

# SUPPORT NOTE

5 NOVEMBER 2013

## GEO 7X HANDHELD: USING THE CARBON FIBER MONOPOLE KIT

The Trimble® carbon fiber monopole kit is an accessory for the Trimble Geo 7X handheld. It is designed to make data collection with the Geo 7X handheld faster and more accurate when working with the handheld's internal GNSS receiver.

This document describes best practices for using the monopole, and what Trimble software antenna settings to use to establish accurate antenna height readings.

### KIT CONTENTS

The Trimble carbon fiber monopole kit (part number 94916-00) consists of a 1.3 meter telescopic monopole, and a custom bracket for the Geo 7X handheld. The bracket is compatible with the Geo 7X handheld only, and is designed to position the handheld's internal GNSS receiver directly over the rod tip.



### ASSEMBLING THE CARBON FIBER MONOPOLE AND HANDHELD

1. Tighten the metal spike tip securely to the bottom of the pole.
2. Attach the bracket to the pole, and secure the handheld in the bracket. To insert the handheld into the bracket, loosen the claw bracket and use the guiding pins on the bracket to ensure the handheld is in the correct location. Tighten the bracket to secure the handheld in place.



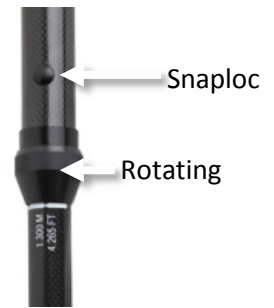
This document is for informational purposes only and is not a legally binding agreement or offer. Trimble makes no warranties and assumes no obligations or liabilities hereunder.

Geospatial Division, 10368 Westmoor Drive, Westminster, CO 80021, USA

© 2013, Trimble Navigation Limited. All rights reserved. Trimble and the Globe & Triangle logo are Trademarks of Trimble Navigation Limited registered in the United States and in other countries. All other trademarks are the property of their respective owners. 29266 (11/13)



3. **Set the monopole to the desired height.** Loosen the rotating collar on the monopole. Set the height of the monopole at the highest comfortable position—use the Snaploc mechanism to unlock the pole, and then lock into place at the desired height. Tighten the rotating collar to secure the mechanism in place.



## SETTING UP YOUR DATA COLLECTION SOFTWARE

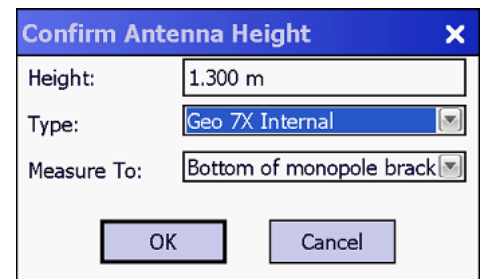
Trimble field data collection applications have an antenna height setting so you can accurately capture the vertical offset of the antenna from the ground when logging GNSS coordinates.

If your Trimble field data collection application has an up-to-date antenna configuration file, you can select *Monopole bracket* as the *Measure To:* item in the *Antenna Height* confirmation screen.

If your Trimble field data collection application does not show the *Monopole bracket* setting as a configuration option for the Geo 7X handheld's internal receiver, you can download an updated antenna.ini. For more information, refer to the *Downloads* section of the [TerraSync software support page](#). Instructions on how to install the antenna.ini file are included in the download package.

To set the antenna height in the field software:

1. Enter the height of the antenna (in meters or feet) using the height marker on the monopole directly beneath the rotating collar.
2. Select the antenna type. Choose the internal receiver of your handheld (for example, Geo 7X internal).
3. In the *Measure To:* field, select Bottom of monopole bracket.



Using this setting, the field software automatically adjusts for the distance from the monopole tip to the receiver phase center.

**Note:** If you are using non-Trimble field software, or if your software does not have an up-to-date antenna database, you should use the antenna height marker + 12.8 cm. For example, if the monopole height marking is 1.300 m, enter an antenna height of 1.428 m from the bottom of the receiver in the appropriate setting of your field software.

## TIPS FOR COLLECTING DATA USING THE MONOPOLE

To achieve optimum data accuracy when using the Trimble carbon fiber monopole kit, use the following techniques:

- Set the height of the monopole as high as is comfortable to ensure that the receiver has the best chance of receiving strong satellite signals, and avoids satellites being blocked by your body.
- Place the monopole tip on the point of interest, then use the level bubble to position the GNSS antenna directly above the feature.
- When logging positions, hold the monopole as still as possible at arm's length. To ensure the receiver has as clear a view as possible of the sky, do not stoop over the receiver display.
- When using the GNSS receiver, always try to keep the handheld as horizontal as possible—even between features. Only hold the handheld down by your side when GNSS is not being used. If you are walking long distances between features, and keeping the handheld horizontal during this time is not possible, exit the software or turn off the GNSS receiver until you get to the next feature, then collect a minute or two of 'clean' data with the receiver in a horizontal position before you record positions for new features.