

## Instructions for using the AntennAlign Alignment Tool (AAT) Azimuth Scope Kit

### Introduction:

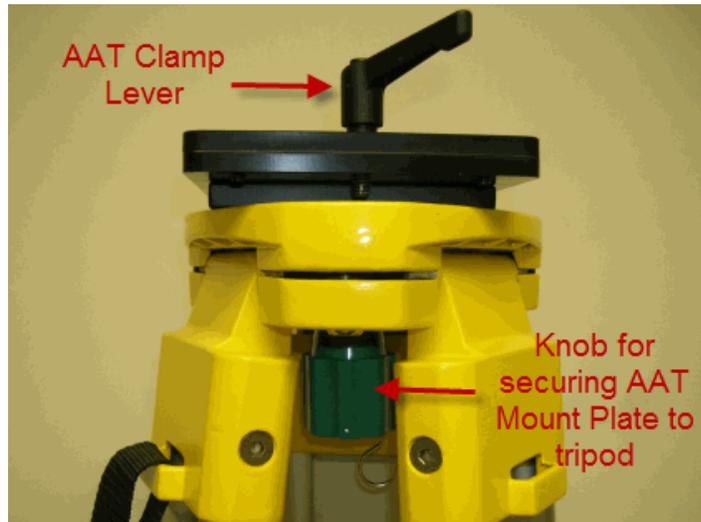
Sunsight Instruments is proud to introduce our latest antenna alignment solution, the AntennAlign Azimuth Scope Kit, used to obtain quick and easy azimuth solutions on a wide range of tower antennas. Combining the well-established performance and function of the AntennAlign Alignment Tool with a simple and accurate ground based AZM scope attachment; Sunsight Instruments makes it possible to gather critical antenna azimuth information from the ground.

Azimuth Scope Kit contents:



## PREPARING THE AZM SCOPE KIT FOR USE

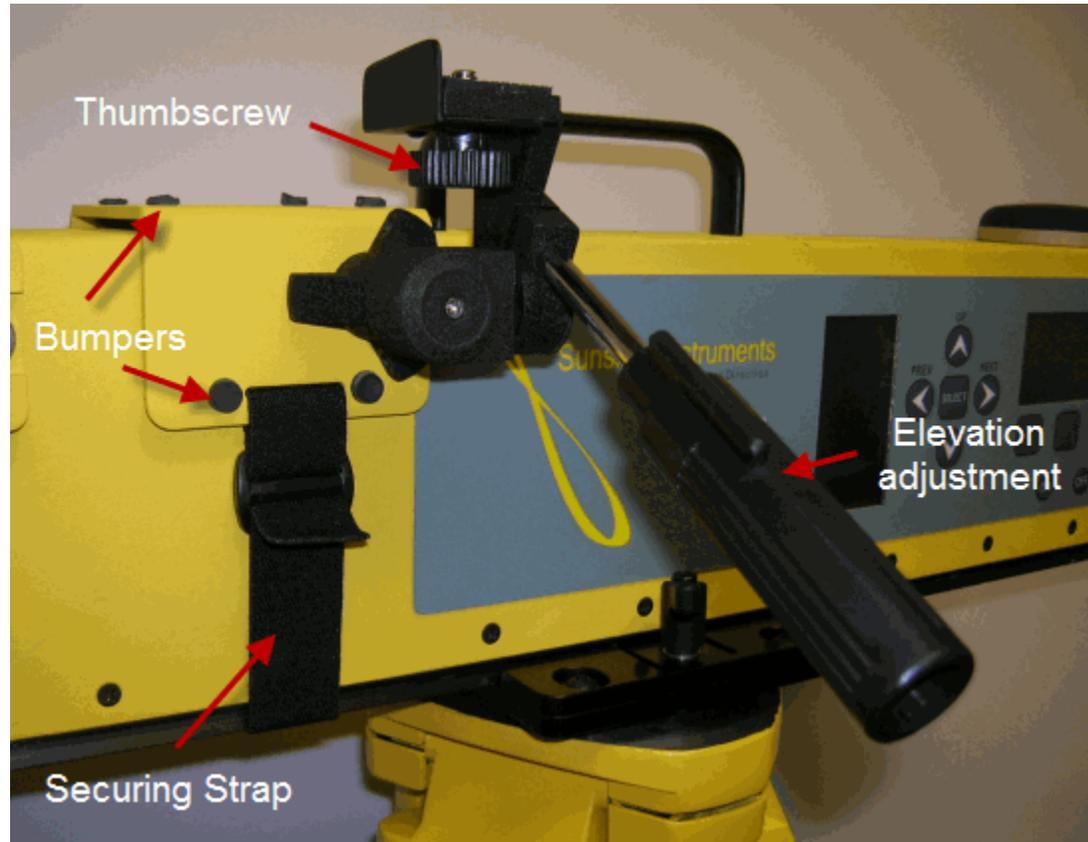
- 1) Prepare the AAT and Azimuth Scope Kit as follows:
  - a. Set up tripod by extending legs
  - b. Screw AAT mount plate to tripod



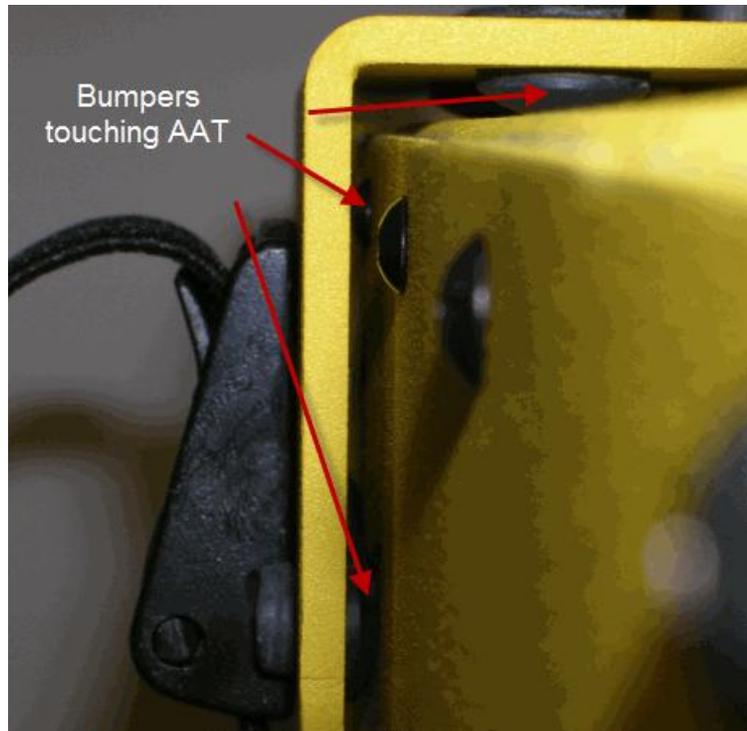
- c. Slide AAT into mount on tripod and clamp into position using lever



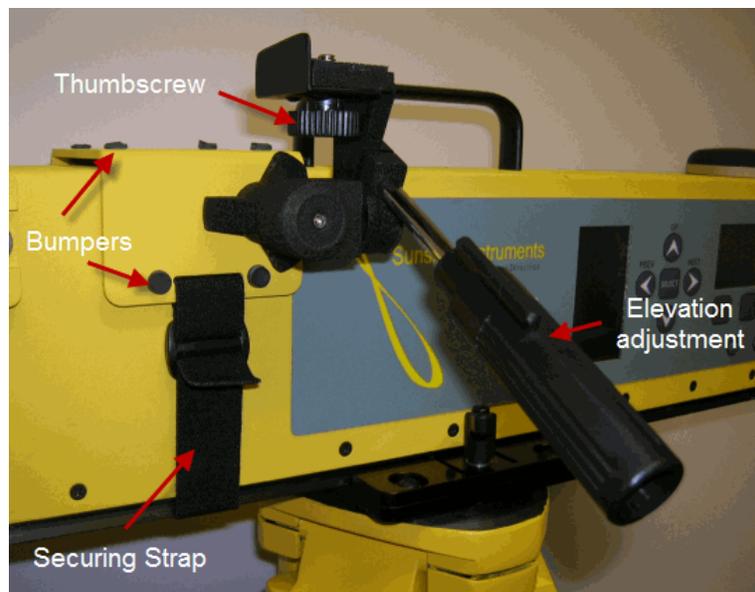
- d. Install the AZM scope bracket over the left side of the AAT (when viewed from front) such that it does not make contact with the keypad assembly and that the GPS antennas will not be obscured during use.



- e. Secure the AZM scope mounting bracket to the AAT with the supplied security strap. Ensure that the bracket's rubber bumpers are flush against the top and sides of the AAT housing and that the AAT remains balanced on the tripod.



- f. Secure the AZM scope to the mounting bracket using the included thumbscrew.





- 2) Remove the protective dust caps from both ends of the AZM scope.
- 3) Using the lowest magnification, locate the antenna being measured in the viewfinder.  
Adjust the position of the AAT/scope/tripod assembly as necessary.

## **MEASURING AZIMUTH FROM THE FRONT/FACE OF THE ANTENNA**

- 1) Determine which antenna(s) are to be measured. Pace off or measure approximately 200 ft from the tower base along the boresite (radiation centerline. Visually align the tripod to the antenna and secure the tripod in position.
- 2) With the antenna located, adjust the magnification by rotating the eyepiece (clockwise increases magnification) such that the lower front edge of the antenna is easily viewed. The adjustment knob on the right side of the AZM scope sets the focus. Readjust the position of the AAT/scope/tripod assembly as necessary.
- 3) Adjust the AAT/scope/tripod position such that the sides of the antenna are not visible (antenna is viewed "head-on," vertically centered in the viewfinder). Align the reticle in the viewfinder with the bottom edge of the antenna.
- 4) Power the AAT on. Wait for GPS/AZM signal acquisition.
- 5) From the AAT Main Menu, choose "Select Orientation." Set the orientation to "AAT Faces Front."
- 6) Ensure that the AAT is within +/- 1 degree of level in both tilt and roll.
- 7) From the AAT Main Menu, select "Measure Only".
- 8) Verify the antenna position through the viewfinder, ensuring that the antenna is vertically centered ("head on") and that the reticle is aligned with the lower edge of the antenna.
- 9) Note the AZM value displayed on the AAT. This is the azimuth of the antenna being measured.

## **MEASURING AZIMUTH FROM THE BACK EDGE OF THE ANTENNA**

**Back of the antenna must be readily visible!**

- 1) Determine which antenna(s) are to be measured. Pace off or measure approximately 200 ft from tower base in-line with the backplane of the antenna (perpendicular to radiation centerline). Either side of the antenna is acceptable (to the right or left of the radiation centerline). Visually align the tripod to the backplane of the antenna and secure the tripod in position.
- 2) With the antenna located, adjust the magnification by rotating the eyepiece (clockwise increases magnification) such that the side and antenna lower edge are easily viewed. The adjustment knob on the right side of the scope housing sets the focus. Adjust the position of the AAT/scope/tripod assembly as necessary.

## AAT AZIMUTH SCOPE KIT INSTRUCTIONS- RELEASE 1.0

- 3) Adjust the AAT/scope/tripod position such that the lower edge and antenna backplane are aligned in the viewfinder reticle. Take care to set the AAT/Scope/tripod assembly such that the backplane of the antenna "disappears" (i.e. AZM scope is viewing the plane directly across the rear of the antenna).
- 4) Power the AAT on. Wait for GPS/AZM signal acquisition.
- 5) From the AAT Main Menu, Choose "Select Orientation." Set the orientation to "AAT Faces Right" if measuring from the right of the antenna or "AAT Face Left" if measuring from the left side of the antenna.
- 6) Ensure that the AAT is within +/- 1 degree of level in both tilt and roll.
- 7) From the AAT Main Menu, select "Measure Only".
- 8) Verify the antenna position through the viewfinder, ensuring that the antenna backplane is aligned with the viewfinder reticle.
- 9) Note the AZM value displayed on the AAT. This is the azimuth of the antenna being measured.

**Notes:**

\*\*\* For optimal results, keep the tripod/AAT/scope as level as possible. Utilize the "Measure Only" option from the AAT Main Menu to check the attitude of the equipment.

The spotting scope included with this kit is designed to be rugged and reliable; however, it utilizes glass optics. Avoid dropping or jarring the unit. Keep protective dust caps on when not in use.

The azimuth solution acquired utilizing this procedure is only as accurate as the preparation. The closer the AAT/scope is to the base of the tower, the more likely it becomes that the readings will be incorrect. Take the time to ensure you are properly aligned with the antenna being measured before recording any data.

Spare rubber bumpers are provided with every AAT. Use only the bumpers provided by SunSight Instruments. Replacements are available upon request.