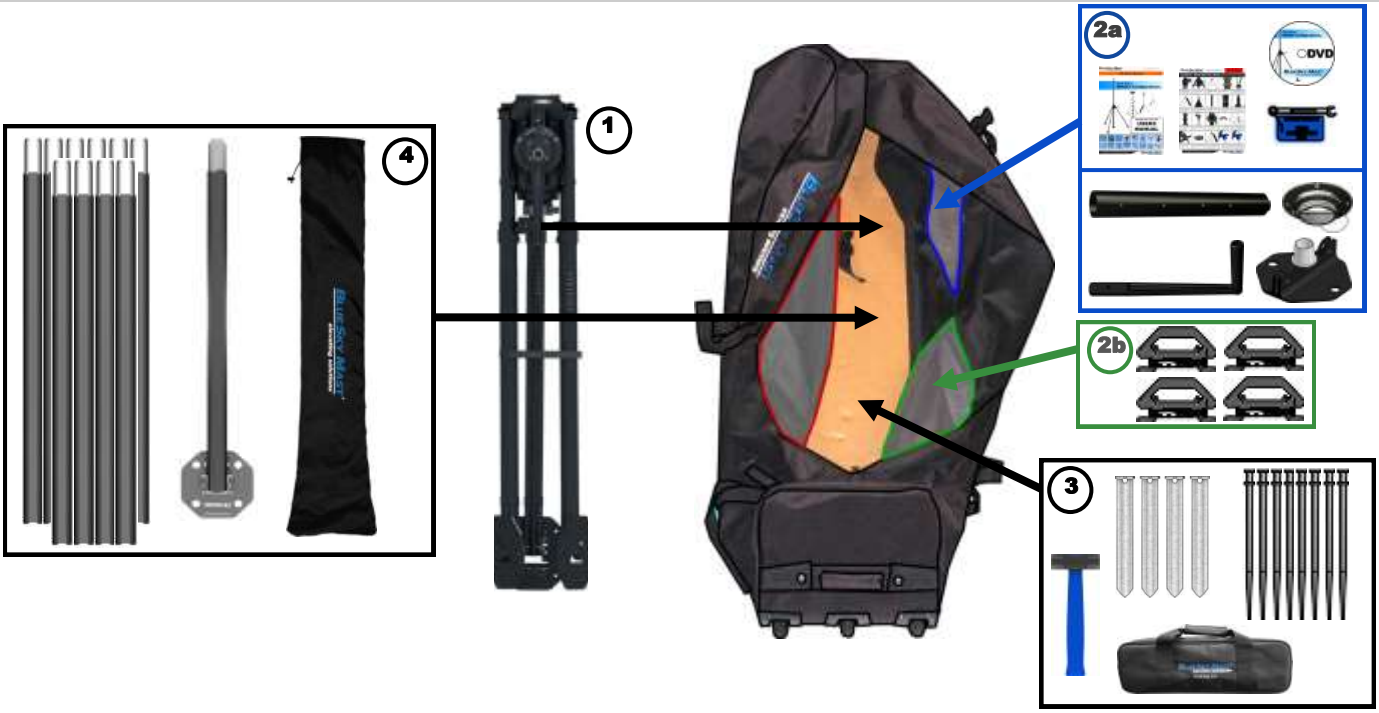

### *24.* Secure the Area—Finished

A. Secure any remaining cable to the mast.
B. Attach BlueSky Surface Wire Grounding Kit (Part # BST2-K-L104-GND-000) if so equipped. See addendum in Manual for instructions.
C. Stow any equipment and tools in the Wheeling Carry Bag to prevent loss.

# AL2 Lift Series User Manual

**Primary Guying Only (2 - 10 Meters)**

## Packing and Stowing the BlueSky Mast




### 1. Place Tripod in the Wheeling Carry Bag

A. Place lift tripod in the bag the winch positioned on the left.
B. Rotate top leg so that base plate is vertical.
C. Slide tripod down to the bottom of the bag so that base plates touch the bottom.

### 2. Place the Small Items in the Wheeling Carry Bag

A. Put the mounting pole, primary guy ring and reference pack into the inside top pocket.
B. Place the 4 guy ropes in the inside bottom pocket.

### 3. Place Staking Kit Bag in the Wheeling Carry Bag

A. Put 4 guy stakes, 8 tripod stakes, and the hammer in the Staking Kit Bag.
B. Place the Staking Kit Bag between the legs of the tripod.

### 4. Place Pole Bags in the Wheeling Carry Bag

A. Put the Center Mast Poles and the Base Pole in the Pole Bag.
B. Place the Pole Bag in the Wheeling Carry Bag on the left side of the tripod.

### 5. Secure the Wheeling Carry Bag

A. Use the two straps on the inside of the bag too secure the tripod, pole bag and stake bag.
B. Put any other ancillary devices in the bag at this time.
C. Do not overload the bag or damage may occur.
D. Zip up the main outside zipper and secure the 3 straps on the outside of the bag.

# Datasheet - AL2 Lift Series Mast - 10 Meters

# Deploying the AL2 Lift Series Mast with Primary and Secondary Guying

# (For Models 2 to 15 Meters)

# AL2 Lift Series User Manual
## Primary and Secondary Guying (2 - 15 Meters)

### 1. Inspect the Site before Deployment

A. Ensure that the following conditions are met prior to deployment:
   I. There are no overhead wires or power lines.
   II. There are no buried power lines or unexploded ordinance.
   III. The ground is capable of holding tripod stakes if stakes are required.

### 2. Unpack the Wheeling Carry Bag or Hard Case

A. Remove the pole bag and stake bag.

### 3. Set up and Orient the Tripod

A. Remove the tripod from the wheeling bag or hard case and stand it up with the base plates on the ground.
B. Release the Velcro strap on the tripod and unfold the tripod legs
C. Verify the cross bar on each of the 3 tripod legs is fully deployed by pushing down on it until the sliding pin is resting completely at the bottom of the slot.



### 4. Raise the Tripod

A. Loosen the turn knob on each of the 3 tripod legs. Make sure the legs are fully extended and all 3 base plates are flat on the ground.
B. Tighten the turn knobs on each of the 3 tripod legs.



5. **Level the Tripod**
   A. Level the tripod by using the three bubble levels and adjusting the tripod legs.
   B. When the air bubbles in both levels are centered between the level marks at the middle of each bubble level, the tripod is level.
   C. Fully tighten the turn knob on each tripod leg.

**Warning:** **Improper leveling can result in excessive leaning when fully deployed, which can damage the system and cause serious bodily harm**

6. **Secure the Tripod**
   A. Using the tripod stakes located in the black stake bag, drive a stake through each of the two holes on all three of the tripod base plates.
   *B.* Make sure the stainless steel head on the tripod stakes contact the top of the tripod base plates. Once the head has firmly contacted the tripod base plate, stop hammering, continued hammering may damage the tripod base plate.
   C. If the ground is too hard to hammer the stakes deep enough for the head to contact the base plate, then drive the stakes into the ground at an angle towards the center of the tripod to maximize the surface area contact of the stake so that the tripod base plate is secure and cannot lift up.
   D. When tripod stakes cannot be used such as on a roof top, on a paved or hard surface, or inside a building, then the tripod base plates should be secured by sandbags or other weights, preferably utilizing BlueSky's optional Telescoping Tripod Struts (Part # BSM2-K-T712-BSP-STR).
   E. If securing the tripod using weights, then the higher the mast is raised the more weight will be needed at the base to counteract the payload at the top and keep the mast from tipping over.
   F. Recheck bubble levels to make sure tripod is level.

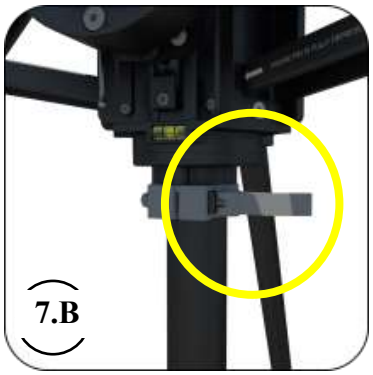



# AL2 Lift Series User Manual
## Primary and Secondary Guying (2 - 15 Meters)

**7. Insert the First Mast Pole**

A. Release the cam lock and insert a mast pole up through the bottom of the tripod until the silver insert of the mast pole is visible at least 4 inches above the top of the tripod.
B. Secure the mast pole by locking the cam lock on the tripod.






***8.*** **Add the Mounting Pole**

A. Locate the mounting pole (it is 1/2 the length of a mast pole) and slide it over the silver insert of the first mast pole in the tripod.
B. Make sure the castle cut on both poles nest fully together and there is no silver visible in the seams of the joint.




**9. Add the Secondary Guy Ring**

A. Locate the **Blue Secondary Guy Ring**
B. Release the cam lock on the Blue Secondary Guy Ring and slide it over the top of the mounting pole until it rests on top of the tripod. **DO NOT** lock it into place at this time.


**10. Add the Primary Guy Ring**

A. Locate the **Red Primary Guy Ring**
B. Remove the push pin and slide it over the top of the mounting pole.
C. Pin it to the last hole on the bottom of the mounting pole.

# AL2 Lift Series User Manual
## Primary and Secondary Guying (2 - 15 Meters)

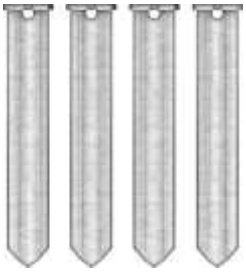
**11. Attach Your Device or Devices to the Mast**

A. Attach your devices to mounting pole / mast.
B. Secure any loose cables to the mounting pole.


⚠ **WARNING: Use Velcro straps or some other form of cable management to secure instrument cables to the mast to reduce strain on cables and prevent damage to cable connections. Loose cables can also cause the mast to lean to one side and**

**12. Locate the four Primary Guy Ropes and Guy Stakes**

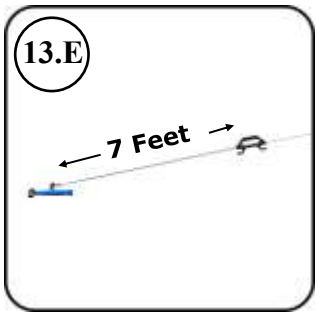
A. Locate the four Primary Guy Ropes with Red Clips and four galvanized steel guy stakes



**13. Attach the 1st Primary Guy Rope.**

A. Attach the red clip on the free end of the 1st primary guy rope to the ROUND **HOLE** on the red primary guy ring.
B. Unwind the 1st primary guy rope while walking away from the mast taking one **NORMAL** step for each meter of height of the mast. Example 10 meters equals 10 **NORMAL** steps. Do not use exaggerated steps.
C. Drive a guy stake into the ground at the length that you determined based on the previous step.
D. Standing in place above the guy stake, unwind the rest of the guy rope off the handle and then attach the stainless steel clip onto the guy stake.
E. For mast heights of 10+ meters - Slide the handle towards the mast approx. 7 feet. This will take up the slack in the guy rope during deployment and prepare you for incremental guying (if required).



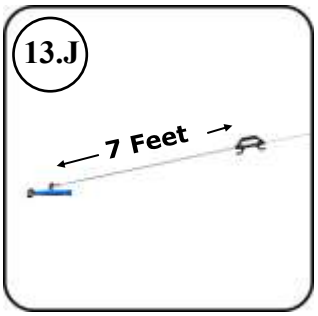




***Helpful Hint:*** *Walk the 1st guy rope in the opposite direction of the sun. This will help you align the 2nd guy rope (opposite of 1st guy rope) without interference of the sun.*

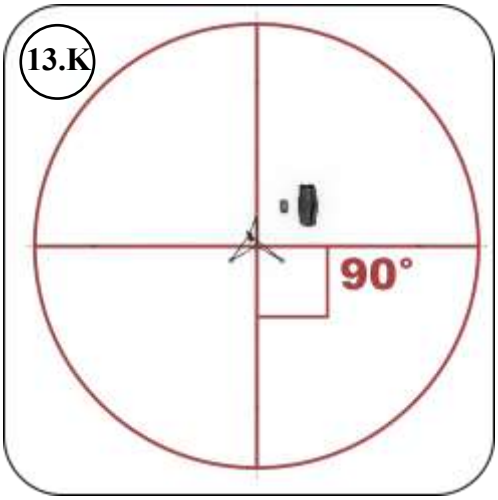
### 13. Attach the Primary Guy Ropes (continued)

F. Attach the stainless steel clip on the free end of the 2nd primary guy rope to the **SQUARE HOLE opposite the round hole** on the red primary guy ring.
G. Unwind the 2nd primary guy rope (opposite of 1st primary guy rope) at the same number of **NORMAL** steps you used for the first guy rope. Do not use exaggerated steps.
H. Visually confirm that the 2nd primary guy rope is in line with the 1st primary guy rope directly opposite the tripod.
I. Drive a guy stake into the ground and clip the free end of the guy rope to the stake.
J. For mast heights of 10+ meters - Slide the handle towards the mast approx. 7 feet. This will take up the slack in the guy rope during deployment and prepare you for incremental guying (if required).






K. Repeat the steps above until all four primary guy ropes have been properly deployed **<u>90 Degrees</u>** from each other.
L. When all guys have been deployed, inspect the spacing and orientation and make any adjustments now.

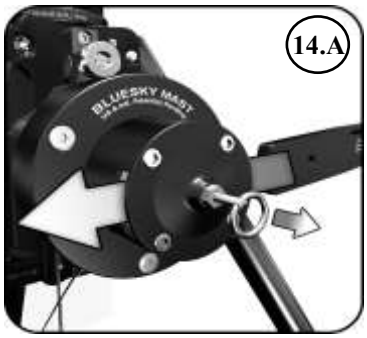




***<u>Helpful Hint</u>**: If you are deploying the mast to a shorter height than the purchased height or are in a tight spot, then see the guying addendum in this manual for help in determining your spacing and load specs.*

### 14. Attach the winch handle

A. Pull the quick release pin on the outside of the winch housing and slide the winch handle in. Release the pin to secure the winch handle.





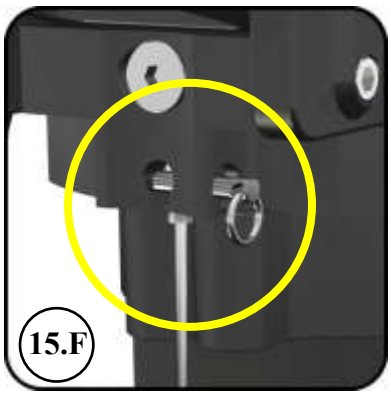
### 15. Set Up the Lift System

A. Locate the lift base plate.
B. Set it on the ground directly below the mast pole in the tripod.
C. Pay out enough cable by rotating the winch handle counter-clockwise to be able to go through the pulleys on the base plate and back up to the cross bars on the tripod.



15.C

D. Locate the ball stop holder on the bottom of the tripod opposite the winch.
E. Pull the pin and guide the ball stop into place.
F. Release the pin to secure the ball stop

### *16.* Raise the First Mast Pole

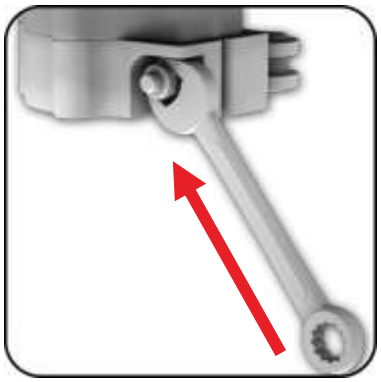
A. Crank the lift base plate up until the tapered cone on the base plate firmly nest into the bottom of the first mast pole and the cable is taut.
B. Slowly release the cam lock on the tripod allowing the full weight of the first mast to rest on the lift base plate.
C. Raise the mast pole by cranking the winch handle clockwise until only 4 inches of the bottom of the mast pole is visible below the cam lock on the tripod.
D. Lock the cam lock on the tripod and then slowly lower the lift base plate to the ground by cranking the handle counter-clockwise.





**Warning: Keep your feet and body clear below the tripod. Slippage of the mast poles may occur if the cam lock is not engaged fully, causing damage to objects located within the tripod area below the cam lock.**

**Warning: If at point the mast begins to slip while the cam lock is locked - STOP!! Use the 7/16 wrench provided with the system and tighten the nut on the cam lock 1/4 turn until slipping no longer occurs.**



# AL2 Lift Series User Manual
## Primary and Secondary Guying (2 - 15 Meters)

### 17. Raise the Mast Poles

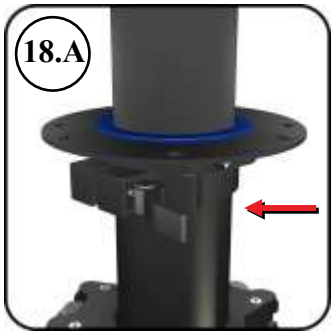
A. Get another mast pole out of the pole bag (not the base pole) and place the bottom of the mast pole onto the tapered cone of the lift base plate. Make sure the tapered cone on the lift base plate is fully nested inside the mast pole.
B. Holding the new mast pole in one hand to guide it, begin cranking the mast pole up making sure that the castle cut on both poles nest firmly together and no silver is visible in the seams of the joint.
C. Crank up until the cable is taut and then slowly release the cam lock and allow the weight to settle onto the just-added mast pole.
D. Continue raising the mast up through the tripod only until there is about 4 inches of the bottom of the mast pole visible below the cam lock on the tripod.
E. Lock the cam lock.
F. **REPEAT THIS PROCESS UNTIL YOU HAVE REACHED 1/2 THE TOTAL MAST HEIGHT. THIS IS WHEN YOU WILL ENGAGE THE BLUE - SECONDARY GUY RING AND DEPLOY THE FOUR SECONDARY GUY ROPES.**


**Warning: If at point the mast begins to slip while the cam lock is locked - STOP!! Use the 7/16 wrench provided with the system and tighten the nut on the cam lock 1/4 turn until slipping no longer occurs.**


# AL2 Lift Series User Manual
## Primary and Secondary Guying (2 - 15 Meters)

**18. Secondary Guying - Securing the Secondary Guy Ring**

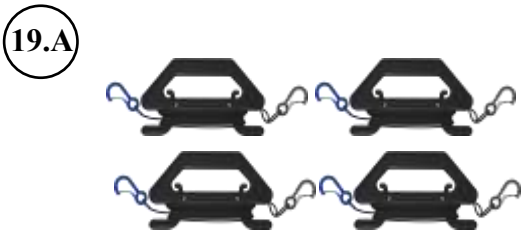
A. When you have reached 1/2 the total height of the mast, stop and lock the cam lock on the bottom of the tripod.
B. Locate the Blue Secondary Guy Ring on top of the tripod and lock the cam lock.





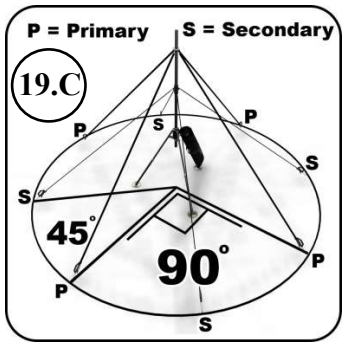
**19. Secondary Guying - Deploying the Secondary Guy Ropes**

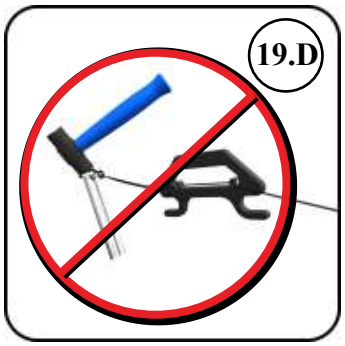
A. Locate the four secondary guy ropes with blue clips.
B. Attach the blue stainless steel clip on the free end of the 1st Secondary Guy Rope to the round hole on the Blue Secondary Guy Ring.





C. Walk away from the mast while unwinding all of the guy rope from the handle. Place the 1st Secondary Guy Rope on the ground in between two of the Primary Guy Ropes so that it is at a 45 degree angle from the Primary Guy Ropes. **DO NOT** stake the Secondary Guy Ropes at this time.
D. Repeat this process until all 4 Secondary Guy Ropes are deployed. **DO NOT** stake the Secondary Guy Ropes at this time, they will be adjusted and staked at the end of the mast deployment.

**20. Raise the Rest of the Center Mast Poles**

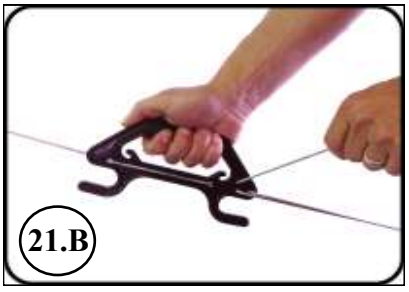
A. Raise the rest of the center mast poles as outlined in Step 17 until the full height has been achieved.

⚠ **WARNING: If you experience excessive leaning during the deployment due to heavier loads or high winds then be sure to use incremental guying as outlined in step 21.**

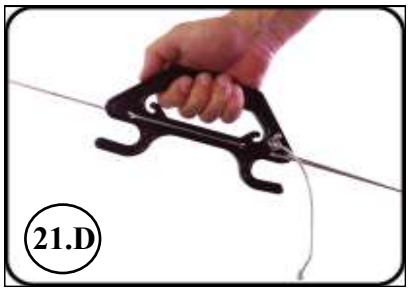
***21.*** **Incremental Guying may be required when less than two people are available to hold the primary guy ropes during deployment with heavy loads or high winds.**

Heavy loads or windy conditions can exert extra force on the center mast poles during deployment causing them to bind in the tripod and create potentially unsafe conditions. Excessive leaning during deployment is an indicator that incremental guying is required. When these conditions exist, it will be necessary to incrementally guy the mast during deployment before reaching the desired height. Incremental guying will add time to the deployment but will ensure the safety of both personnel and equipment

A. Start with the guy rope that is opposite the direction that the mast may be leaning.
B. Pull on the knotted end of the rope stay until you have removed enough slack from the line to allow only the insertion of a single mast pole.
C. Tie a slip knot in the slack to prevent the line from pulling back through the hole on the rope stay.
D. Adjust the guy rope by sliding the rope stay towards the mast to tighten and away from the mast to loosen.
E. Adjust the remaining 3 primary guy ropes the same way to allow for only enough slack for a single mast pole to be inserted.
F. Continue raising the mast sections utilizing incremental guying until the full height has been achieved.








***22.*** **Insert the Base Pole**

A. Get the base pole out of the pole bag and place the bottom the base plate onto the tapered cone of the lift base plate. Make sure the tapered cone on the lift base plate is fully nested inside the base pole.

***22.*** **Insert the Base Pole (continued)**

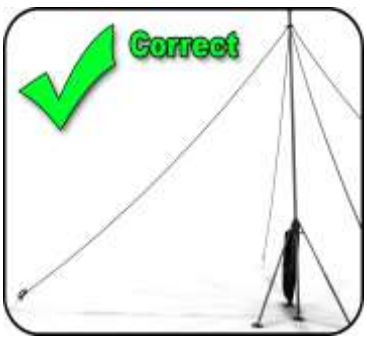
B. Holding the base pole in one hand to guide it, begin cranking the base pole up making sure that the castle cut on both poles nest firmly together and no silver is visible in the seams of the joint. You may have to slightly rotate the bottom pole to get the poles to nest perfectly.
C. Crank up until the cable is taut and then slowly release the cam lock and allow the weight to settle onto the base pole.
D. Lower the base pole slowly until the lift base plate on the bottom of the base pole firmly contacts the ground and the cable goes slack.
E. Lock the cam lock.




***23.*** **Adjust the Primary Guy Ropes**

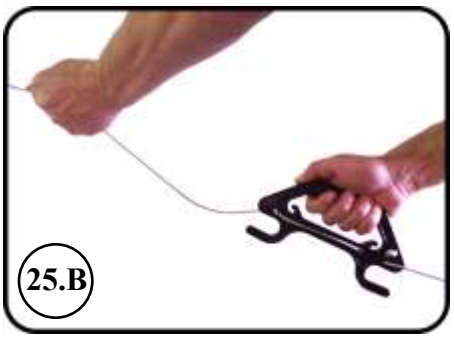
Adjust the guy ropes so that the mast is straight and perpendicular. If the guy ropes are too loose it will allow the mast to lean. If the guy ropes are too tight then they put un-necessary strain and load on the mast causing it to bend or bow. The tension should be firm, not slack nor taut.

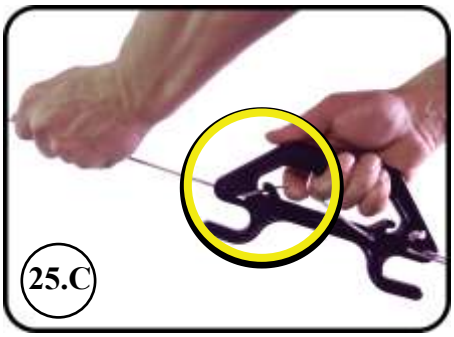
A. Adjust the primary guy ropes so that the mast is straight and perpendicular starting with the guy rope that is opposite the direction that the mast may be leaning.
B. Adjust the primary guy rope by sliding the rope stay towards the mast to tighten and away from the mast to loosen.
C. Adjust the remaining 3 primary guy ropes the same way to allow till the mast is straight and perpendicular.
E. It may be necessary to do this several times till the mast is straight and perpendicular.
F. Rotate the mast to align any directional devices if necessary.

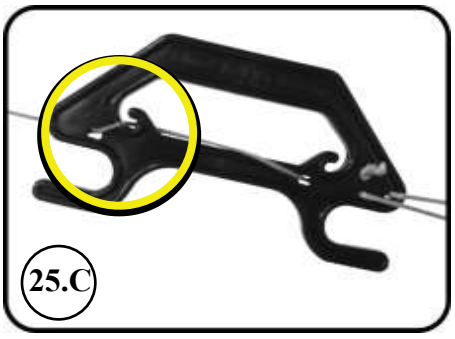




### *25. Locking & Securing the Primary Guy Ropes.*

A. Make sure the mast is completely straight and perpendicular to the ground.
B. Pull a small amount of slack in the line.
C. Grab the rope and wrap it around the rope lock to secure the Primary Guy Ropes




### 26. Adjust your devices and the Base Pole

A. Adjust any directional devices by rotating the mast at this time.
B. Re-level the tripod by simply tapping or nudging the base pole with your foot in the correct direction until the bubble levels on the tripod read correctly.

**Warning:** **Never adjust the tripod legs while under load.**

### 27. Stake the Lift Base Plate

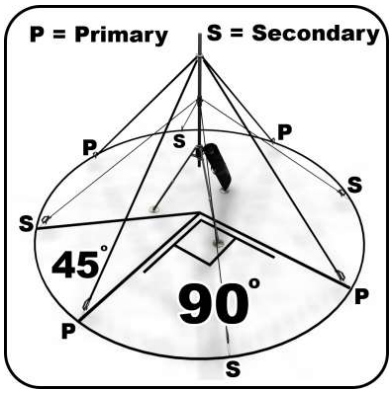
*A.* Using the tripod stakes, drive a stake through both holes of the lift base plate.
*B.* Make sure the stainless steel head of the tripod stake contacts the base plate. Once the Head has firmly contacted the base plate, stop hammering. (Continued hammering may damage the base plate.)
C. If the ground is too hard to hammer the stake deep enough for the head to contact the base plate, then drive the stake into the ground at an angle towards the center to maximize the surface area contact of the stake so that the base plate is secure.



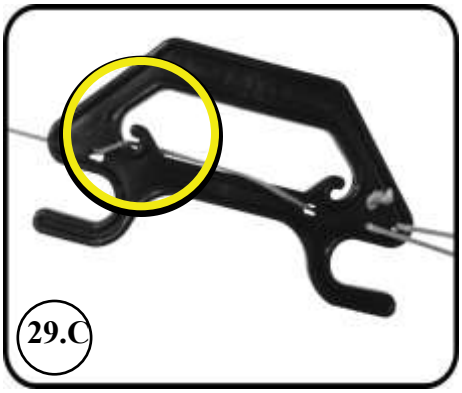
# AL2 Lift Series User Manual
## Primary and Secondary Guying (2 - 15 Meters)

### *28. Staking, Adjusting and Locking the Secondary Guy Ropes*

A. Locate the 4 Guy Stakes in the staking kit bag.
B. Confirm all 4 Secondary Guys are evenly placed at a 45 degree angle between the Primary Guy Ropes.
C. Pull each of the Secondary Guy Ropes out to its fullest distance and drive a guy stake into the ground. Attach, adjust and lock the guy rope into position.
D. Adjust and lock the








### *28.* Secure the Winch and Winch Cable.

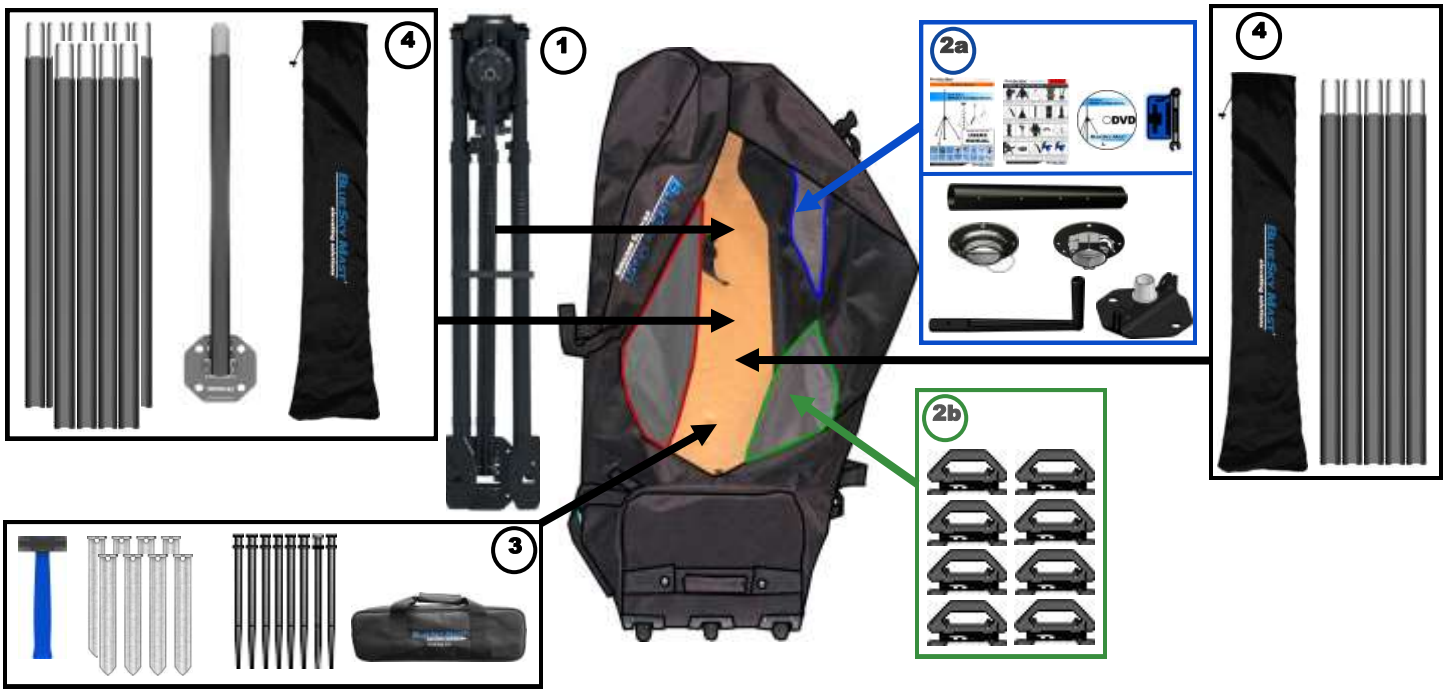
A. Remove the ball stop from the ball stop holder.
B. Wind the free cable onto the winch and secure the ball stop on the winch.
C. Remove the handle and place it back into the wheeling carry bag.



# AL2 Lift Series User Manual

**Primary and Secondary Guying (2 - 15 Meters)**

## Packing and Stowing the BlueSky Mast




### 1. Place Tripod in the Wheeling Carry Bag

A. Place lift tripod in the bag the winch positioned on the left.
B. Rotate top leg so that base plate is vertical.
C. Slide tripod down to the bottom of the bag so that base plates touch the bottom.

### 2. Place the Small Items in the Wheeling Carry Bag

A. Put the mounting pole, primary & secondary guy rings and reference pack into the inside top right pocket.
B. Place the 8 guy ropes in the inside the bottom right Pocket.

### 3. Place Staking Kit Bag in the Wheeling Carry Bag

A. Put 8 guy stakes, 8 tripod stakes, and hammer in the Staking Kit Bag.
B. Place the Staking Kit Bag between the legs of the tripod.

### 4. Place Pole Bags in the Wheeling Carry Bag

A. Put the Center Mast Poles and the Base Pole in the 2 Pole bags.
B. Place the Pole Bags in the Wheeling Carry Bag, one to each side of the tripod.

# AL2 Lift Series User Manual

**Primary and Secondary Guying (2 - 15 Meters)**

## Packing and Stowing the BlueSky Mast

### *4.* Place Primary Stake Bag in the Wheeling Carry Bag

A. Put the tripod stakes, 4 guy stakes and hammer in the small black stake bag.
B. Place the stake bag between the legs of the tripod with the drawstring at the top.

### *5.* Place the 1st Pole Bag in the Wheeling Carry Bag

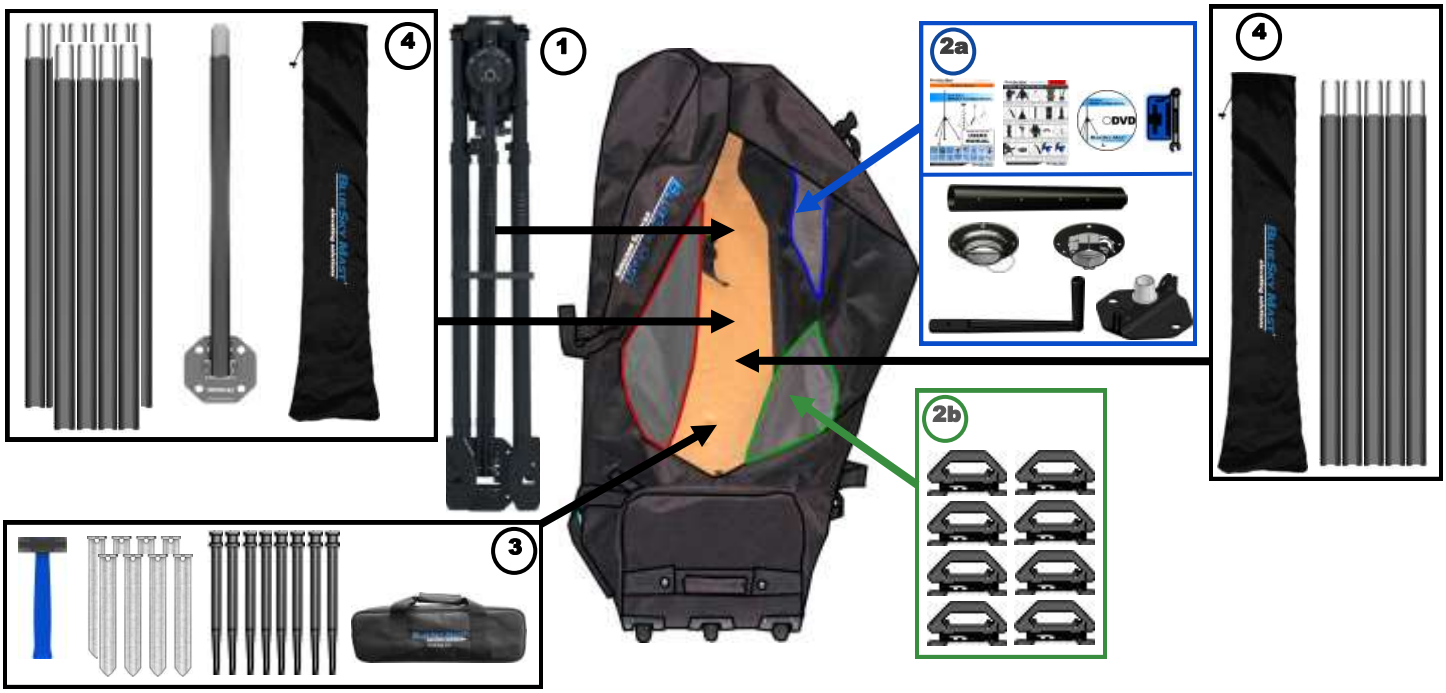
A. Put 1/2 the mast poles in the 1st pole bag
B. Place the pole bag in the wheeling carry bag to the right of the tripod

### *6.* Place the 2nd Pole Bag in the Wheeling Carry Bag

A. Put the 1/2 the poles and the base pole in the 2nd pole bag
B. Place the pole bag in the wheeling carry bag to the left of the tripod

### *7.* Secure the Wheeling Carry Bag

A. Use the two straps on the inside of the bag too secure the tripod, pole bag and stake bag.
B. Put any other ancillary devices in the bag at this time.
C. Do not overload the bag or damage may occur.
D. Zip up the main outside zipper and secure the 3 straps on the outside of the bag.



# Grounding Deployment Instructions

## Surface Wire Grounding Kit — BST2-K-L104-GND-000

**Contents of Surface Wire Grounding Kit**

**Grounding Bracket**
**BST2-P-B205-GND-000**

**Stainless Steel Cable w/Stakes**
**BST2-P-C225-GND-000**

**Grounding Bag**
**BST2-B-P300-BAG-GND**

### GROUNDING DEPLOYMENT INSTRUCTIONS

**1.** Locate grounding bracket and attach to the base pole of the mast.

**2.** The grounding bracket should be attached to the middle of the base pole to provide the best grounding.

**3.** Locate the grounding cables and place them at the base of the mast.

**4.** Remove the wing nut from the post without the Bronze ECLE connector and attach the ends of the grounding cables.

**5.** Connect one end of each of the grounding cables to the grounding bracket post an tighten back down the wing nut.

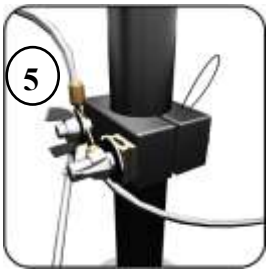
**6.** If additional equipment grounds are required, attach them to the Bronze ECLE connector.

**7.** Extend the grounding cables away from the base pole at 120 degree angles from each other.

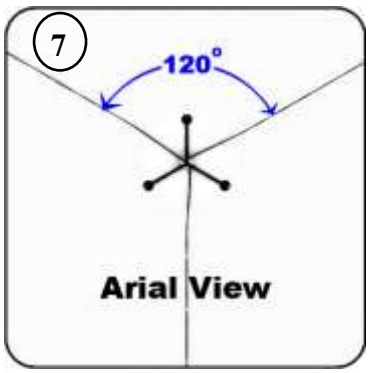
**8.** Position the 1st stake of each cable at the free end furthest from the base of the mast.

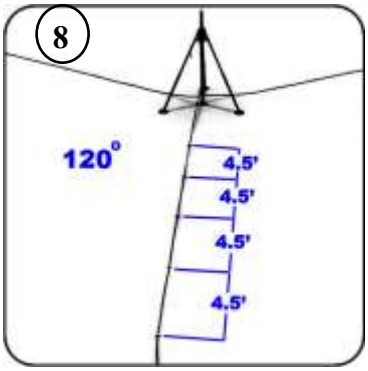
**9.** Evenly space the remaining stakes of each cable at an interval of 4.5 ft.

**10.** Hammer the stakes into the ground making sure that the head of each stake contacts the ground.





# Datasheet - AL2 Lift Series Mast - 15 Meters

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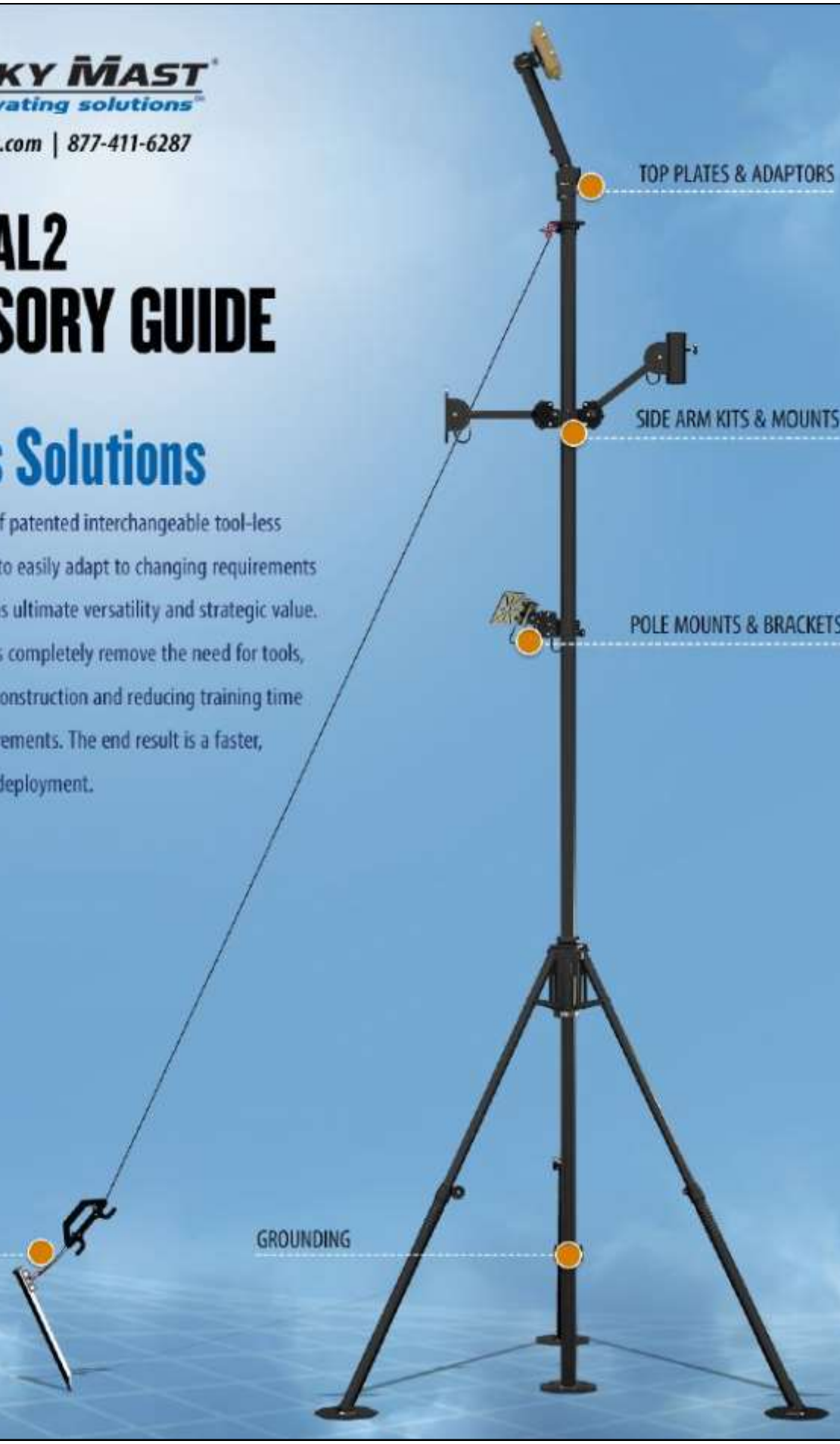
# AL1 and AL2 ACCESSORY GUIDE

## Tool-less Solutions

BlueSky Mast's suite of patented interchangeable tool-less accessories allow you to easily adapt to changing requirements which give our systems ultimate versatility and strategic value. Our innovative designs completely remove the need for tools, simplifying platform construction and reducing training time and man power requirements. The end result is a faster, highly effective mast deployment.



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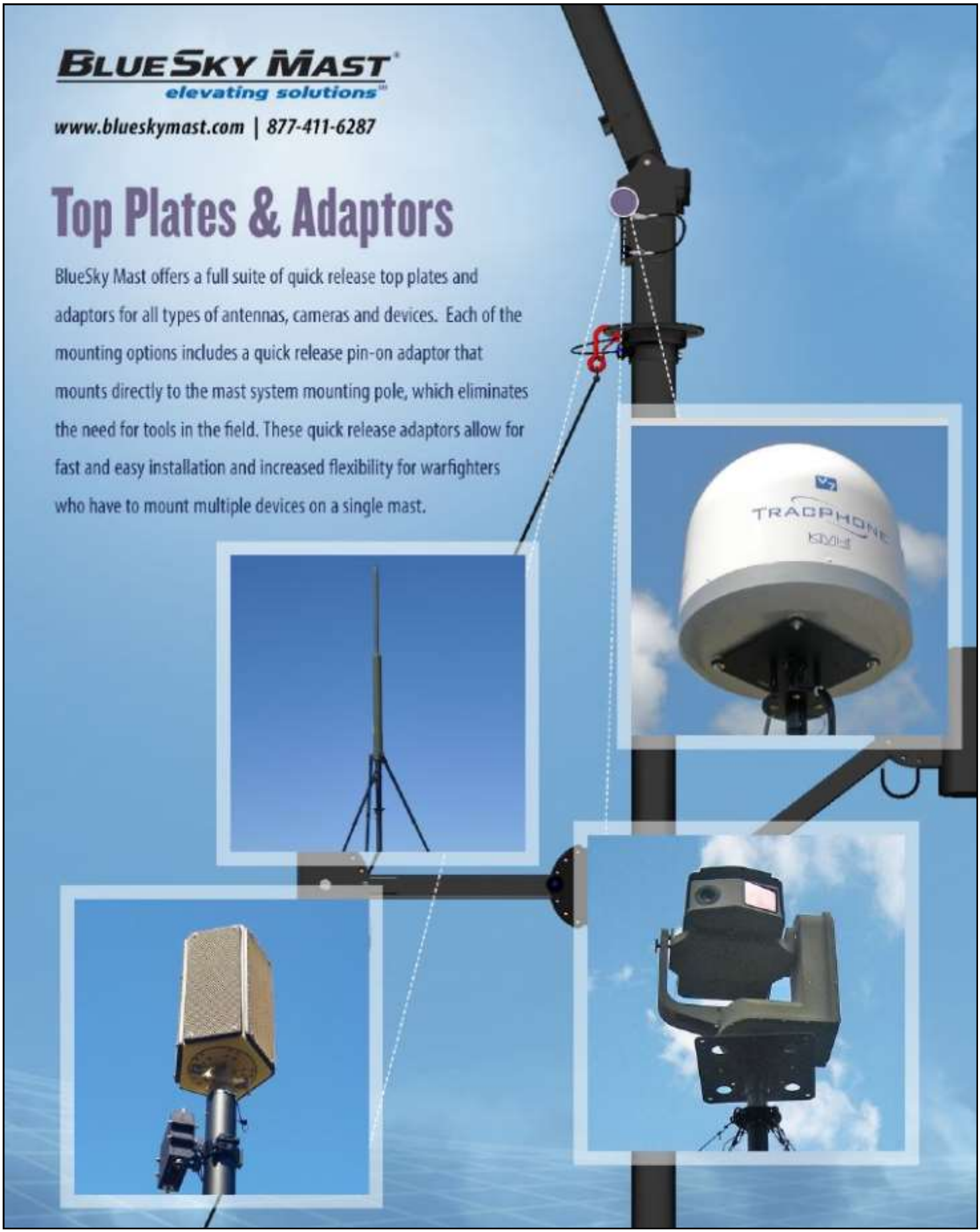
# Top Plates & Adaptors

BlueSky Mast offers a full suite of quick release top plates and adaptors for all types of antennas, cameras and devices. Each of the mounting options includes a quick release pin-on adaptor that mounts directly to the mast system mounting pole, which eliminates the need for tools in the field. These quick release adaptors allow for fast and easy installation and increased flexibility for warfighters who have to mount multiple devices on a single mast.



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# Top Plates & Adaptors

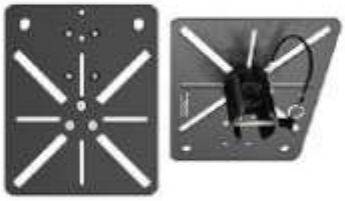
These accessories attach to the mounting pole on the top of an AL1 or AL2 mast system *(Based on system height and payload).*

OE-254 & COM201 Antennas
**BSM2-K-M400-OE2-000**


Manual Tilt Assembly with Mounting Pole
**BSM2-K-M650-TLT-000**
*(+/- 22 Degrees Tilt Angle Adjustment)*

Pan & Tilt for Quickset QPT & FLIR
**BSM2-A-M460-MPP-00A**

Cross Pattern 6x6 Inches
**BSM2-A-M550-MPP-00A**



Cross Pattern 8x10 Inches
**BSM2-A-M408-MPP-00A**

NATO - SINCGARS - EPLRS
**BSM2-A-M305-NTO-00A**

Solid 7.5x7.5
**BSM2-A-M407-MPP-00A**

Solid 11.5x11.5
**BSM2-A-M411-MPP-00A**

Radar 8x11
**BSM2-A-M400-MPP-RDA**

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# Top Plates & Adaptors

These accessories attach to the mounting pole on the top of an AL1 or AL2 mast system *(Based on system height and payload).*

KVH TracPhone TPV 3-7, TVHD 11
**BSM2-K-M309-MPP-TRC**

Cisco 1500 Series
**BSM2-A-M410-CSC-00A**

Tampa Microwave
**BSM2-A-M410-MPA-TML**

G2 Magnetic Mount
**BSM2-A-M325-MAG-00A**

BMS GPS & RF Tracking, GTA 17/58
**BSM2-A-M365-BMS-00A**

Pipe Mount for 1-2 Inch Antennas
**BSM2-A-M420-MPA-000**

Mobile Mark Omni Antenna
**BSM2-A-M718-MPP-00A**

PSL / DF Device
**BSM2-A-M415-MPP-00A**

Pin On Threaded Adaptor
**BSM2-A-P-M510-PIN-000**

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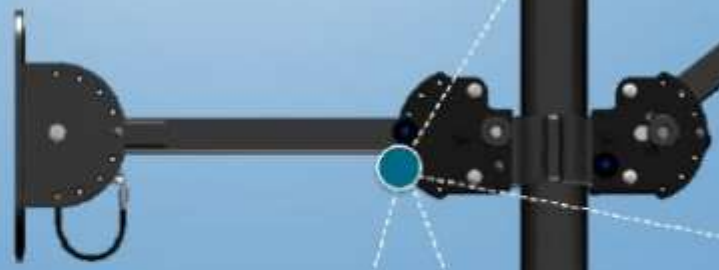
# Side Arm Kits & Mounts

BlueSky Mast offers a full suite of side arm kits and mounts. Based on your separation requirements, we have multiple arm lengths and a variety of side mounts which include a quick release push pin for fast and easy installation.



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# Side Arm Kits

These Side Arm Kits can be mounted anywhere on an AL1 or AL2 mast system *(Based on system height and payload).*

## DUAL — STRAIGHT ARM KIT - DUAL - COM201/OE-254


This kit includes two insulated adaptors that work with both COM201 and OE-254 antennas.

| ARM LENGHT | PART NUMBER |
|---|---|
| 44 in. | BSM2-K-A352-S44-OE2 |

(1) Side Arm Mount - 1 in. COM201 / OE-254
P/N: BSM2-K-M400-OE2-EM0

(1) AL1 / AL2 Pole Mount - Two sided
P/N: BSM2-P-A352-T00-100

(2) Straight Arm Bracket w/1 in. Side Arm (44 in.)
P/N: BSMU-P-A344-ARM-10S

## DUAL — STRAIGHT ARM KIT - DUAL - NATO


| ARM LENGHT (Inches) | PART NUMBER |
|---|---|
| 24 in. | BSM2-K-A352-S24-NTO |
| 36 in. | BSM2-K-A352-S36-NTO |
| 44 in. | BSM2-K-A352-S44-NTO |

(1) AL1 / AL2 Pole Mount - Two sided
P/N: BSM2-P-A352-T00-100

(1) Side Arm Mount - 1 in. NATO-SINGARS-EPLRS
P/N: BSM2-A-M305-NTO-EM0

(2) Straight Arm Bracket w/1 in. Side Arm (44 in.)
P/N: BSMU-P-A344-ARM-10S

## DUAL — ARTICULATING ARM KIT - DUAL w/BOLSTER PLATE

(1) AL1 / AL2 Pole Mount - Two sided
P/N: BSM2-P-A352-T00-100

(2) Articulating Arm Brackets
P/N: BSMU-P-A3XX-ARM-10S

(2) Slotted Side Arms (6 to 36 in.)
P/N: BSM2-P-A3XX-ARM-100

(2) Side Arm Mounts - 1 in. - Bolster Plates
P/N: BSM2-P-A101-EM0

| ARM LENGHT (Inches) | PART NUMBER |
|---|---|
| 6 in. ARM X 2 | BSM2-K-A352-T06-BOL |
| 12 in. ARM X 2 | BSM2-K-A352-T12-BOL |
| 24 in. ARM X 2 | BSM2-K-A352-T24-BOL |
| 36 in. ARM X 2 | BSM2-K-A352-T36-BOL |

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# Side Arm Kits

These Side Arm Kits can be mounted anywhere on an AL1 or AL2 mast system *(Based on system height and payload).*

## SINGLE

(1) AL1/AL2 Pole Mount - Two Sided
P/N: BSM2-P-A352-T00-000

(1) Straight Arm Bracket w/1 in. Side Arm (6 to 44 in.)
P/N: BSMU-P-A3XX-ARM-10S

**NOT INCLUDED:** 1 in. Side Arm Mount *(See optional side arm mounts)*

**STRAIGHT ARM KIT - SINGLE - NO SIDE MOUNT**

| ARM LENGTH (Inches) | PART NUMBER |
|---|---|
| 6 in. | BSM2-K-A351-S06-100 |
| 12 in. | BSM2-K-A351-S12-100 |
| 24 in. | BSM2-K-A351-S24-100 |
| 36 in. | BSM2-K-A351-S36-100 |
| 44 in. | BSM2-K-A351-S44-100 |

## DUAL

(1) AL1/AL2 Pole Mount - Two Sided
P/N: BSM2-P-A352-T00-000

(2) Straight Arm Bracket w/1 in. Side Arm (6 to 44 in.)
P/N: BSMU-P-A3XX-ARM-10S

**NOT INCLUDED:** 1 in. Side Arm Mount *(See optional side arm mounts)*

**STRAIGHT ARM KIT - DUAL - NO SIDE MOUNT**

| ARM LENGTH (Inches) | PART NUMBER |
|---|---|
| 6 in. | BSM2-K-A352-S06-100 |
| 12 in. | BSM2-K-A352-S12-100 |
| 24 in. | BSM2-K-A352-S24-100 |
| 36 in. | BSM2-K-A352-S36-100 |
| 44 in. | BSM2-K-A352-S44-100 |

## THREE WAY

(1) AL1/AL2 Pole Mount - Three Sided
P/N: BSM2-P-A353-T00-000

(3) Straight Arm Bracket w/1 in. Side Arm (6 to 44 in.)
P/N: BSMU-P-A3XX-ARM-10S

**NOT INCLUDED:** 1 in. Side Arm Mount *(See optional side arm mounts)*

**STRAIGHT ARM KIT - THREE WAY - NO SIDE MOUNT**

| ARM LENGTH (Inches) | PART NUMBER |
|---|---|
| 6 in. | BSM2-K-A353-S06-100 |
| 12 in. | BSM2-K-A353-S12-100 |
| 24 in. | BSM2-K-A353-S24-100 |
| 36 in. | BSM2-K-A353-S36-100 |
| 44 in. | BSM2-K-A353-S44-100 |

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# Side Arm Mounts

These Side Arm Mounts can be used with all AL1 or AL2 side arm kits *(Based on system height and payload).*


Adjust to fit antennas with an OD of .75 to 2.0 inches

Omni Antenna .75 to 2.0 Inch
**BSMU-P-A112-OMN-EM0**


Adjust to fit antennas with an OD of 2.0 to 3.5 inches

Omni Antenna 2.0 to 3.5 Inch
**BSMU-P-A350-OMN-EM0**

NATO - SINGARS - EPLRS
**BSM2-A-M305-NTO-EM0**

OE-254 & COM201 Antennas
**BSM2-K-M400-OE2-EM0**

This insulated adaptor works with both COM201 and OE-254 antennas.

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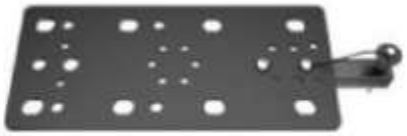
# Side Arm Mounts

These Side Arm Mounts can be used with all AL1 or AL2 side arm kits *(Based on system height and payload).*

Cross Pattern 8x10
**BSM2-A-M408-MPP-EM0**



Cisco 1500 Series
**BSM2-A-M410-CSC-EM0**

Solid 7.5x7.5
**BSM2-A-M407-MPP-EM0**

Bolster Plate
**BSM2-P-A101-BOL-EM0**

Adjustable Cup Holder
**BSM2-P-A100-CUP-EM0**

Solid 11.5x11.5
**BSM2-A-M411-MPP-EM0**

Boltster Plate - Magnetic
**BSM2-P-A101-BOL-MG0**

G2 MAG MOUNT
**BSM2-A-M325-MAG-EM0**

GPS Antenna
**BSMU-A-M375-GPS-EM0**

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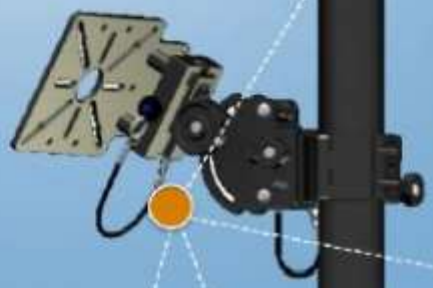
# Pole Mounts & Plate Brackets

BlueSky Mast's patented interface *(slide lock technology)* allow warfighters to easily attach and remove devices to our universal pole mount, which can be secured anywhere on the mast from the base to the top.



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# Pole Mounts

The pole mounts below can be attached anywhere on our AL1 or AL2 Mast Systems. ***NOT compatible with our AL3 Mast Systems.***

## Pole Mount - Two Sided - BSM2-P-A352-T00-000




Patented BlueSky Mast Interface



## Pole Mount - Three Sided - BSM2-P-A353-T00-000




Patented BlueSky Mast Interface



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# Plate Brackets

These plate brackets can be mounted anywhere on the mast using our 2 or 3 sided pole mounts.

FRONT OF PLATE

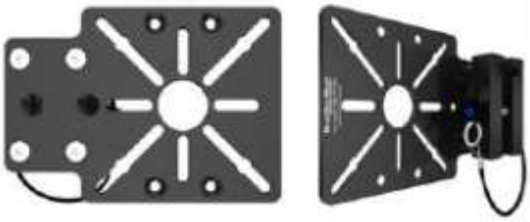
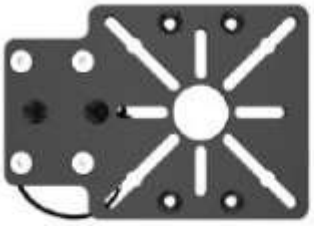


PLATE BRACKET ON POLE MOUNT

BACK OF PLATE

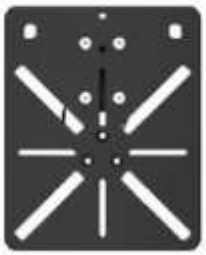
Patented BlueSky Mast Interface



Universal PTP Plate
**BSM2-A-M900-PTP-BRK**

Cisco Aironet 1520 Series
**BSM2-A-M524-CSC-BRK**

Ultra TCS 245 Radio
**BSMU-A-M850-TCS-BRK**



Cross Pattern 8x10 Inch
**BSM2-A-M408-MPP-BRK**

Omni Bracket .75 to 2.0 Inch OD
**BSMU-P-A112-OMN-BRK**

Omni Bracket 2.0 to 3.5 Inch OD
**BSMU-P-A350-OMN-BRK**

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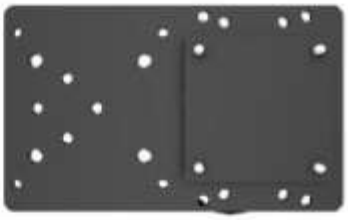
# Plate Brackets

These plate brackets can be mounted anywhere on the mast using our 2 or 3 sided pole mounts.

GD Fortress ES Series
**BSM2-A-M520-GDF-BRK**

Ultra TCS Antennas
**BSMU-P-A860-TCS-BRK**



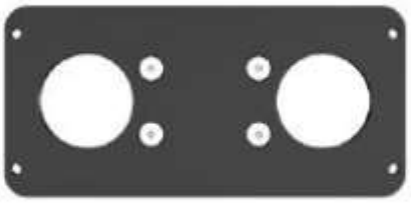
Motorola PTP Radio & LPU
**BSM2-A-M415-MOT-BRK**

Hoffman NEMA Enclosures
**BSM2-A-M412-HFM-BRK**

Radiowaves 2ft. Parabolic Antenna
**BSM2-A-M502-MPP-BRK**

Mobile Mark 120 Sec Antenna
**BSMU-A-M710-MMA-BRK**

Tampa Micro Satellite Simulator
**BSM2-A-M410-MPA-TM2**



Rajant Ethernet Radio
**BSMU-A-M585-RAJ-BRK**

AirGrid M Antennas
**BSM2-A-M560-MPP-BRK**

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# Plate Brackets

These plate brackets can be mounted anywhere on the mast using our 2 or 3 sided pole mounts.

PC Tel Sector Antenna SP4959
**BSMU-A-M705-PCT-BRK**

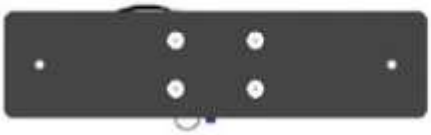
Hyperlink - L-Com Panel Antenna
**BSM2-A-M700-MPP-BRK**

GD V6 eNode B
**BSMU-A-M411-EN6-BRK**

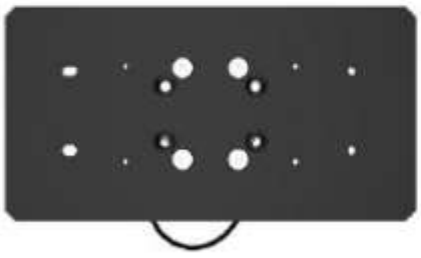
Rajant Breadcrumb Radio
**BSMU-A-M580-RAJ-BRK**

Solid 7.5x7.5
**BSM2-A-M407-MPP-BRK**

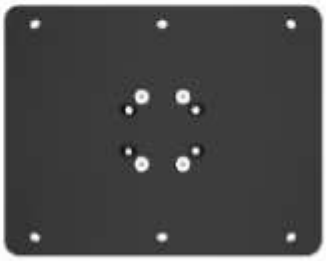
Solid 11.5x11.5
**BSM2-A-M411-MPP-BRK**



Rajant PC Tel Sector Antenna
**BSMU-A-M587-RAJ-BRK**



BKT-11 QUAD and MPU3
**BSM2-A-M811-BKT-BRK**



C2M2 Transceiver
**BSMU-A-M525-C2M-BRK**

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# Certified Grounding & Lightning Protection

BlueSky Mast has created a suite of certified grounding accessories that enable you to protect your equipment and more importantly your personnel from static discharge and high voltage equipment surges. Our portable mast platforms, when combined with our surface wire grounding kit, have been tested and certified to provide lightning protection equivalent or better than driving an 8 ft. copper rod into the ground.

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# Certified Grounding & Lightning Protection

Protect your equipment with grounding and lightning components from BlueSky Mast.

## GROUNDING

Surface Wire Grounding Kit - AL1 & AL2

**BST2-K-L104-GND-000**


## LIGHTNING PROTECTION

Pin On Lightning Air Terminal - AL1 & AL2

**BST2-K-L102-GND-000**

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# Guy Kits

BlueSky Mast offers color-coded primary and secondary guy kits with free spinning guy rings that allow the mast to be rotated 360 degress after deployment. The guy rope is made of Spectra Cord, a woven fiber 10 times stronger than common cable.

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# Guy Kits

## PRIMARY GUY KITS

Primary Guy Ring

Qty: (4) Primary Guy Ropes

Qty: (4) Guy Stakes

| METERS | PART NUMBER |
|---|---|
| 2 METERS | BSM2-K-G602-PRI-RED |
| 3 METERS | BSM2-K-G603-PRI-RED |
| 4 METERS | BSM2-K-G604-PRI-RED |
| 5 METERS | BSM2-K-G605-PRI-RED |
| 6 METERS | BSM2-K-G606-PRI-RED |
| 7 METERS | BSM2-K-G607-PRI-RED |
| 8 METERS | BSM2-K-G608-PRI-RED |
| 9 METERS | BSM2-K-G609-PRI-RED |
| 10 METERS | BSM2-K-G6010-PRI-RED |
| 11 METERS | BSM2-K-G6011-PRI-RED |
| 12 METERS | BSM2-K-G6012-PRI-RED |
| 13 METERS | BSM2-K-G6013-PRI-RED |
| 14 METERS | BSM2-K-G6014-PRI-RED |
| 15 METERS | BSM2-K-G6015-PRI-RED |

## SECONDARY GUY KITS

Secondary Guy Ring

Qty: (4) Secondary Guy Ropes

Qty: (4) Guy Stakes

| METERS | PART NUMBER |
|---|---|
| 2 METERS | BSM2-K-G602-2ND-BLU |
| 3 METERS | BSM2-K-G603-2ND-BLU |
| 4 METERS | BSM2-K-G604-2ND-BLU |
| 5 METERS | BSM2-K-G605-2ND-BLU |
| 6 METERS | BSM2-K-G606-2ND-BLU |
| 7 METERS | BSM2-K-G607-2ND-BLU |
| 8 METERS | BSM2-K-G608-2ND-BLU |
| 9 METERS | BSM2-K-G609-2ND-BLU |
| 10 METERS | BSM2-K-G6010-2ND-BLU |
| 11 METERS | BSM2-K-G6011-2ND-BLU |
| 12 METERS | BSM2-K-G6012-2ND-BLU |
| 13 METERS | BSM2-K-G6013-2ND-BLU |
| 14 METERS | BSM2-K-G6014-2ND-BLU |
| 15 METERS | BSM2-K-G6015-2ND-BLU |

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**DUNS Number: 137469404**