FLUENT - Flow over an Airfoil- Problem 2

Problem 2

Repeat the incompressible calculation at = 5° *including viscous effects*. Since the Reynolds number is high, we expect the flow to be turbulent. Use the *k*-turbulence model with the enhanced wall treatment option. At the farfield boundaries, set turbulence intensity=1% and turbulent length scale=0.01.

(a) Graph the pressure coefficient (C_p) distribution along the airfoil surface for this calculation and the inviscid calculation done in the previous problem at = 5°. Comment on any differences you observe.

(b) Compare the C_l and C_d values obtained with the corresponding values from the inviscid calculation. Discuss briefly the similarities and differences between the two results.

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