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Enter case reference: tryout
Reading in parameter file: Parfiles/tryout.txt

Section identifier: naca4412_yt_v2
Number of panels: 400
Reynolds number: 0.5 million
Range of incidences (degrees): -10:1:10

Results for alpha = -10.000 degrees

  Lift coefficient: -0.528
  Drag coefficient: 0.03296
  Lift-to-drag ratio: -16.016

  Upper surface boundary layer:
    Laminar separation at x = 0.841
    Turbulent reattachment at x = 0.871

  Lower surface boundary layer:
    Laminar separation at x = 0.004
    Turbulent separation at x = 0.008


Results for alpha = -9.000 degrees

  Lift coefficient: -0.409
  Drag coefficient: 0.02385
  Lift-to-drag ratio: -17.140

  Upper surface boundary layer:
    Laminar separation at x = 0.821
    Turbulent reattachment at x = 0.851

  Lower surface boundary layer:
    Laminar separation at x = 0.004
    Turbulent separation at x = 0.008


Results for alpha = -8.000 degrees

  Lift coefficient: -0.290
  Drag coefficient: 0.01708
  Lift-to-drag ratio: -16.966

  Upper surface boundary layer:
    Laminar separation at x = 0.806
    Turbulent reattachment at x = 0.836

  Lower surface boundary layer:
    Laminar separation at x = 0.004
    Turbulent separation at x = 0.008
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Results for alpha = -7.000 degrees

  Lift coefficient: -0.171
  Drag coefficient: 0.01226
  Lift-to-drag ratio: -13.922

  Upper surface boundary layer:
    Laminar separation at x = 0.781
    Turbulent reattachment at x = 0.811

  Lower surface boundary layer:
    Laminar separation at x = 0.004
    Turbulent separation at x = 0.008


Results for alpha = -6.000 degrees

  Lift coefficient: -0.051
  Drag coefficient: 0.00892
  Lift-to-drag ratio: -5.763

  Upper surface boundary layer:
    Laminar separation at x = 0.761
    Turbulent reattachment at x = 0.791

  Lower surface boundary layer:
    Laminar separation at x = 0.004
    Turbulent separation at x = 0.008


Results for alpha = -5.000 degrees

  Lift coefficient: 0.068
  Drag coefficient: 0.00974
  Lift-to-drag ratio: 6.965

  Upper surface boundary layer:
    Laminar separation at x = 0.736
    Turbulent reattachment at x = 0.766

  Lower surface boundary layer:
    Laminar separation at x = 0.008
    Turbulent reattachment at x = 0.012


Results for alpha = -4.000 degrees

  Lift coefficient: 0.187
  Drag coefficient: 0.00944
  Lift-to-drag ratio: 19.822

  Upper surface boundary layer:
    Laminar separation at x = 0.701
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    Turbulent reattachment at x = 0.731

  Lower surface boundary layer:
    Laminar separation at x = 0.008
    Turbulent reattachment at x = 0.012


Results for alpha = -3.000 degrees

  Lift coefficient: 0.306
  Drag coefficient: 0.00922
  Lift-to-drag ratio: 33.203

  Upper surface boundary layer:
    Laminar separation at x = 0.670
    Turbulent reattachment at x = 0.701

  Lower surface boundary layer:
    Laminar separation at x = 0.008
    Turbulent reattachment at x = 0.012


Results for alpha = -2.000 degrees

  Lift coefficient: 0.425
  Drag coefficient: 0.00912
  Lift-to-drag ratio: 46.625

  Upper surface boundary layer:
    Laminar separation at x = 0.635
    Turbulent reattachment at x = 0.660

  Lower surface boundary layer:
    Laminar separation at x = 0.022
    Turbulent reattachment at x = 0.032


Results for alpha = -1.000 degrees

  Lift coefficient: 0.544
  Drag coefficient: 0.00916
  Lift-to-drag ratio: 59.417

  Upper surface boundary layer:
    Laminar separation at x = 0.599
    Turbulent reattachment at x = 0.625

  Lower surface boundary layer:
    Laminar separation at x = 0.022
    Turbulent reattachment at x = 0.032


Results for alpha = 0.000 degrees
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  Lift coefficient: 0.663
  Drag coefficient: 0.00930
  Lift-to-drag ratio: 71.283

  Upper surface boundary layer:
    Laminar separation at x = 0.554
    Turbulent reattachment at x = 0.579

  Lower surface boundary layer:
    Laminar separation at x = 0.052
    Turbulent reattachment at x = 0.063


Results for alpha = 1.000 degrees

  Lift coefficient: 0.782
  Drag coefficient: 0.00996
  Lift-to-drag ratio: 78.456

  Upper surface boundary layer:
    Laminar separation at x = 0.447
    Turbulent reattachment at x = 0.467
    Turbulent separation at x = 1.000

  Lower surface boundary layer:
    Laminar separation at x = 0.185
    Turbulent reattachment at x = 0.205


Results for alpha = 2.000 degrees

  Lift coefficient: 0.900
  Drag coefficient: 0.01057
  Lift-to-drag ratio: 85.126

  Upper surface boundary layer:
    Laminar separation at x = 0.411
    Turbulent reattachment at x = 0.431
    Turbulent separation at x = 1.000

  Lower surface boundary layer:
    Laminar separation at x = 0.190
    Turbulent reattachment at x = 0.210


Results for alpha = 3.000 degrees

  Lift coefficient: 1.018
  Drag coefficient: 0.01126
  Lift-to-drag ratio: 90.385

  Upper surface boundary layer:
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    Laminar separation at x = 0.380
    Turbulent reattachment at x = 0.401
    Turbulent separation at x = 0.995

  Lower surface boundary layer:
    Laminar separation at x = 0.195
    Turbulent reattachment at x = 0.215


Results for alpha = 4.000 degrees

  Lift coefficient: 1.136
  Drag coefficient: 0.01211
  Lift-to-drag ratio: 93.787

  Upper surface boundary layer:
    Laminar separation at x = 0.350
    Turbulent reattachment at x = 0.370
    Turbulent separation at x = 0.995

  Lower surface boundary layer:
    Laminar separation at x = 0.200
    Turbulent reattachment at x = 0.215


Results for alpha = 5.000 degrees

  Lift coefficient: 1.253
  Drag coefficient: 0.01250
  Lift-to-drag ratio: 100.204

  Upper surface boundary layer:
    Laminar separation at x = 0.324
    Turbulent reattachment at x = 0.345
    Turbulent separation at x = 0.990

  Lower surface boundary layer:
    Laminar separation at x = 0.541
    Turbulent reattachment at x = 0.577


Results for alpha = 6.000 degrees

  Lift coefficient: 1.370
  Drag coefficient: 0.01371
  Lift-to-drag ratio: 99.908

  Upper surface boundary layer:
    Laminar separation at x = 0.299
    Turbulent reattachment at x = 0.319
    Turbulent separation at x = 0.985

  Lower surface boundary layer:
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    Laminar separation at x = 0.546
    Turbulent reattachment at x = 0.577


Results for alpha = 7.000 degrees

  Lift coefficient: 1.487
  Drag coefficient: 0.01528
  Lift-to-drag ratio: 97.313

  Upper surface boundary layer:
    Laminar separation at x = 0.268
    Turbulent reattachment at x = 0.288
    Turbulent separation at x = 0.980

  Lower surface boundary layer:
    Laminar separation at x = 0.551
    Turbulent reattachment at x = 0.582


Results for alpha = 8.000 degrees

  Lift coefficient: 1.603
  Drag coefficient: 0.02441
  Lift-to-drag ratio: 65.649

  Upper surface boundary layer:
    Laminar separation at x = 0.019
    Turbulent reattachment at x = 0.027
    Turbulent separation at x = 0.941

  Lower surface boundary layer:
    Laminar separation at x = 0.561
    Turbulent reattachment at x = 0.592


Results for alpha = 9.000 degrees

  Lift coefficient: 1.718
  Drag coefficient: 0.02689
  Lift-to-drag ratio: 63.912

  Upper surface boundary layer:
    Laminar separation at x = 0.015
    Turbulent reattachment at x = 0.023
    Turbulent separation at x = 0.921

  Lower surface boundary layer:
    Laminar separation at x = 0.990


Results for alpha = 10.000 degrees
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  Lift coefficient: 1.834
  Drag coefficient: 0.03110
  Lift-to-drag ratio: 58.950

  Upper surface boundary layer:
    Laminar separation at x = 0.007
    Turbulent reattachment at x = 0.011
    Turbulent separation at x = 0.891

  Lower surface boundary layer:
    Laminar separation at x = 0.990

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