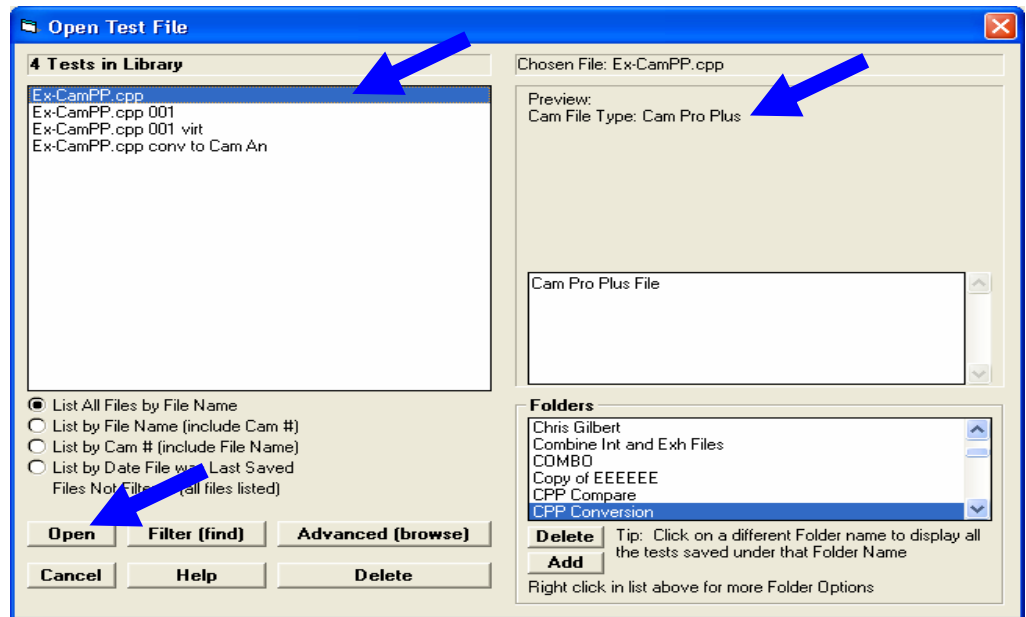


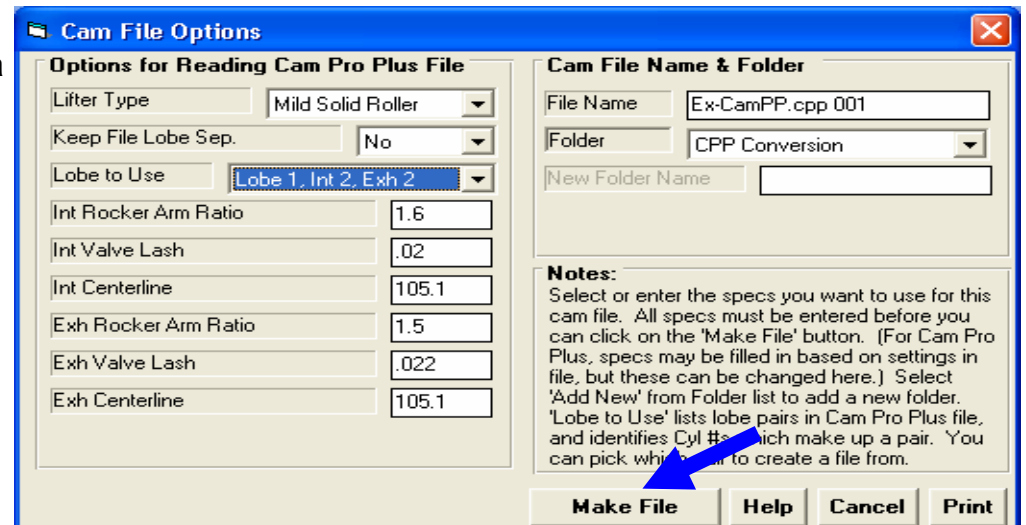
Converting various Cam File formats to Manufacturing Style formats

Important: You need the Cam Grinder version to do some of the steps in this process.

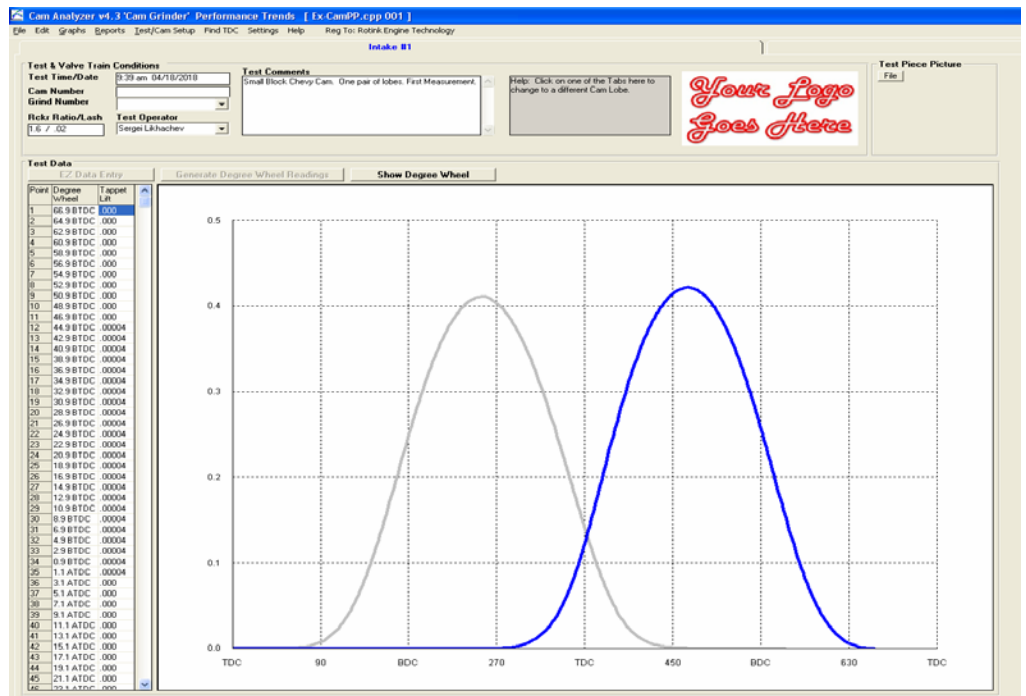
Locate and Open the CPP file, or whatever format of file you want to convert.



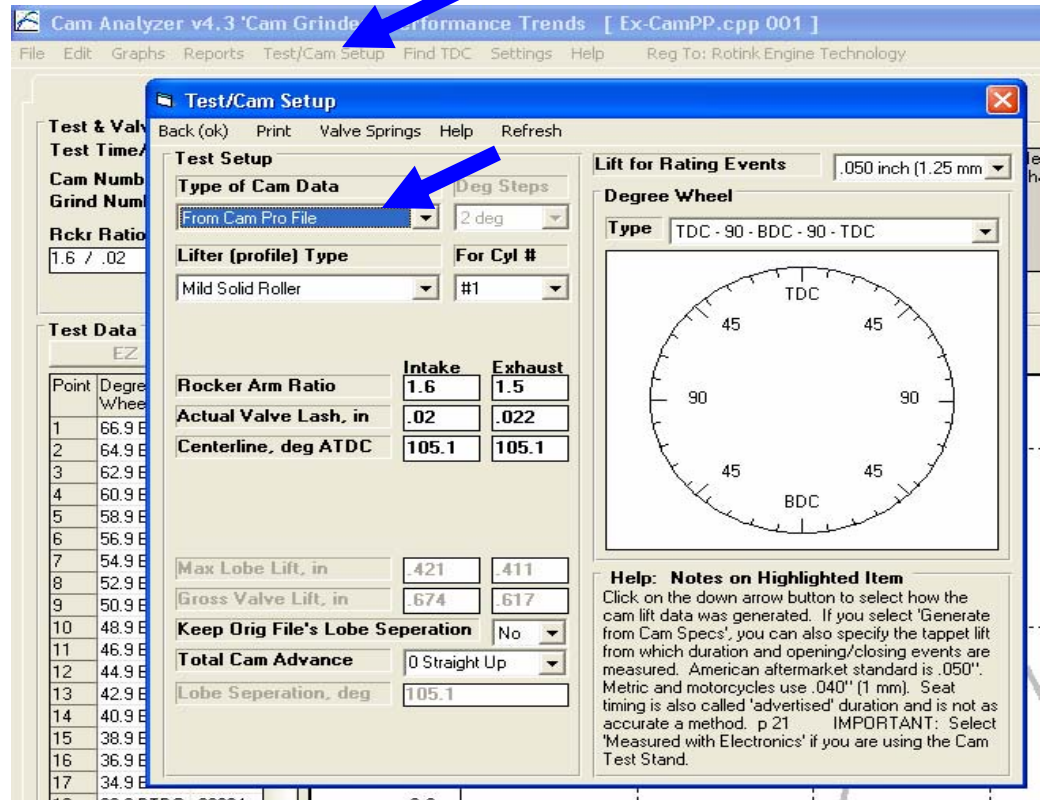
The program will sense it is a CPP file and will ask some questions about how you want the data presented. If you are making a file of the cam profile itself (tappet lift), most of these inputs are not critical. They are used for producing Valve Lift data.



You are returned to the main screen with the CPP data. This particular CPP file had both an intake and exhaust profile. Let's assume you want to make a manufacturing file of just the intake lobe.



This CPP file must be converted into a Cam Analyzer file type called "Measured with Electronics", like it was measured on the Cam Test Stand. This process going into the Test/ Cam Setup screen and changing the "Type of Cam Data" from "From Cam Pro Plus" to "Measured with Electronics". The program will then walk you through several steps, where you typically just answer Yes or OK as shown in the screens below.



Change Type of Cam Data Anyway?

The program will now convert your data to a format much like it was Measured with Electronic Sensors (800 crank degrees, 2 deg increments, etc). This will be a major change to the data, but will allow you to do additional types of analysis. After this change, you will NOT be able to return to the original data.

It is recommended you save this data, and then save again to a New Name before you continue. That way you CAN go back to your old data file if need be.

Are you sure you want to make this change to the Type of Cam Data now?

Yes No

Convert to 'Measured by Hand' Now?

To convert from this data type will require 2 steps. First, the data must be converted to 'Measured by Hand'. Do you want to do that now?

Yes No

The process must first convert to the Type of "Measured by Hand".

Cam Analyzer

This first conversion may take 5 to 15 seconds. Please wait.

OK

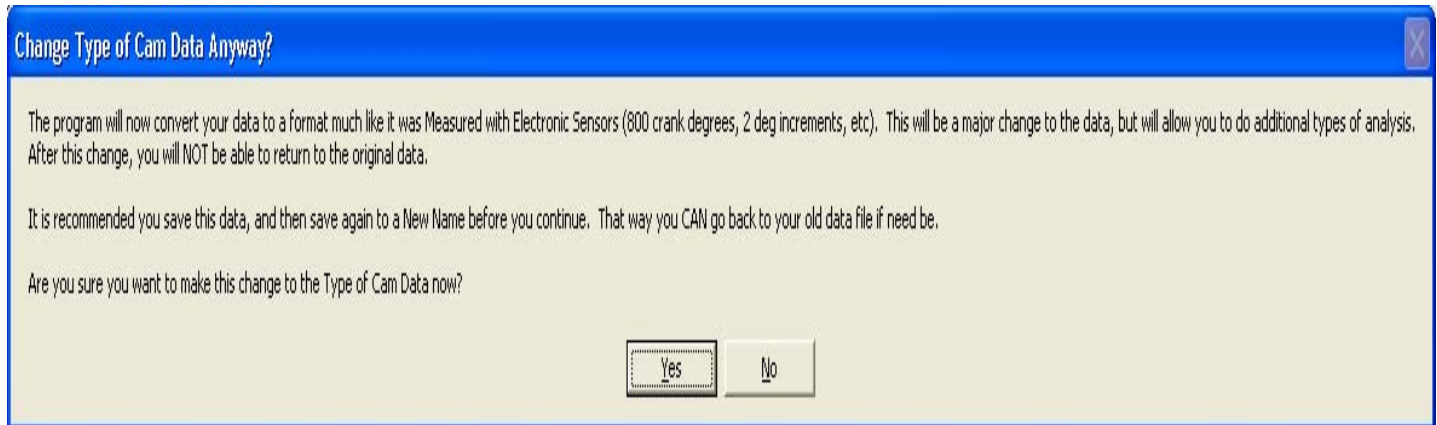
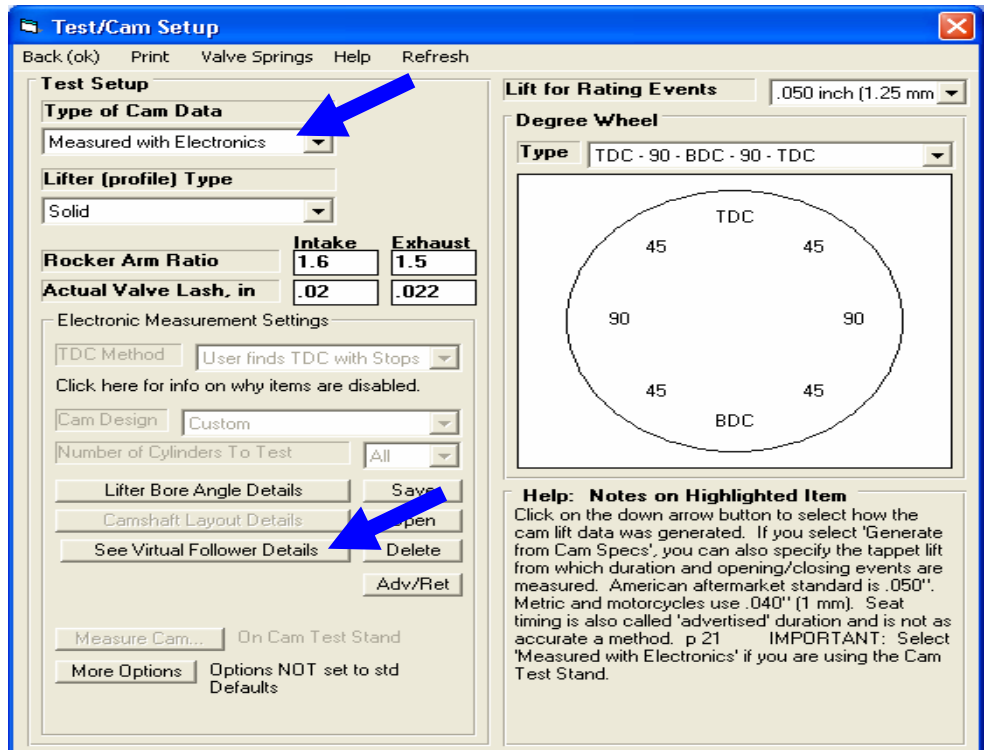
Cam Analyzer

The conversion to 'Measured by Hand' has been completed. Now you can select 'Measured with Electronics' to complete the conversion.

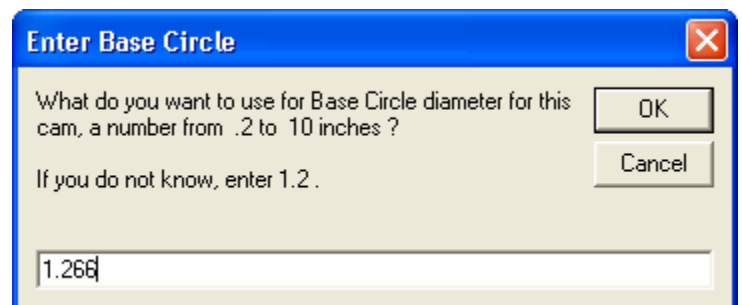
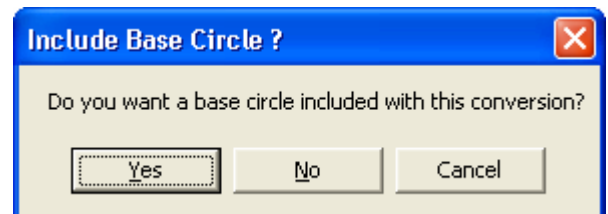
OK

Now you can set the “Type of Cam Data” to “Measured with Electronics” to finish the conversion.

(After this conversion you will click on the “See Virtual Follower Details” as described on the next page.)

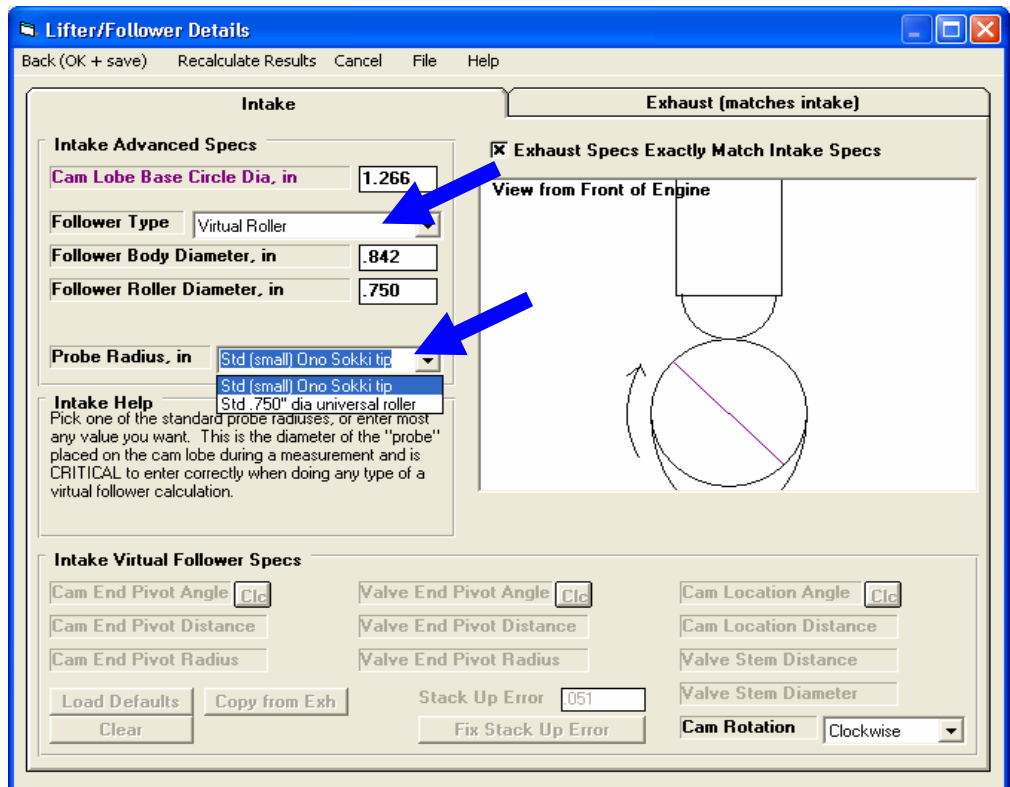


Base circle is critical to producing accurate results so enter it accurately. Typically you can measure this with a dial caliper measuring across the cam from the nose to base circle. Then subtract out the max tappet (cam) lift measured on the stand, or as indicated in the CPP and now Cam Analyzer file.



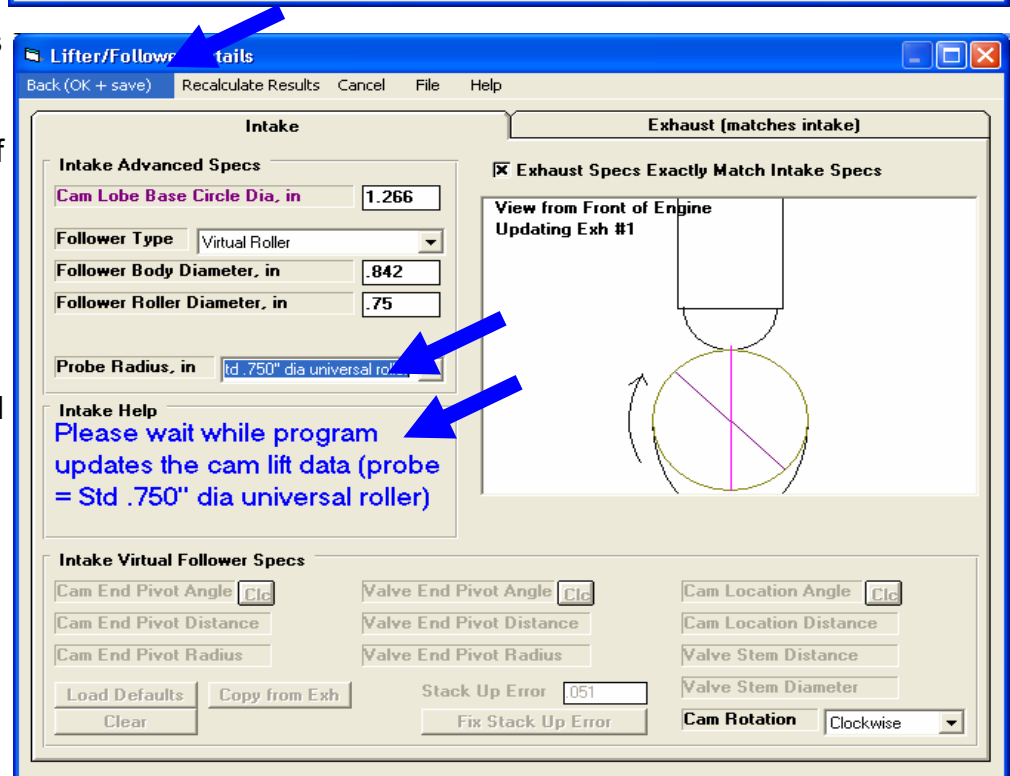
Now that the data is in the same format as one Measured with Electronics, you can perform more advanced analysis. For example you can do graphs, like Radius of Curvature, or Virtual Follower simulations.

First, select a Follower Type of one of the Virtual Followers. Typically I recommend Virtual Roller because it was measured on a stand without a rocker arm system, and measured with some type of follower with a spherical end.

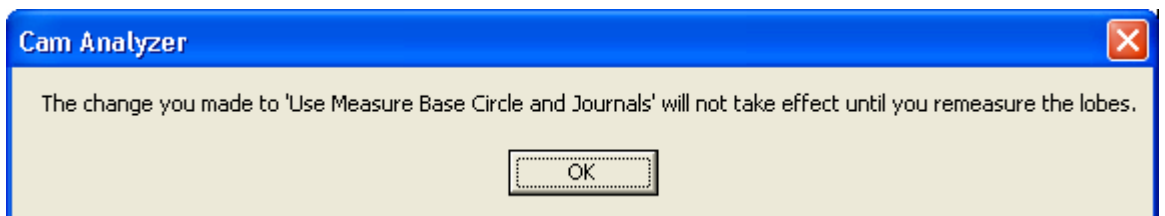


The most critical setting is the Probe Radius (remember radius, not diameter). Choose one of the pre-programmed types or enter the radius when this cam was measured on the CPP stand. Note: It is not recommended you use data which was measured with a flat follower.

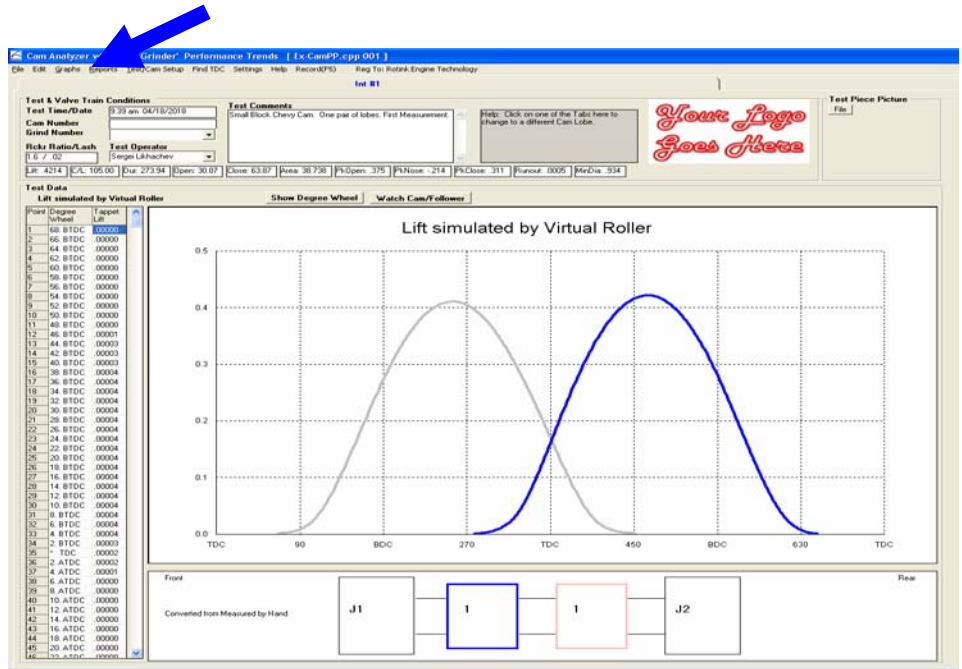
Now click on Back/OK and the conversion will take place.



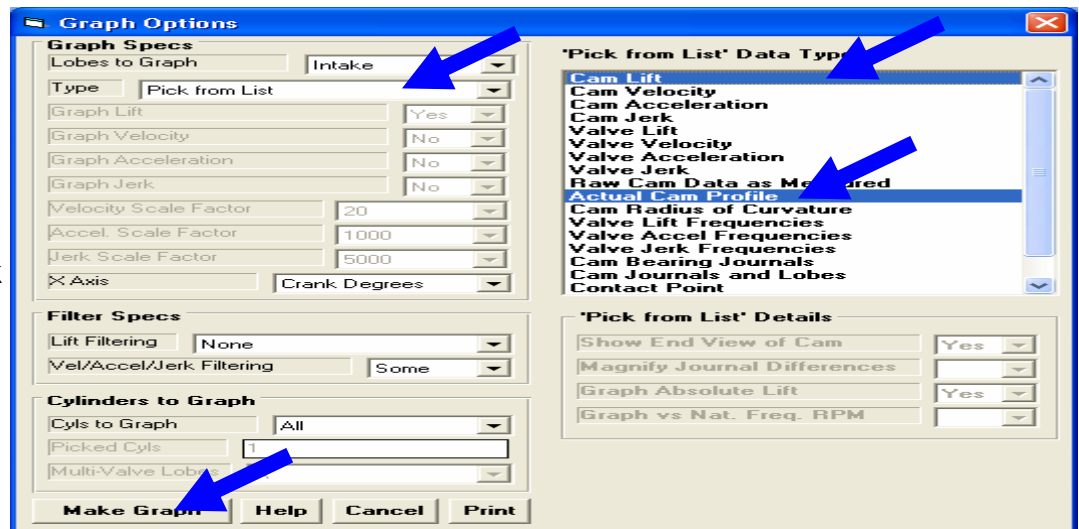
This note does not really apply to this conversion process. Just click OK.



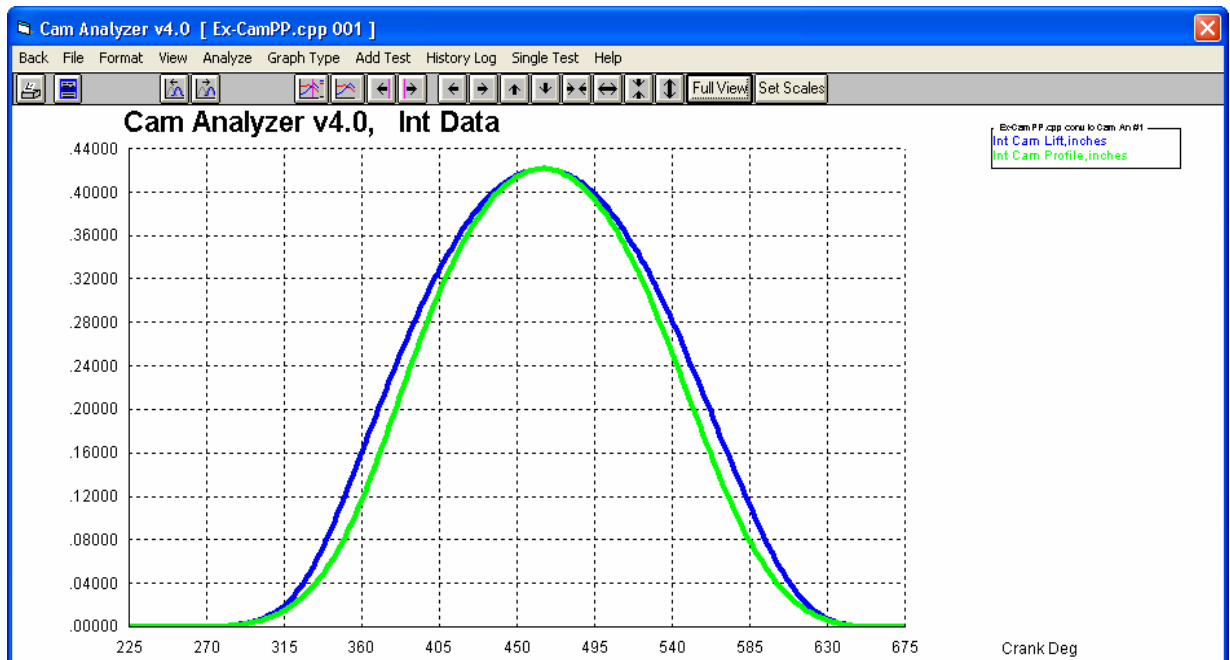
To illustrate what has happened, click on Graph at the top of the main screen. You do not need to go through these steps, but it is very helpful to show you what the program is doing in this conversion.



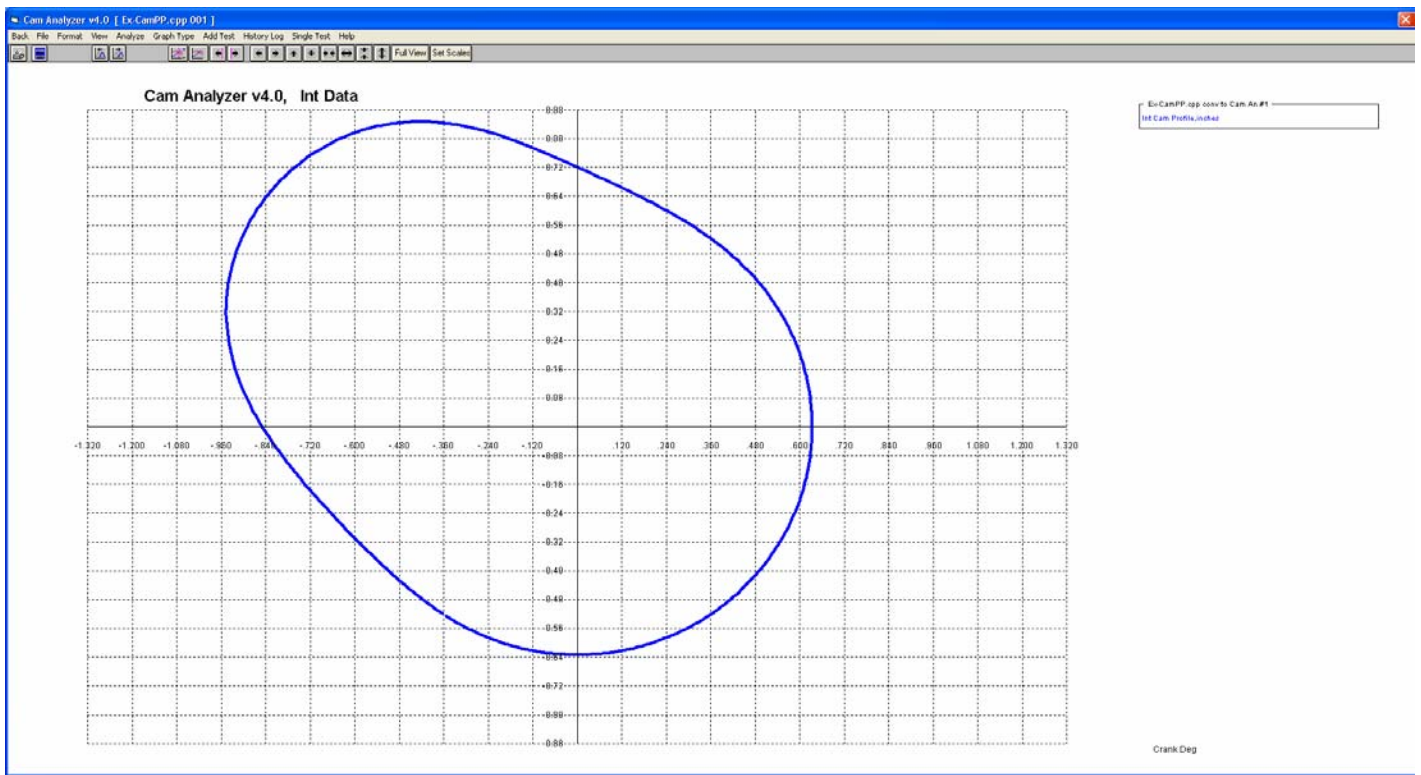
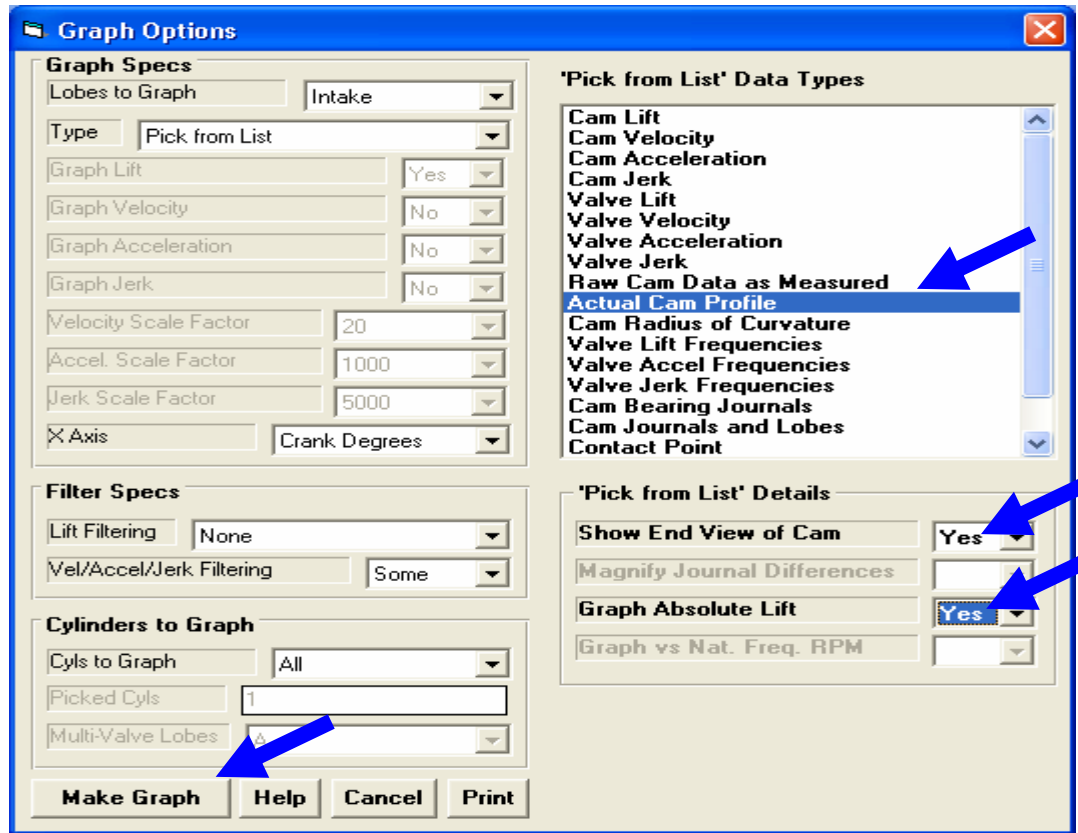
Select "Pick from List" and "Cam Lift" and "Actual Cam Profile" as the Data Types, then click Make Graph. Also select to do just the Intake lobe to keep things simple. Then click Make Graph.



You will see 2 graphs. The "fatter" graph is Cam Lift. The thinner graph is the data for the Actual Cam Profile, if you would have measured it with a very sharp "knife edge" type of follower. This is the data you want for producing the manufacturing type file.



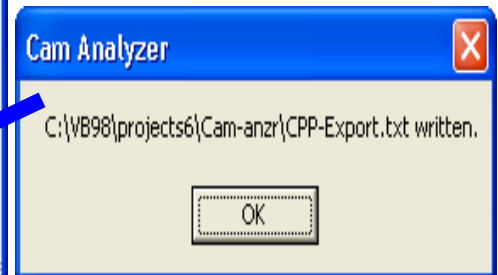
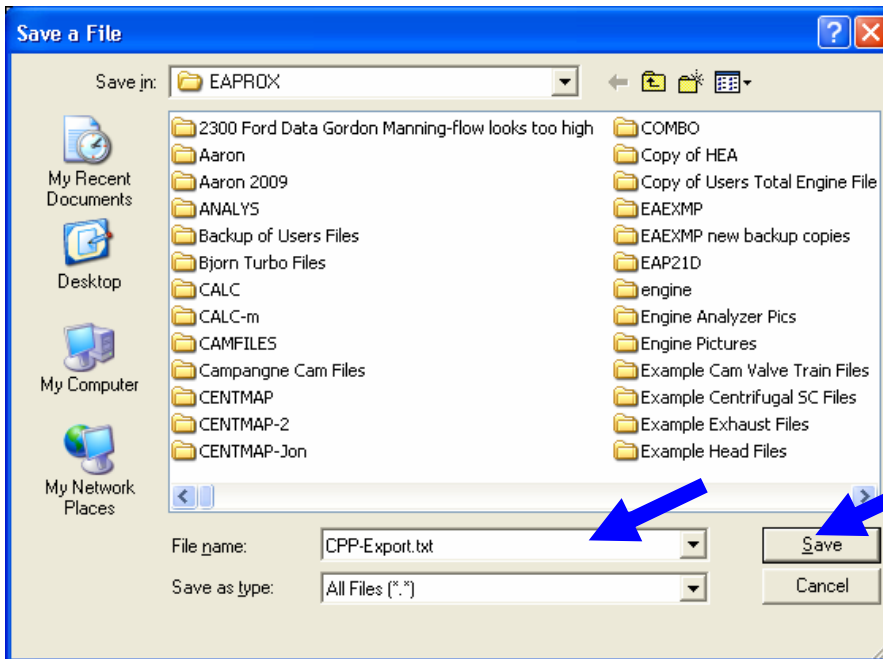
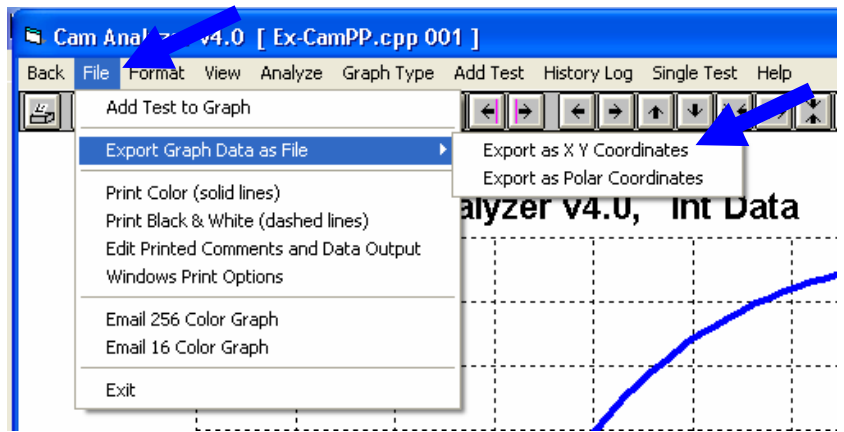
Now click on Graph Type at the top of the Graph. Now select to just graph Actual Cam Profile. You will see a new option appear. Select Yes for “Show End View of Cam” and “Graph Absolute Lift”. Then click Make Graph.



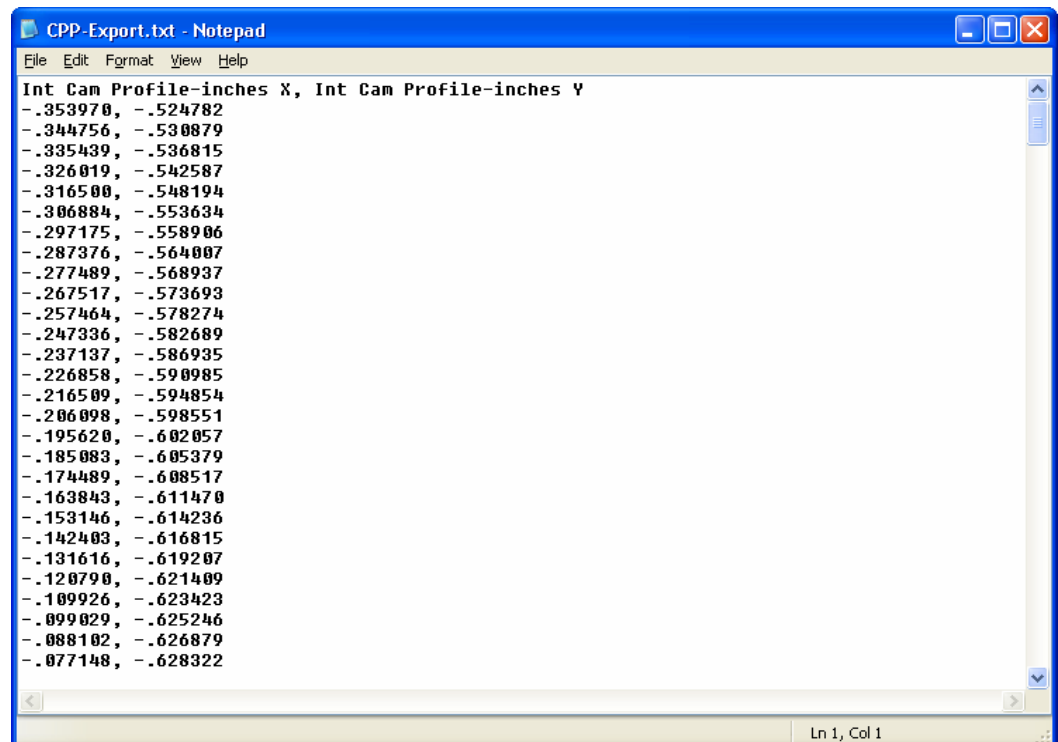
This is what the actual profile looks like from the end of the cam. The accuracy of this profile depends on you accurately entering data in the Virtual Follower specs, especially the Probe Radius and Base Circle Diameter.

In the Graph screen, click on File then Export.. And choose one of the Export options.

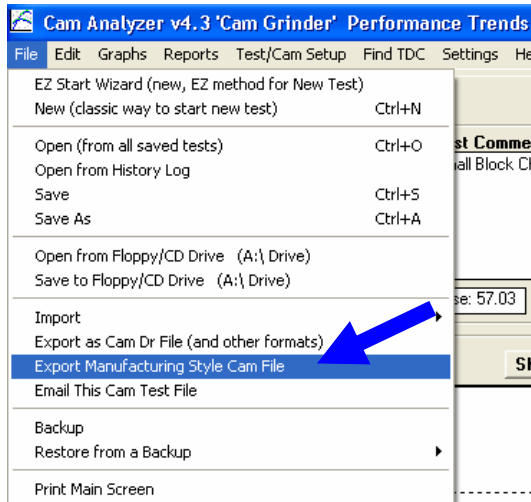
The program will present a browse window for you to save this file where ever you want and to any name you want. We recommend a .txt extension to make it easy to open with other programs. Then click "Save" button.



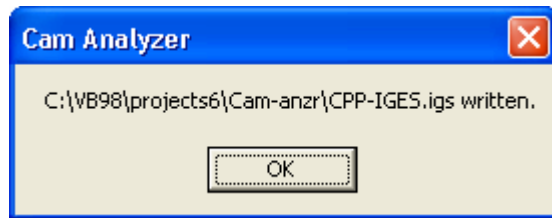
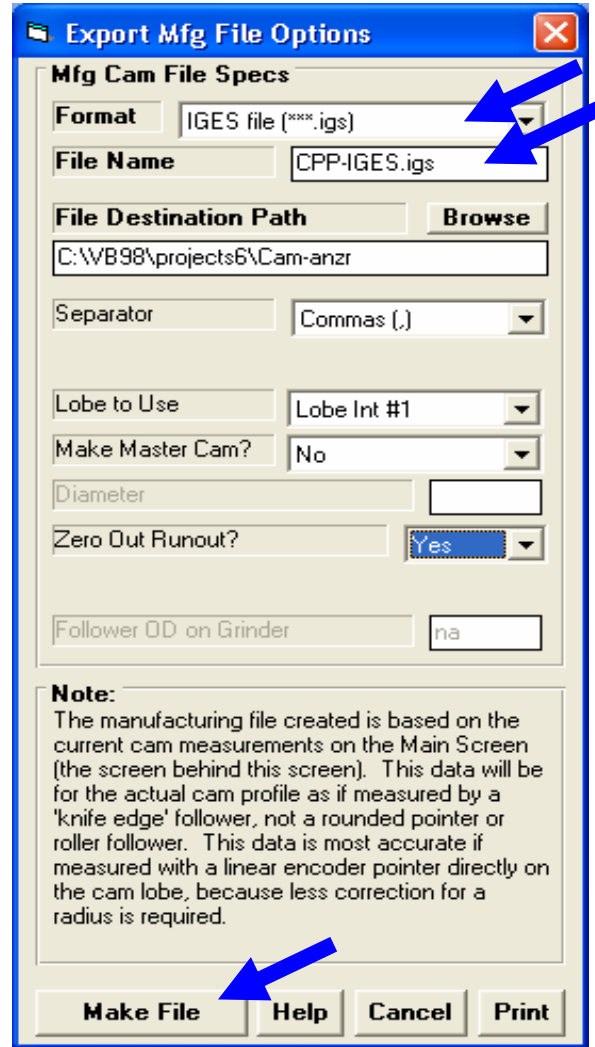
Here's what that file looks like when opened in Notepad.



Now that you can visualize what is happening, another method to produce a file, which has more options is to click File at the Main Screen, then Export Manufacturing Style Cam File.



Choose the options you want and file "Format" and click the "Make File" button to produce the file. Check the User's Manual for more info on these various settings and their applications.



Again, you can open the file in Notepad to inspect it.

