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

Section identifier: naca4412_yt_v4
Number of panels: 400
Reynolds number: 0.5 million
Range of incidences (degrees): -10:1:10

Results for alpha = -10.000 degrees

  Lift coefficient: -0.361
  Drag coefficient: 0.04243
  Lift-to-drag ratio: -8.501

  Upper surface boundary layer:
    Laminar separation at x = 0.851
    Turbulent reattachment at x = 0.881

  Lower surface boundary layer:
    Laminar separation at x = 0.006
    Turbulent separation at x = 0.011


Results for alpha = -9.000 degrees

  Lift coefficient: -0.244
  Drag coefficient: 0.03139
  Lift-to-drag ratio: -7.757

  Upper surface boundary layer:
    Laminar separation at x = 0.836
    Turbulent reattachment at x = 0.866

  Lower surface boundary layer:
    Laminar separation at x = 0.006
    Turbulent separation at x = 0.011


Results for alpha = -8.000 degrees

  Lift coefficient: -0.126
  Drag coefficient: 0.02298
  Lift-to-drag ratio: -5.495

  Upper surface boundary layer:
    Laminar separation at x = 0.816
    Turbulent reattachment at x = 0.846

  Lower surface boundary layer:
    Laminar separation at x = 0.006
    Turbulent separation at x = 0.011
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Results for alpha = -7.000 degrees

  Lift coefficient: -0.009
  Drag coefficient: 0.01673
  Lift-to-drag ratio: -0.537

  Upper surface boundary layer:
    Laminar separation at x = 0.796
    Turbulent reattachment at x = 0.826

  Lower surface boundary layer:
    Laminar separation at x = 0.006
    Turbulent separation at x = 0.011


Results for alpha = -6.000 degrees

  Lift coefficient: 0.108
  Drag coefficient: 0.01226
  Lift-to-drag ratio: 8.831

  Upper surface boundary layer:
    Laminar separation at x = 0.770
    Turbulent reattachment at x = 0.801

  Lower surface boundary layer:
    Laminar separation at x = 0.006
    Turbulent separation at x = 0.011


Results for alpha = -5.000 degrees

  Lift coefficient: 0.226
  Drag coefficient: 0.00920
  Lift-to-drag ratio: 24.513

  Upper surface boundary layer:
    Laminar separation at x = 0.745
    Turbulent reattachment at x = 0.775

  Lower surface boundary layer:
    Laminar separation at x = 0.006
    Turbulent separation at x = 0.011


Results for alpha = -4.000 degrees

  Lift coefficient: 0.343
  Drag coefficient: 0.00726
  Lift-to-drag ratio: 47.194

  Upper surface boundary layer:
    Laminar separation at x = 0.715
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    Turbulent reattachment at x = 0.745

  Lower surface boundary layer:
    Laminar separation at x = 0.006
    Turbulent separation at x = 0.011


Results for alpha = -3.000 degrees

  Lift coefficient: 0.460
  Drag coefficient: 0.00622
  Lift-to-drag ratio: 73.967

  Upper surface boundary layer:
    Laminar separation at x = 0.674
    Turbulent reattachment at x = 0.700

  Lower surface boundary layer:
    Laminar separation at x = 0.006
    Turbulent separation at x = 0.011


Results for alpha = -2.000 degrees

  Lift coefficient: 0.577
  Drag coefficient: 0.00726
  Lift-to-drag ratio: 79.391

  Upper surface boundary layer:
    Laminar separation at x = 0.639
    Turbulent reattachment at x = 0.664

  Lower surface boundary layer:
    Laminar separation at x = 0.011
    Turbulent reattachment at x = 0.021
    Turbulent separation at x = 0.211


Results for alpha = -1.000 degrees

  Lift coefficient: 0.693
  Drag coefficient: 0.00715
  Lift-to-drag ratio: 97.034

  Upper surface boundary layer:
    Laminar separation at x = 0.603
    Turbulent reattachment at x = 0.629

  Lower surface boundary layer:
    Laminar separation at x = 0.011
    Turbulent reattachment at x = 0.016
    Turbulent separation at x = 0.226
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Results for alpha = 0.000 degrees

  Lift coefficient: 0.810
  Drag coefficient: 0.00898
  Lift-to-drag ratio: 90.177

  Upper surface boundary layer:
    Laminar separation at x = 0.558
    Turbulent reattachment at x = 0.583

  Lower surface boundary layer:
    Laminar separation at x = 0.092
    Turbulent reattachment at x = 0.112


Results for alpha = 1.000 degrees

  Lift coefficient: 0.926
  Drag coefficient: 0.01003
  Lift-to-drag ratio: 92.341

  Upper surface boundary layer:
    Laminar separation at x = 0.445
    Turbulent reattachment at x = 0.466

  Lower surface boundary layer:
    Laminar separation at x = 0.097
    Turbulent reattachment at x = 0.112


Results for alpha = 2.000 degrees

  Lift coefficient: 1.042
  Drag coefficient: 0.01052
  Lift-to-drag ratio: 99.051

  Upper surface boundary layer:
    Laminar separation at x = 0.409
    Turbulent reattachment at x = 0.430

  Lower surface boundary layer:
    Laminar separation at x = 0.102
    Turbulent reattachment at x = 0.112


Results for alpha = 3.000 degrees

  Lift coefficient: 1.158
  Drag coefficient: 0.00929
  Lift-to-drag ratio: 124.661

  Upper surface boundary layer:
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    Laminar separation at x = 0.379
    Turbulent reattachment at x = 0.399
    Turbulent separation at x = 1.000

  Lower surface boundary layer:
    Laminar separation at x = 0.152
    Turbulent separation at x = 0.216


Results for alpha = 4.000 degrees

  Lift coefficient: 1.273
  Drag coefficient: 0.01193
  Lift-to-drag ratio: 106.777

  Upper surface boundary layer:
    Laminar separation at x = 0.348
    Turbulent reattachment at x = 0.368
    Turbulent separation at x = 1.000

  Lower surface boundary layer:
    Laminar separation at x = 0.157
    Turbulent reattachment at x = 0.266


Results for alpha = 5.000 degrees

  Lift coefficient: 1.388
  Drag coefficient: 0.01290
  Lift-to-drag ratio: 107.599

  Upper surface boundary layer:
    Laminar separation at x = 0.322
    Turbulent reattachment at x = 0.343
    Turbulent separation at x = 0.995

  Lower surface boundary layer:
    Laminar separation at x = 0.162
    Turbulent reattachment at x = 0.251


Results for alpha = 6.000 degrees

  Lift coefficient: 1.503
  Drag coefficient: 0.01409
  Lift-to-drag ratio: 106.681

  Upper surface boundary layer:
    Laminar separation at x = 0.297
    Turbulent reattachment at x = 0.317
    Turbulent separation at x = 0.995

  Lower surface boundary layer:
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    Laminar separation at x = 0.162
    Turbulent reattachment at x = 0.236


Results for alpha = 7.000 degrees

  Lift coefficient: 1.617
  Drag coefficient: 0.02154
  Lift-to-drag ratio: 75.052

  Upper surface boundary layer:
    Laminar separation at x = 0.043
    Turbulent reattachment at x = 0.052
    Turbulent separation at x = 0.970

  Lower surface boundary layer:
    Laminar separation at x = 0.167
    Turbulent reattachment at x = 0.226


Results for alpha = 8.000 degrees

  Lift coefficient: 1.731
  Drag coefficient: 0.02424
  Lift-to-drag ratio: 71.382

  Upper surface boundary layer:
    Laminar separation at x = 0.029
    Turbulent reattachment at x = 0.038
    Turbulent separation at x = 0.955

  Lower surface boundary layer:
    Laminar separation at x = 0.167
    Turbulent reattachment at x = 0.201


Results for alpha = 9.000 degrees

  Lift coefficient: 1.844
  Drag coefficient: 0.02741
  Lift-to-drag ratio: 67.260

  Upper surface boundary layer:
    Laminar separation at x = 0.021
    Turbulent reattachment at x = 0.029
    Turbulent separation at x = 0.936

  Lower surface boundary layer:
    Laminar separation at x = 0.172
    Turbulent reattachment at x = 0.201


Results for alpha = 10.000 degrees
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  Lift coefficient: 1.956
  Drag coefficient: 0.03183
  Lift-to-drag ratio: 61.454

  Upper surface boundary layer:
    Laminar separation at x = 0.009
    Turbulent reattachment at x = 0.013
    Turbulent separation at x = 0.901

  Lower surface boundary layer:
    Laminar separation at x = 0.177
    Turbulent reattachment at x = 0.201

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