

Printed: Friday, March 5, 2004 8:02:55 AM

Tim Miller provided further comments in response to an email.

The email (feb. 2, 2004):

Hello, I'd recently downloaded the XFOIL instructions written by sir, dated 2nd April 2003 to Dr. William Mason and AOE4124. I followed it and reached up to the results. But I faced one problem which is that the plot seems to be much bigger than the graph. Hence, everything is hard to analyse. I hope that sir can help me out. Thank you.

Tim's response:

Interesting you should ask, since I just happened to stumble across the answer last week.

When you're in the "OPER" menu with a polar loaded or computed, type in the command:

ppax

then simply follow the directions:

```
.OPERi  c> ppax
Enter new axis annotations, or <return> to leave unchanged...
```

```
Alpha min, max, delta:  -4.00000  10.00000  2.00000
-5.0, 20.0, 4.0
CL min, max, delta:    0.00000  1.50000  0.50000
-.2 2.2 .2
CD min, max, delta:    0.00000  0.04000  0.01000
0.0 .08 .02
-CM min, max, delta:   -0.25000  0.00000  0.05000
-0.25 0.0 0.05
```

<or (since the CM hasn't changed)

```
.OPERi  c> ppax
Enter new axis annotations, or <return> to leave unchanged...
```

```
Alpha min, max, delta:  -4.00000  10.00000  2.00000
-5.0, 20.0, 4.0
CL min, max, delta:    0.00000  1.50000  0.50000
-.2 2.2 .2
CD min, max, delta:    0.00000  0.04000  0.01000
0.0 .08 .02
-CM min, max, delta:   -0.25000  0.00000  0.05000
```

make sure to enter all 3 numbers if you're going to change any of them. I.e. if you wanted to change your alpha range from -4.0 to 10.0 in 2.0 deg increments to -4.0 to 20.0 in 2.0 deg increments, you'd want to do:

```
Alpha min, max, delta:  -4.00000  10.00000  2.00000
-4.0, 20.0, 4.0
```

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NOT<<

Alpha min, max, delta: -4.00000 10.00000 2.00000 <<
20.0 <<
VERY BAD<<

Unfortunately, as Cl goes up, the drag increases dramatically; and the way XFOIL reads data files you have to have a Cd to go with that Cl in order for it to read the data file correctly. So, in some instances its better to insert the data into another analysis program such as Microsoft Excel, MathWorks Matlab, or Wolfram's Mathematica (to name a few).

A final note: By typing "?" in any menu (such as XFOIL, OPER, GDES, MDES, QDES...)
it will print out every command in that menu with a short description.

I hope this has answered your question, let me know if you have more questions and/or need more help.
Good luck w/ your continued XFOIL use!

-Tim

<http://groups.yahoo.com/group/xfoil/>