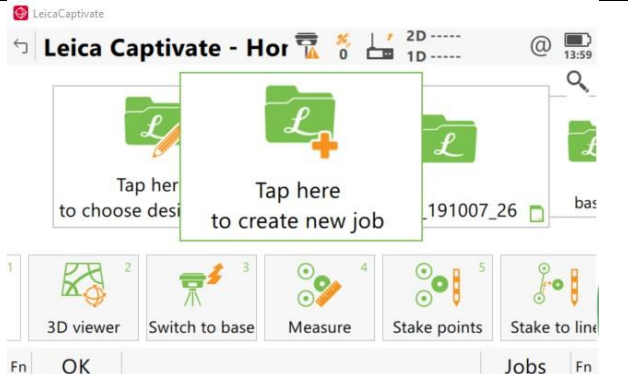
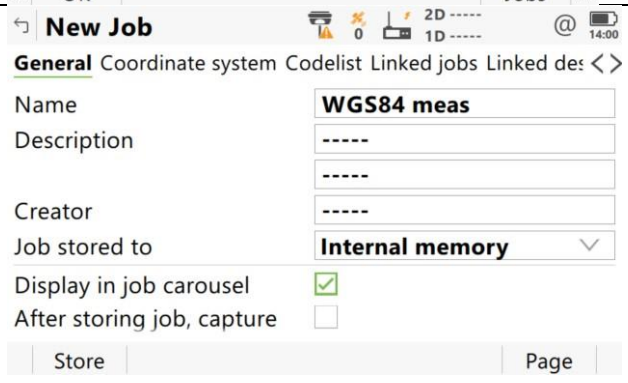
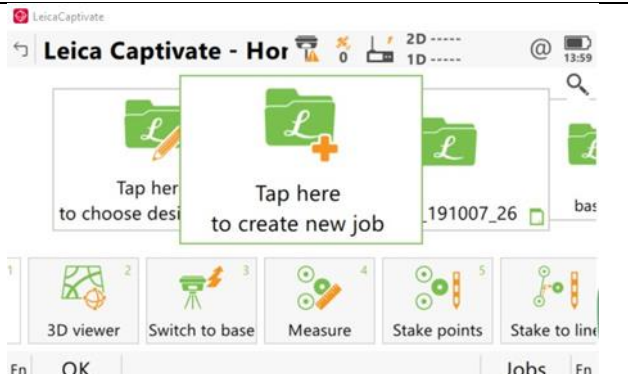


Leica Captivate: GNSS Create coordinate system using Multiple Points

It is possible to use a GNSS system on a local site grid previously generated by a total station. The process involves surveying a series of previously set out control points with your GPS then transforming your measurements to best fit to those coordinates. This guide will take you through the process of creating a coordinate system for a small site <5km². It is especially useful for sites where machine control is being used.

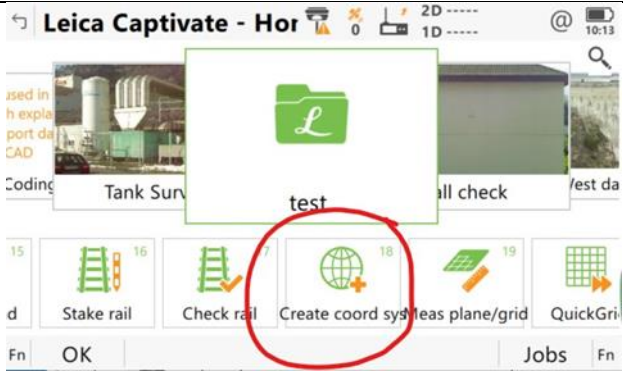

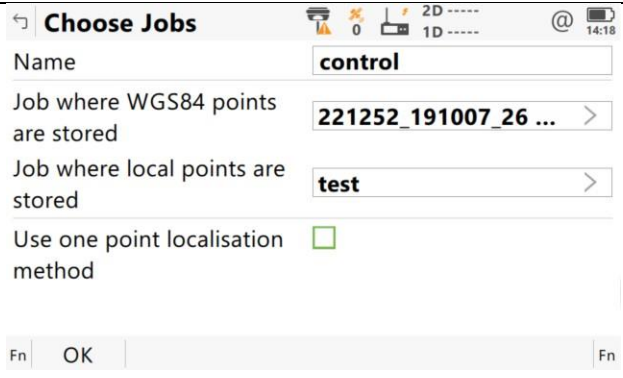
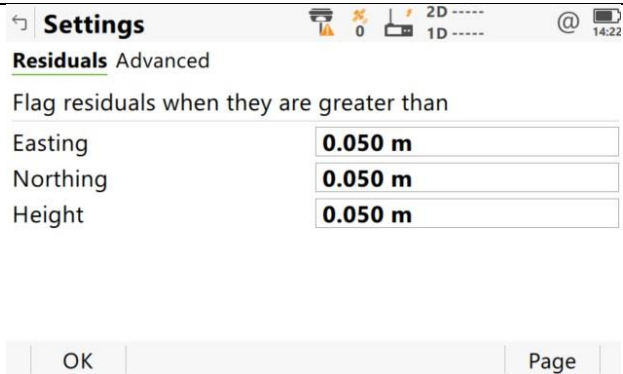
1	<p>Before you start the process of generating your coordinate system. You will need to create two separate jobs on the controller. One will contain control points you will need to measure around your site. The other should contain the local coordinates you need to transform the coordinate system to.</p>	
2	<p>Tap on the New Job panel, create a new job and store it.</p> <p>Head into the Measure App and visit the control points around your site. Naming the points and measuring them accordingly.</p> <p>Once you have done exit the job.</p>	
3	<p>Create a second new job for the local coordinates. Once you have stored the job tap on the job panel and either import the local points or select View & Edit data and enter the coordinates manually.</p>	

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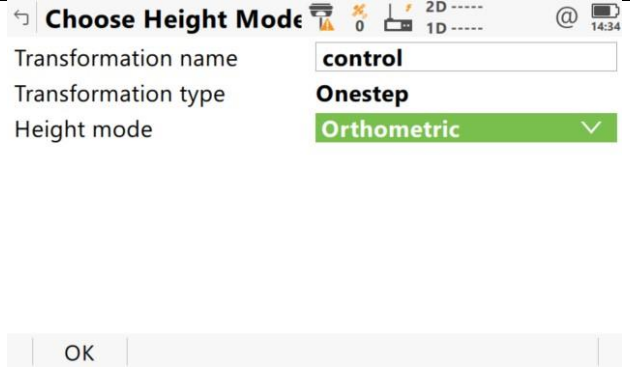
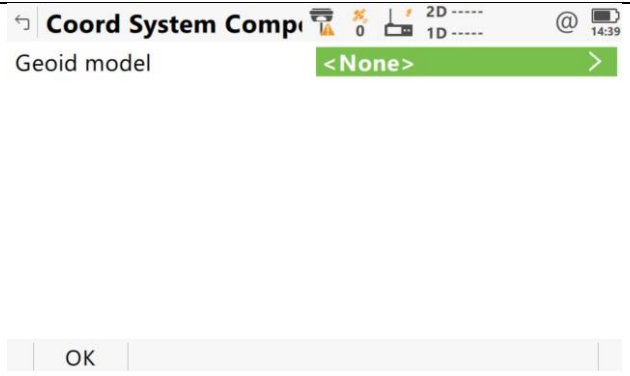
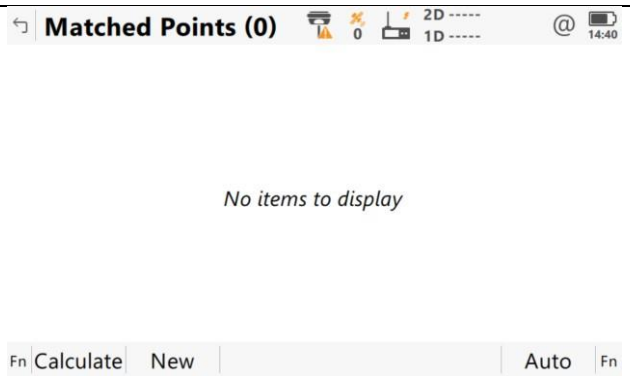

4	<p>Once you have the two jobs created and the points created, we can begin the creation of the coordinate system.</p> <p>Open the Create coord system app</p>	
5	<p>Select the Onestep method</p>	
6	<p>Enter a name for the new coordinate system then select the job you measured your points in as your WGS84 job and the job containing your local coords as your local points job.</p> <p>Do not tick the one point localisation method.</p>	
7	<p>You can change the acceptable tolerance of the transformation at this point by pressing the Fn button followed by F1 Settings</p>	

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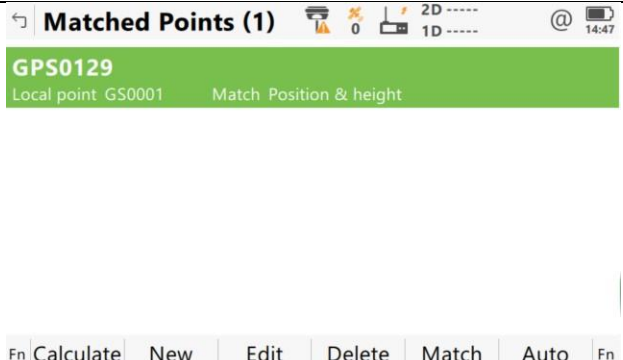
8	<p>It is possible to use a geoid model with the coordinate system but it not necessary for small areas (under 10km²)</p> <p>If you are using a geoid model choose elliptical height mode if not choose Orthometric.</p> <p>Choose OK</p>	
9	<p>Leave the Geoid model as None then select OK</p>	
10	<p>At this point the surveyed points and the local points need to be matched.</p> <p>If the points in the WGS84 job and the local job are identical then pressing F6 Auto will match them automatically.</p> <p>To match them manually press F2 New</p>	
11	<p>Select the measured point and the matching local point and select to match them in Position and Height.</p>	

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12	<p>The match will appear in the list of matched points.</p> <p>Repeat until you have matched all the points for your site.</p>	
13	<p>Once you have matched all your points press F1 Calc to calculate the transformation</p>	<p>Image needed</p>
14	<p>The calculated residuals will be displayed.</p> <p>The highest residual for each element will be flagged along with any that exceed the tolerance limits set.</p> <p>Press the back button to make changes or press OK to store the coordinate system</p>	<p>Image needed</p>
15	<p>The transformation parameters are displayed.</p> <p>You have the opportunity to change the method used to perform the transformation in the Coord System tab.</p> <p>Otherwise select F1 Store and the coordinate system and it will be attached to your WGS84 job and return you to the main menu.</p>	<p>Image needed</p>

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