



**Release Notes
Topcon Tools
August 9, 2024**

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Topcon Tools V9 Release Notes

The following new additions/revisions have been made to Topcon Tools v9.0.

Please take time to read the release notes. They contain information about the following:

- Feature Enhancements
- Issue Resolutions

System Requirements:

Operating System

Microsoft Windows 11 (64-bit version)

Microsoft Windows 10 (64-bit version)

Processor Speed

2GHz Core2 processor or higher

RAM

2GB RAM or more recommended

Memory

Local hard drive space of 2GB or higher recommended

Computer Resolution

1280x1024 display resolution

Internet Connectivity

Can be required by some functionality.

Version 9.0 includes the rebranding of Magnet Tools to Topcon Tools. Users may notice some new icons and splash screens and other similar changes that do not affect the performance or configuration of the software product. These changes do not affect the user experience; Topcon Office remains a reliable and powerful office solution for construction and surveying professionals.

Key Features

TS Traverse Calculation UI

A new TS Traverse Calculation UI added. UI includes optional graphic view, on by default, or use the Observation View to define traverse routes.

- Automatic and interactive modes for traverse selection. Interactive mode is on by default.
- Define traverses by point number selection or by graphical picks on possible detected connection legs displayed for occupied point. Or pick the next point graphically from the Traverse View or Observation View.
- Unadjusted Closure and Compass Rule Adjustment calculations are available.
- Optionally name and save traverses, reload traverses for modification or addition.
- A new TS Traverses tabular view added and displays when saved traverses exist in the project.
 - TS Traverse tabular view includes the following data columns, Name, Starting Azimuth, Ending Azimuth, Starting direction, Ending direction, Points, Status, and Icon.
 - Status column indicates Adjusted or Not Adjusted for quick reference.
 - Context menu includes Report option for selected traverse.
 - Create TS Filter option, included in the context menu, filters all views and tabular views to only show the selected traverse data. Use the filter option in the View ribbon to delete the filter.

User Interface

- Point Properties dialog updated with rearranged general tab content.
- Add Point updated for when a non-graphical view is active, Add Point option will open, if required, or switch to the Map View for point placement. Points can be added using the Add Point function in the Add Ribbon from the Map or Observation Views as in previous versions.
- **Add Code** function moved to the View ribbon, CAD group.
- **Add Layer** function moved to the View ribbon, CAD group.

Coordinate Systems Ribbon

A new ribbon, **Coordinate Systems**, has been added. Some existing options have been moved to the ribbon and a new function; Convert Coordinates added. Existing functions moved: Localization, Datum Transformation, Datums, Ellipsoids, Geoids, and Projections.

- **Localization** function, previously located in the Process ribbon has been moved to the Coordinate Systems ribbon.
- **Datum Transformation** function is now located in the Coordinate Systems ribbon.
- **Geoid** functions for adding and exporting geds are now located in the Coordinate Systems ribbon.
- **Datums, Ellipsoids** and **Projections** have been updated with a new UI for easier use. Each has new configurable tables which include parameters. A new “Clone” option is

provided for creating custom datums, ellipsoids and/or projections. This simplifies creating custom data items by modification of the required existing parameters.

- Filters have been added to the Datums, Ellipsoids, Projections and Geoid UIs. Each open to the complete list of available items for each. The filter option can be used to quickly isolate to the required item.
- Geoid UI updated to include toggle to “show only Geoids overlapping with the job data”. This option filters the geoid list based on the project limits. If multiple geoids are listed after applying this quick filter, selecting the geoid in the list and picking on the “Set as current” option will set the selection as the active geoid.
- **Coordinate Calculator** is a new option for the conversion of coordinates using Epoch and point velocities. Source points can be added manually, or existing points can be added using drag and drop from the points tabular view to the source points grid. Converted points can be added to the project point tabular view using drag and drop method.

Conversion requires specification of the source coordinate type, projection, datum, epoch and velocities for the point, (XYZ, BLH or NEH). The “Convert to” (target) coordinate type, projection, datum and epoch are required for conversion. After conversion, the converted coordinates can be used in post processing and adjustments. Transformation from one Datum to another is available. This method takes into account the speed of movement of the points in the original datum, and the rate of change of the datum transformation parameters. The clone option provided in the Datum dialog allows for defining Datums with the required parameters when necessary.

Import/Export

- Added import/export of RINEX 4.01.
- Import from Internet updated to support search and import broadcast ephemeris.
- Added import of RINEX files from AlldayRTK network (Australia).
- Import/Export dialog updated to retain sorting mode.
- Download from Enterprise updated to allow for manually selecting the file format. Helpful when auto recognize format fails and prompts to manually select file format.
- Added import/export of 12dxml format.

Tabular Views

- **Replace Measurement Points** is a new option added to the Digital Level and Total Station tabular views. Options to automatically rename the measurement points with or without prefix/suffix added. This is useful when measuring to the same point numbers and wanting to retain the measurement data and inspect the differences. Use this option before reducing DL or TS data when needed.
- All Tabular Views updated to add option to auto size columns using “Auto set column widths” located in the context menu.

- All Tabular Views column widths are now stored. May be affected by screen resolution when using multiple monitors.
- **Averaged TS Observation** updated to add Residual fields, (SD, HA, ZA) which displays results after adjustment.
- Points Tabular view updated to add option to execute “Points” report on selected points. This option constrains the reported points to the selection.

Data Representation

- Observation View updated to show heading for Azimuth only TS observations.
- TS Data updated to support entry of Azimuth only FS and SS measurements without target point name.
- Total Station Instrument List updated and redesigned to display and modify Fine and Course mode settings.
- TS Instrument settings support cloning for creation of user custom settings with user defined precisions. The instrument setting included in the program are not editable. The “clone” feature for instruments allows for renaming and defining these settings (accuracies) as the user requires. Note that when importing a Topcon Field job or other supported formats in order to update to a custom instrument the TS stations must be updated to change to a selected custom instrument in order to use its settings for processing and adjustment of the data.
- Job Configuration options update
 - Supports the modification of the default TS accuracy, instrument settings. These settings are used when a TS instrument has not been defined or recognized during the import of measurement data.
 - Added new rejection criteria settings for Total Station data processing.
 - By Instrument Accuracy
 - By Quality Control
 - Added new TS Measurement Rejection settings.
 - None, warnings only – no measurements rejected, warnings listed
 - Reject – rejects measurements based on rejection criteria setting
- Stakeout Reports imported from Topcon Field will not be shown if the report is empty. The empty stakeout report was generated in previous version if the Topcon Field user defined their stakeout report but did not do any stakeout task in the project.
- Ephemeris View Options UI updated to add on/off toggles for data columns in the Ephemeris View.

Reports

TS Observation updates

- Updated to provide option to report TS Station as additional data block.
- Updated to include optional vertical or horizontal configurations all TS data items.
- Added optional error report data for Total Station observations. HA error, VA error, SD error, HD error and VD error added as option in the total station observation report configuration.

Coordinate Systems/Geoids

- Added Alaska LDP projection.
- Added new Slovakia geoid.
- Added Slovenian Geoid VRP 2016
- Added GGM 10 geoid model.
- Updated support for the Portugal / Coordinate Systems to the 2023 Revision.
- Added import support for NTV2 file for the area of Bavaria

Notices/Resolutions

- Resolved issue with the inability to edit the scale factor for a resection.
- Corrected issue with export to *.csv file resulting in different coordinate values. In some cases differences were reported in the sixth decimal place of the coordinates.
- Resolved issue with unsuccessful Import Raw Data in Trimble JXL (*.jxl) format resulting in crash.
- Corrected issue with prism constants not being applied properly when importing (*.jxl and *.mxi) files.
- Resolved issue with the Reject button being inactive on the Vertical Blunders dialog in Least Squares Adjustment processing.
- Resolved issue with editing Instrument or Prism Height resulting in program crash.
- Corrected path issue in Network Import for National Geodetic Survey – NOAA
- Corrected issue with inability to edit the scale factor on a resection observation.
- Resolved issue with import of Carlson SurvPC v6.17 RW5 file.

Magnet Tools ribbon for Autodesk and Magnet Exchange for Autodesk

- Support of Civil 3D 2018 and 2019 removed.