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.

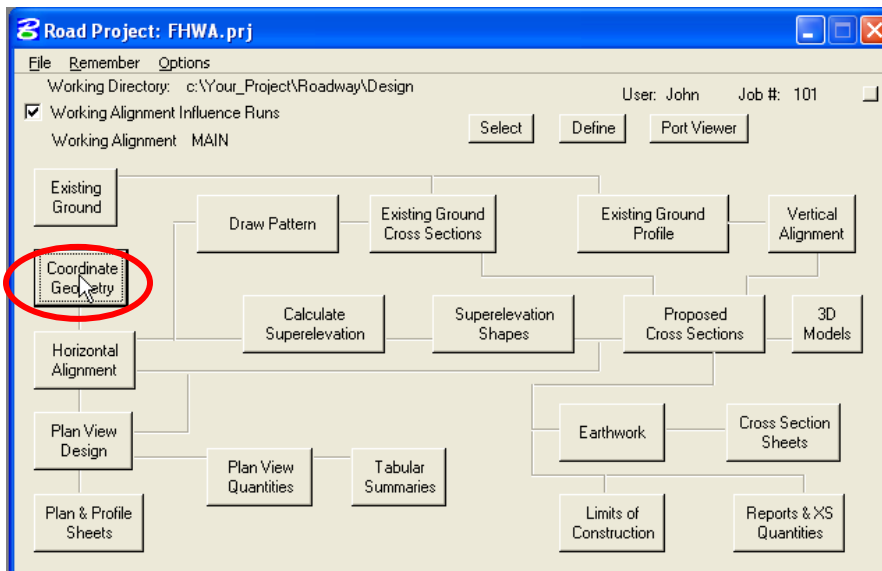1. *Select Coordinate Geometry from the Project Manager Workflow dialog box as shown below.*

Figure 7-62: Accessing COGO through Project Manager

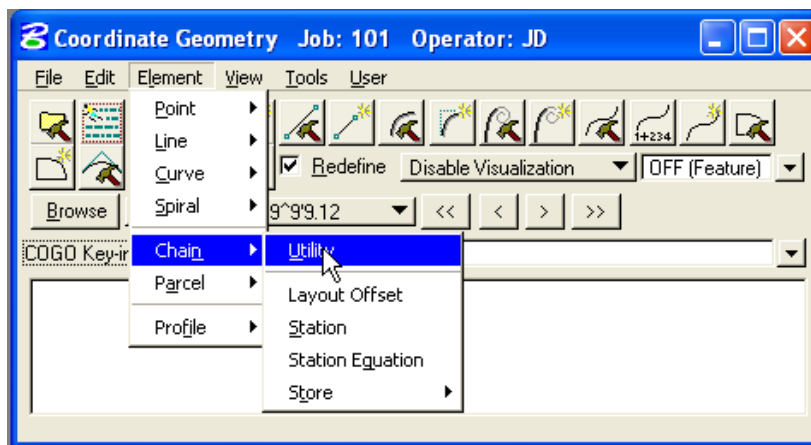2. *To describe a chain, Select Element>Chain>Utility from the COGO dialog box.*

Figure 7-63: Accessing Utility Dialog box

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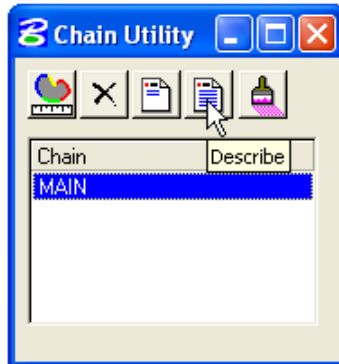

Figure 7-64: Chain Utility Dialog box

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.*
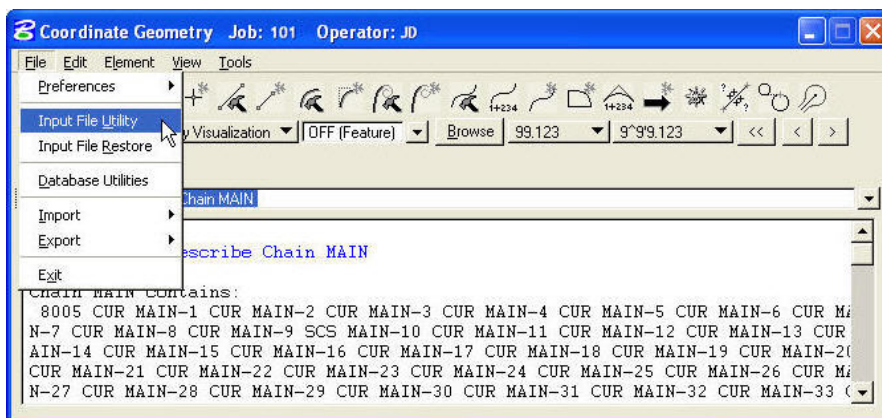

Figure 7-65: Accessing Input File Utility

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.*
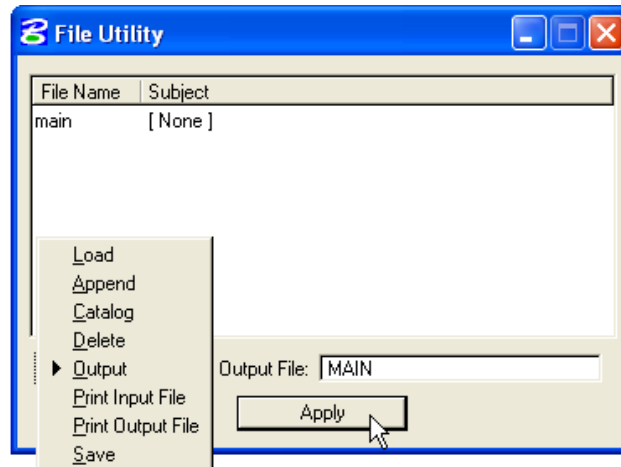

Figure 7-66: File Utility

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.*
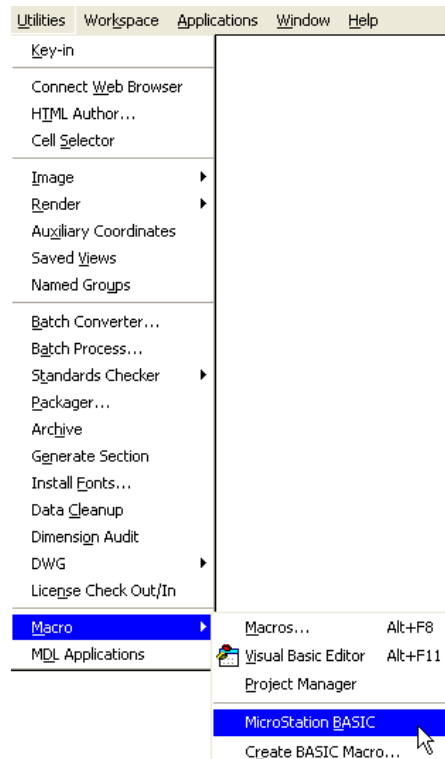

Figure 7-67: Accessing MicroStation Basic
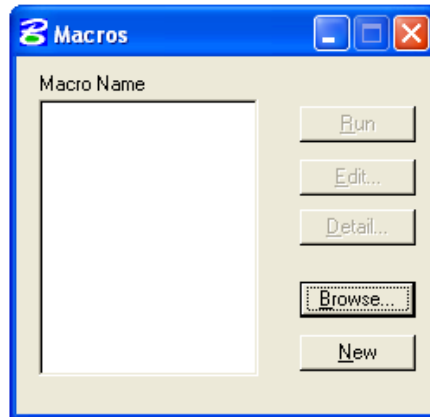
The following dialog will appear:

Figure 7-68: MicroStation Macro

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.

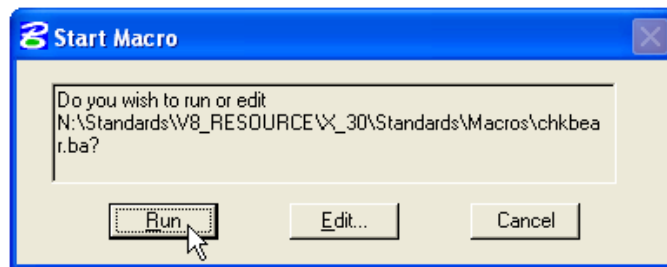Macros are located in V*8_RESOURCE\X_30\Standards\Macro*

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
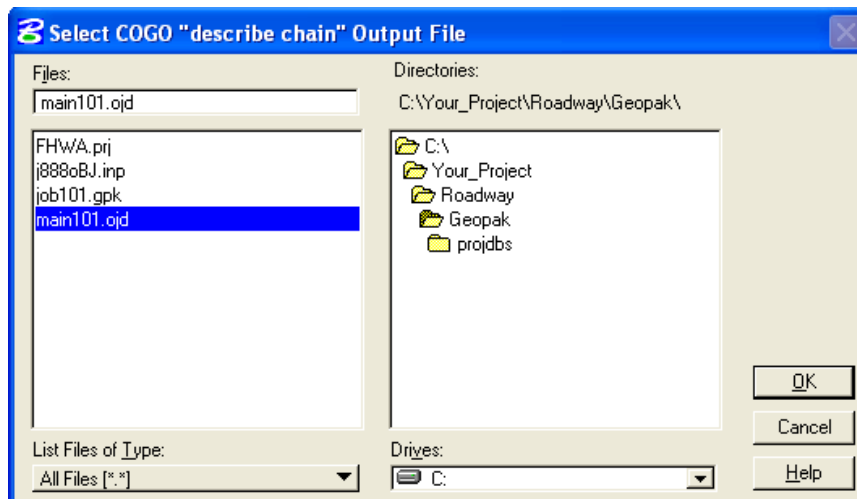   *select OK.*

Figure 7-70: Select COGO Output File

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.*
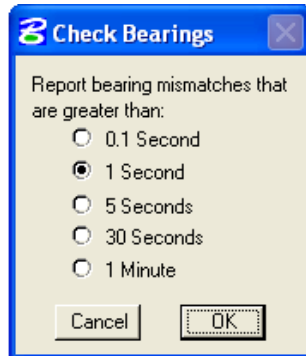

Figure 7-71: Check Bearings

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.*
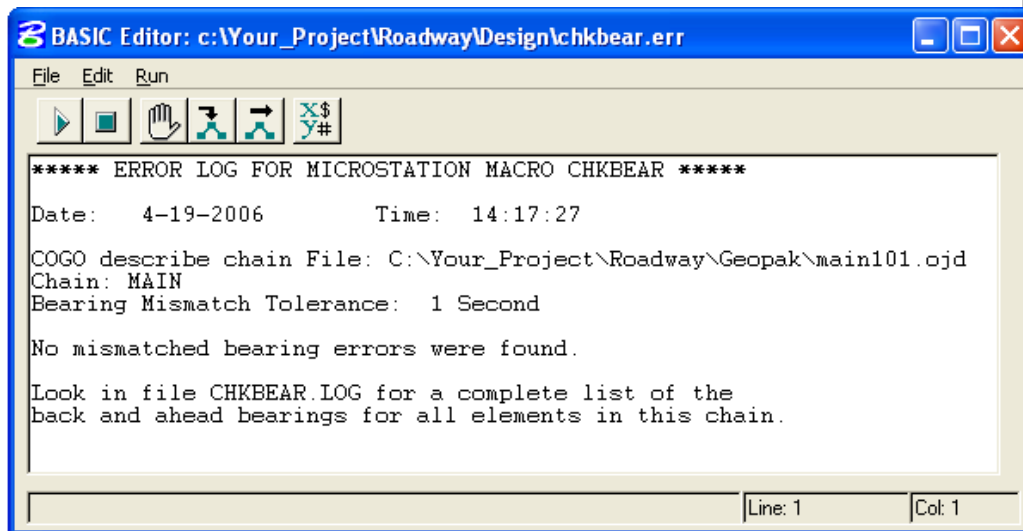

Figure 7-72: Check Bearings Error

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.

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