```
>> Main
===PC9 CG1 @ 100kts @ 1000ft===

===DEBUG DATA with X0+0.1 & U0+0.1===


X0 =

    51.3569
     0.1000
     4.4368
     0.1000
     0.1000
     0.1000
     0.9935
     0.0451
     0.0943
     0.0451
     0.1000
     0.1000
  -304.7000


U0 =

     0.1929
     0.0958
     0.1000
     0.1000


G_body =

    -1.7988
     0.9628
     9.5955


V =

    51.5483


alpha =

     0.0862


beta =

     0.0019


alpha_d =
```

```
     0


beta_d =

     0


rho =

    1.1889


qbar =

   1.5795e+03


alpha_dhat =

     0


beta_dhat =

     0


phat =

    0.0098


qhat =

    0.0016


rhat =

    0.0098


CL =

    0.8709


CD =

    0.0579


Lift =
```

```
    2.2410e+04


Drag =

    1.4905e+03


F_t =

    2.7478e+03


F_body =

    1.0e+04 *

     0.0444
    -2.2455
          0


Fx =

    3.1916e+03


Fz =

   -2.2455e+04


Cy =

     0.0260


Fy =

    667.9243


Cl =

    -0.0160


Cm =

    -0.2120


Cn =

    -0.0126
```

Mx =

  -4.1672e+03

My =

  -9.0121e+03

Mz =

  -3.2822e+03

Forces =

   1.0e+04 *

    0.3192
    0.0668
   -2.2455

Moments =

   1.0e+03 *

   -4.1672
   -9.0121
   -3.2822

L_be =

    0.9781   0.0981   -0.1834
   -0.0811   0.9919   0.0981
    0.1915   -0.0811   0.9781

L_eb =

    0.9781   -0.0811   0.1915
    0.0981   0.9919   -0.0811
   -0.1834   0.0981   0.9781

skew_rot_mat =

        0   -0.1000   0.1000
    0.1000   0   -0.1000
   -0.1000   0.1000   0

c0 =

   55558141

c1 =

   1.9754e-04

c2 =

   3.6538e-06

c3 =

    0.0346

c4 =

   -0.8693

c5 =

   1.5202e-04

c6 =

    0.0309

c7 =

    0.8983

c8 =

   9.1184e-05

c9 =

   -0.1371

body_vel_rates =

   -0.7032
   -3.4092

```
    3.9616


pdot =

   -0.8435


qdot =

   -1.3611


rdot =

   -0.3162


quat_rates =

   -0.0092
    0.0521
    0.0497
    0.0472


earth_velocities =

   51.0754
    4.7795
   -5.0674


Xdot =

   -0.7032
   -3.4092
    3.9616
   -0.8435
   -1.3611
   -0.3162
   -0.0092
    0.0521
    0.0497
    0.0472
   51.0754
    4.7795
   -5.0674

>>
```