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

Section identifier: naca4412_yt_v1
Number of panels: 400
Reynolds number: 20 million
Range of incidences (degrees): -10:1:10

Results for alpha = -10.000 degrees

  Lift coefficient: -0.593
  Drag coefficient: 0.00837
  Lift-to-drag ratio: -70.833

  Upper surface boundary layer:
    Natural transition at x = 0.426

  Lower surface boundary layer:
    Natural transition at x = 0.003

Results for alpha = -9.000 degrees

  Lift coefficient: -0.473
  Drag coefficient: 0.00780
  Lift-to-drag ratio: -60.673

  Upper surface boundary layer:
    Natural transition at x = 0.406

  Lower surface boundary layer:
    Natural transition at x = 0.007

Results for alpha = -8.000 degrees

  Lift coefficient: -0.353
  Drag coefficient: 0.00749
  Lift-to-drag ratio: -47.198

  Upper surface boundary layer:
    Natural transition at x = 0.380

  Lower surface boundary layer:
    Natural transition at x = 0.007

Results for alpha = -7.000 degrees

  Lift coefficient: -0.234
  Drag coefficient: 0.00723
  Lift-to-drag ratio: -32.310

    Upper surface boundary layer:
       Natural transition at x = 0.360

    Lower surface boundary layer:
       Natural transition at x = 0.007

Results for alpha = -6.000 degrees

   Lift coefficient: -0.114
   Drag coefficient: 0.00703
   Lift-to-drag ratio: -16.158

    Upper surface boundary layer:
       Natural transition at x = 0.340

    Lower surface boundary layer:
       Natural transition at x = 0.007

Results for alpha = -5.000 degrees

   Lift coefficient: 0.006
   Drag coefficient: 0.00688
   Lift-to-drag ratio: 0.944

    Upper surface boundary layer:
       Natural transition at x = 0.319

    Lower surface boundary layer:
       Natural transition at x = 0.007

Results for alpha = -4.000 degrees

   Lift coefficient: 0.127
   Drag coefficient: 0.00676
   Lift-to-drag ratio: 18.705

    Upper surface boundary layer:
       Natural transition at x = 0.304

    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: 0.00664
   Lift-to-drag ratio: 37.117

   Upper surface boundary layer:
      Natural transition at x = 0.283

   Lower surface boundary layer:
      Natural transition at x = 0.016

Results for alpha = -2.000 degrees

   Lift coefficient: 0.366
   Drag coefficient: 0.00665
   Lift-to-drag ratio: 55.106

   Upper surface boundary layer:
      Natural transition at x = 0.263

   Lower surface boundary layer:
      Natural transition at x = 0.021

Results for alpha = -1.000 degrees

   Lift coefficient: 0.486
   Drag coefficient: 0.00679
   Lift-to-drag ratio: 71.631

   Upper surface boundary layer:
      Natural transition at x = 0.233

   Lower surface boundary layer:
      Natural transition at x = 0.021

Results for alpha = 0.000 degrees

   Lift coefficient: 0.606
   Drag coefficient: 0.00695
   Lift-to-drag ratio: 87.218

   Upper surface boundary layer:
      Natural transition at x = 0.207

   Lower surface boundary layer:
      Laminar separation at x = 0.021
      Turbulent reattachment at x = 0.026

Results for alpha = 1.000 degrees

   Lift coefficient: 0.725
   Drag coefficient: 0.00719
   Lift-to-drag ratio: 100.869

   Upper surface boundary layer:
      Natural transition at x = 0.177

   Lower surface boundary layer:
      Laminar separation at x = 0.021
      Turbulent reattachment at x = 0.026

Results for alpha = 2.000 degrees

   Lift coefficient: 0.845
   Drag coefficient: 0.00715
   Lift-to-drag ratio: 118.196

   Upper surface boundary layer:
      Natural transition at x = 0.152

   Lower surface boundary layer:
      Natural transition at x = 0.184

Results for alpha = 3.000 degrees

   Lift coefficient: 0.964
   Drag coefficient: 0.00751
   Lift-to-drag ratio: 128.377

   Upper surface boundary layer:
      Natural transition at x = 0.127

   Lower surface boundary layer:
      Natural transition at x = 0.194

Results for alpha = 4.000 degrees

   Lift coefficient: 1.082
   Drag coefficient: 0.00810
   Lift-to-drag ratio: 133.687

   Upper surface boundary layer:
      Natural transition at x = 0.083

   Lower surface boundary layer:
      Natural transition at x = 0.204

Results for alpha = 5.000 degrees

   Lift coefficient: 1.201
   Drag coefficient: 0.00848
   Lift-to-drag ratio: 141.632

   Upper surface boundary layer:
      Natural transition at x = 0.064
      Turbulent separation at x = 1.000

   Lower surface boundary layer:
      Natural transition at x = 0.219

Results for alpha = 6.000 degrees

   Lift coefficient: 1.319
   Drag coefficient: 0.00948
   Lift-to-drag ratio: 139.155

   Upper surface boundary layer:
      Natural transition at x = 0.036
      Turbulent separation at x = 1.000

   Lower surface boundary layer:
      Natural transition at x = 0.229

Results for alpha = 7.000 degrees

   Lift coefficient: 1.436
   Drag coefficient: 0.01060
   Lift-to-drag ratio: 135.538

   Upper surface boundary layer:
      Natural transition at x = 0.019
      Turbulent separation at x = 1.000

   Lower surface boundary layer:
      Natural transition at x = 0.245

Results for alpha = 8.000 degrees

   Lift coefficient: 1.554
   Drag coefficient: 0.01135
   Lift-to-drag ratio: 136.919

   Upper surface boundary layer:
      Natural transition at x = 0.015
      Turbulent separation at x = 0.995

   Lower surface boundary layer:
      Natural transition at x = 0.525

Results for alpha = 9.000 degrees

   Lift coefficient: 1.670

```
  Drag coefficient: 0.01286
  Lift-to-drag ratio: 129.840

  Upper surface boundary layer:
    Natural transition at x = 0.007
    Turbulent separation at x = 0.990

  Lower surface boundary layer:
    Natural transition at x = 0.540


Results for alpha = 10.000 degrees

  Lift coefficient: 1.786
  Drag coefficient: 0.01420
  Lift-to-drag ratio: 125.777

  Upper surface boundary layer:
    Natural transition at x = 0.007
    Turbulent separation at x = 0.985

  Lower surface boundary layer:
    Natural transition at x = 0.556

>>
```