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

Section identifier: naca4412_yt_v1
Number of panels: 400
Reynolds number: 0.5 million
Range of incidences (degrees): -10:1:10

Results for alpha = -10.000 degrees

  Lift coefficient: -0.593
  Drag coefficient: 0.03029
  Lift-to-drag ratio: -19.580

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

  Lower surface boundary layer:
    Laminar separation at x = 0.003
    Turbulent separation at x = 0.007


Results for alpha = -9.000 degrees

  Lift coefficient: -0.473
  Drag coefficient: 0.02113
  Lift-to-drag ratio: -22.400

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

  Lower surface boundary layer:
    Laminar separation at x = 0.007
    Turbulent reattachment at x = 0.011
    Turbulent separation at x = 0.021


Results for alpha = -8.000 degrees

  Lift coefficient: -0.353
  Drag coefficient: 0.01583
  Lift-to-drag ratio: -22.333

  Upper surface boundary layer:
    Laminar separation at x = 0.801
    Turbulent reattachment at x = 0.831

  Lower surface boundary layer:
    Laminar separation at x = 0.007
    Turbulent reattachment at x = 0.011
    Turbulent separation at x = 0.021
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Results for alpha = -7.000 degrees

  Lift coefficient: -0.234
  Drag coefficient: 0.01191
  Lift-to-drag ratio: -19.602

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

  Lower surface boundary layer:
    Laminar separation at x = 0.007
    Turbulent reattachment at x = 0.011
    Turbulent separation at x = 0.021


Results for alpha = -6.000 degrees

  Lift coefficient: -0.114
  Drag coefficient: 0.00916
  Lift-to-drag ratio: -12.399

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

  Lower surface boundary layer:
    Laminar separation at x = 0.007
    Turbulent reattachment at x = 0.011
    Turbulent separation at x = 0.026


Results for alpha = -5.000 degrees

  Lift coefficient: 0.006
  Drag coefficient: 0.00729
  Lift-to-drag ratio: 0.891

  Upper surface boundary layer:
    Laminar separation at x = 0.731
    Turbulent reattachment at x = 0.761

  Lower surface boundary layer:
    Laminar separation at x = 0.007
    Turbulent reattachment at x = 0.011
    Turbulent separation at x = 0.026


Results for alpha = -4.000 degrees

  Lift coefficient: 0.127
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  Drag coefficient: 0.00963
  Lift-to-drag ratio: 13.141

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

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


Results for alpha = -3.000 degrees

  Lift coefficient: 0.247
  Drag coefficient: 0.00578
  Lift-to-drag ratio: 42.684

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

  Lower surface boundary layer:
    Laminar separation at x = 0.016
    Turbulent separation at x = 0.021


Results for alpha = -2.000 degrees

  Lift coefficient: 0.366
  Drag coefficient: 0.00926
  Lift-to-drag ratio: 39.574

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

  Lower surface boundary layer:
    Laminar separation at x = 0.021
    Turbulent reattachment at x = 0.036


Results for alpha = -1.000 degrees

  Lift coefficient: 0.486
  Drag coefficient: 0.00928
  Lift-to-drag ratio: 52.386

  Upper surface boundary layer:
    Laminar separation at x = 0.600
    Turbulent reattachment at x = 0.625
    Turbulent separation at x = 1.000
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  Lower surface boundary layer:
    Laminar separation at x = 0.021
    Turbulent reattachment at x = 0.036


Results for alpha = 0.000 degrees

  Lift coefficient: 0.606
  Drag coefficient: 0.00955
  Lift-to-drag ratio: 63.477

  Upper surface boundary layer:
    Laminar separation at x = 0.554
    Turbulent reattachment at x = 0.579
    Turbulent separation at x = 1.000

  Lower surface boundary layer:
    Laminar separation at x = 0.021
    Turbulent reattachment at x = 0.031


Results for alpha = 1.000 degrees

  Lift coefficient: 0.725
  Drag coefficient: 0.01049
  Lift-to-drag ratio: 69.131

  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 = 0.021
    Turbulent reattachment at x = 0.031


Results for alpha = 2.000 degrees

  Lift coefficient: 0.845
  Drag coefficient: 0.01065
  Lift-to-drag ratio: 79.348

  Upper surface boundary layer:
    Laminar separation at x = 0.411
    Turbulent reattachment at x = 0.432
    Turbulent separation at x = 1.000

  Lower surface boundary layer:
    Laminar separation at x = 0.224
    Turbulent reattachment at x = 0.245
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Results for alpha = 3.000 degrees

  Lift coefficient: 0.964
  Drag coefficient: 0.01131
  Lift-to-drag ratio: 85.197

  Upper surface boundary layer:
    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 = 0.240
    Turbulent reattachment at x = 0.260


Results for alpha = 4.000 degrees

  Lift coefficient: 1.082
  Drag coefficient: 0.01112
  Lift-to-drag ratio: 97.299

  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 = 0.745
    Turbulent reattachment at x = 0.780


Results for alpha = 5.000 degrees

  Lift coefficient: 1.201
  Drag coefficient: 0.01215
  Lift-to-drag ratio: 98.833

  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 = 0.750
    Turbulent reattachment at x = 0.780


Results for alpha = 6.000 degrees

  Lift coefficient: 1.319
  Drag coefficient: 0.01328
  Lift-to-drag ratio: 99.313
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  Upper surface boundary layer:
    Laminar separation at x = 0.304
    Turbulent reattachment at x = 0.324
    Turbulent separation at x = 0.985

  Lower surface boundary layer:
    Laminar separation at x = 0.755
    Turbulent reattachment at x = 0.786


Results for alpha = 7.000 degrees

  Lift coefficient: 1.436
  Drag coefficient: 0.01483
  Lift-to-drag ratio: 96.862

  Upper surface boundary layer:
    Laminar separation at x = 0.273
    Turbulent reattachment at x = 0.294
    Turbulent separation at x = 0.980

  Lower surface boundary layer:
    Laminar separation at x = 0.765
    Turbulent reattachment at x = 0.796


Results for alpha = 8.000 degrees

  Lift coefficient: 1.554
  Drag coefficient: 0.02402
  Lift-to-drag ratio: 64.668

  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 = 0.775
    Turbulent reattachment at x = 0.806


Results for alpha = 9.000 degrees

  Lift coefficient: 1.670
  Drag coefficient: 0.02677
  Lift-to-drag ratio: 62.385

  Upper surface boundary layer:
    Laminar separation at x = 0.015
    Turbulent reattachment at x = 0.023
    Turbulent separation at x = 0.921
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  Lower surface boundary layer:
    Laminar separation at x = 0.995


Results for alpha = 10.000 degrees

  Lift coefficient: 1.786
  Drag coefficient: 0.03054
  Lift-to-drag ratio: 58.498

  Upper surface boundary layer:
    Laminar separation at x = 0.011
    Turbulent reattachment at x = 0.019
    Turbulent separation at x = 0.896

  Lower surface boundary layer:
    Laminar separation at x = 0.995

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