

Workflow 3: Macro - Checking for Kinks in Horizontal Alignment

The Check Bearing Macro checks a GEOPAK COGO "describe chain" output file for kinks in the alignment by comparing AH and BK bearings of consecutive chain elements.

1. Select Coordinate Geometry from the Project Manager Workflow dialog box as shown below.



Figure 7-62: Accessing COGO through Project Manager

2. To describe a chain, Select Element>Chain>Utility from the COGO dialog box.



Figure 7-63: Accessing Utility Dialog box





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3. In the Chain Utility dialog box, select the chain you want to describe and Click on the Describe Icon shown.





Figure 7-64: Chain Utility Dialog box

4. COGO dialog box will be populated with the chain described as shown below. Create an Output File by selecting File>Input File Utility from the COGO dialog box.

名 Coordinate Geometry Job: 101 Operator: JD 🔲 🔲 🔀				
File Edit Element View Tools				
Preferences + + & & & & & & & & & & & & & & & & &				
Input File Restore				
Database Utilities				
Import				
Export Acribe Chain MAIN				
Exit				
Tenain Main contains:				
8005 CUR MAIN-1 CUR MAIN-2 CUR MAIN-3 CUR MAIN-4 CUR MAIN-5 CUR MAIN-6 CUR MA				
N-7 CUR MAIN-8 CUR MAIN-9 SCS MAIN-10 CUR MAIN-11 CUR MAIN-12 CUR MAIN-13 CUR				
AIN-14 CUR MAIN-15 CUR MAIN-16 CUR MAIN-17 CUR MAIN-18 CUR MAIN-19 CUR MAIN-2(
CUR MAIN-21 CUR MAIN-22 CUR MAIN-23 CUR MAIN-24 CUR MAIN-25 CUR MAIN-26 CUR MA				
N-27 CUR MAIN-28 CUR MAIN-29 CUR MAIN-30 CUR MAIN-31 CUR MAIN-32 CUR MAIN-33 (
A contract of the second se				

Figure 7-65: Accessing Input File Utility



5. In the File Utility dialog box, Select output from lower left pull down and type in a name for the Output File. Select apply to create an Output File. Output File for the example is named main101.ojd. 101 is the job number, O for output, JD is the operator code.



웅 File Utility	
File Name Subject main [None]	
Load Append Catalog Delete ▶ Output Print Input File Print Output File Save	Output File: MAIN

Figure 7-66: File Utility

Once an output file is created describing the chain, the Check Bearing Macro can be used to check for kinks in the alignment.

6. To run Check Bearing Macro, Select Utilities>Macro >MicroStation Basic from the main MicroStation pulldown menu.



Figure 7-67: Accessing MicroStation Basic



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The following dialog will appear:

8 Macros	
Macro Name	
	<u>R</u> un
	<u>E</u> dit
	<u>D</u> etail
	Browse
	<u>N</u> ew



7. Browse to select chkbear.ba macro from the list of macros. Select the macro and the Start Macro dialog box will appear as shown below. Click on the Run button.

Macros are located in V8_RESOURCE\X_30\Standards\Macro\

8 Start Macro	×
Do you wish to run or edit N:\Standards\V8_RESOURCE\X_30\Standards\Macros r.ba?	\chkbea
Edit Car	icel

Figure 7-69: Start Macro

8. Running the macro will invoke the following dialog box. Select the COGO Output File created for your alignment and select OK.

8 Select COGO "describe chain" 0	utput File	\mathbf{X}
Fijles: main101.ojd FHWA.prj j888oBJ.inp job101.gpk main101.ojd	Directories: C:\Your_Project\Roadway\Geopak\ C:\ Pour_Project Roadway Copak Copak Projdbs	<u></u> K
List Files of <u>T</u> ype: All Files [*.*] ▼	Drives:	Cancel <u>H</u> elp

Figure 7-70: Select COGO Output File





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9. Selecting the COGO Output File will invoke the Check Bearings dialog box. In the Check Bearing dialog box toggle 1 second and select OK.



Figure 7-71: Check Bearings

User sets tolerance for bearing comparison in the check bearing dialog box (i.e., how much do the bearings need to differ before they are flagged as a kink).

10. Results to the macro run are reported the on screen, as shown below, and in the log files chkbear.log and chkbear.err.

BASIC Editor: c:\Your_Project\Roadway\Design\chkbear.err		
<u>File Edit Run</u>		
***** ERROR LOG FOR MICROSTATION MACRO CHKBEAR *****		
Date: 4-19-2006 Time: 14:17:27		
COGO describe chain File: C:\Your_Project\Roadway\Geopak\main101.ojd Chain: MAIN Bearing Mismatch Tolerance: 1 Second		
No mismatched bearing errors were found.		
Look in file CHKBEAR.LOG for a complete list of the back and ahead bearings for all elements in this chain.		
Line: 1 Col: 1		

Figure 7-72: Check Bearings Error

If the macro run, reports mismatched bearing errors; user must correct the error and restore the horizontal alignment. Workflow 3 should be repeated till no mismatched bearing errors are found.





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Related links: Using Knucklehead's Guide for GEOPAK Road 2004 Edition.

To Create the Horizontal Alignment

Generate the Existing Ground Profile

To Create the Vertical Alignment

