```
>> Trim_f18fullDU_a_Edits

statenames =

    'V (ft/s)'
    'Beta (rad)'
    'Alpha (rad)'
    'Roll Rate (rad/s)'
    'Pitch Rate (rad/s)'
    'Yaw Rate (rad/s)'
    'Phi (rad)'
    'Theta (rad)'
    'Yaw (rad)'
    'pN (ft)'
    'pE (ft)'
    'h (ft)'


inputnames =
```

```
    'Aileron (rad)'
    'Rudder (rad)'
    'Stabilator (rad)'
    'T (lbf)'

initial values

ans =

   500


ans =

     0
    10
     0
     0
```

```
     0
     0
    10
     0


ans =

     0
     0


ans =

       35000


ans =
```

```
     0
     0
     0


ans =

        6000

Warning: The command linoptions is↙
obsolete. Use linearizeOptions or↙
findopOptions instead.
> In linoptions (line 131)
  In Trim_f18fullDU_a_Edits (line↙
157)

Local minimum found that satisfies↙
the constraints.
```

Optimization completed because the↙
objective function is non-decreasing↙
in
feasible directions, to within the↙
default value of the function↙
tolerance,
and constraints are satisfied to↙
within the default value of the↙
constraint tolerance.

<stopping criteria details>

Operating Point Search Report:

Operating Report for the Model↙
f18full_DUtrim.
(Time-Varying Components Evaluated↙

at time t=0)

Operating point specifications were↙
successfully met.
States:

(1.) f18full_DUtrim/Integrator a1
      x: 436   dx:↙
1.05e-08 (0)
(2.) f18full_DUtrim/Integrator a2
      x: 0   dx:↙
0 (0)
(3.) f18full_DUtrim/Integrator a3
      x: 0.175   dx:↙
-2.69e-07 (0)
(4.) f18full_DUtrim/Integrator b1
      x: 0   dx:↙
0 (0)
(5.) f18full_DUtrim/Integrator b2

x: 0 dx:↙
-6.09e-09 (0)
(6.) f18full_DUtrim/Integrator b3
x: 0 dx:↙
0 (0)
(7.) f18full_DUtrim/Integrator c1
x: 0 dx:↙
0 (0)
(8.) f18full_DUtrim/Integrator c2
x: 0.175 dx:↙
0 (0)
(9.) f18full_DUtrim/Integrator c3
x: 0 dx:↙
0 (0)
(10.) f18full_DUtrim/Integrator d1
x: 0 dx:↙
436
(11.) f18full_DUtrim/Integrator d2
x: 0 dx:↙

```
0
(12.) f18full_DUtrim/Integrator d3
      x:        3.5e+04      dx:↙
-1.42e-14

Inputs:
----------
(1.) f18full_DUtrim/dAil
      u:              0    [-Inf Inf]
(2.) f18full_DUtrim/dRud
      u:              0    [-Inf Inf]
(3.) f18full_DUtrim/dStab
      u:         -0.022    [-Inf Inf]
(4.) f18full_DUtrim/T
      u:       5.47e+03    [0 3.8↙
e+04]

Outputs:
----------
```

(1.) f18full_DUtrim/V
y: 436 [-Inf Inf]
(2.) f18full_DUtrim/beta
y: 0 [-Inf Inf]
(3.) f18full_DUtrim/alpha
y: 0.175 [-Inf Inf]
(4.) f18full_DUtrim/p
y: 0 [-Inf Inf]
(5.) f18full_DUtrim/q
y: 0 [-Inf Inf]
(6.) f18full_DUtrim/r
y: 0 [-Inf Inf]
(7.) f18full_DUtrim/phi
y: 0 [-Inf Inf]
(8.) f18full_DUtrim/theta
y: 0.175 [-Inf Inf]
(9.) f18full_DUtrim/psi
y: 0 [-Inf Inf]
(10.) f18full_DUtrim/pN

```
      y:                0    [-Inf Inf]
(11.) f18full_DUtrim/pE
      y:                0    [-Inf Inf]
(12.) f18full_DUtrim/h
      y:          3.5e+04    [-Inf Inf]

      Model: 'f18full_DUtrim'
     States: [12x1 opcond.↙
StatePoint]
     Inputs: [4x1 opcond.InputPoint]
       Time: 0
    Version: 2


x_trim =

   1.0e+04 *

    0.0436
```

```
         0
    0.0000
         0
         0
         0
         0
    0.0000
         0
    3.5000


u_trim =

   1.0e+03 *

         0
         0
   -0.0000
    5.4705
```

Trimmed Value

ans =

435.9226

ans =

0
10
0
0
0
0
10
0

```
ans =

       35000


ans =

           0
           0
   -1.2616


ans =

   5.4705e+03

Warning: Model 'f18full_DUtrim' is↙
using a default value of 0.2 for↙
```

```
maximum step size. You can disable↙
this diagnostic by
setting 'Automatic solver parameter↙
selection' diagnostic to 'none' in↙
the Diagnostics page of the↙
configuration
parameters dialog
> In dlinmod (line 195)
  In linmod (line 59)
  In Trim_f18fullDU_a_Edits (line↙
203)
Warning: Extra states are being set↙
to zero.
> In DAStudio.warning (line 28)
  In dlinmod (line 217)
  In linmod (line 59)
  In Trim_f18fullDU_a_Edits (line↙
203)
```

```
A_longltrl =

   -0.0239  -28.3166         0↙
-32.2000         0         0↙
0         0
   -0.0003   -0.3621    1.0000↙
0         0         0         0↙
0
   -0.0000   -2.2115   -0.2532↙
0         0         0         0↙
0
         0         0    1.0000↙
0         0         0         0↙
0
         0         0         0↙
0   -0.0374    0.1736   -0.9848↙
0.0727
         0         0         0↙
0   -8.5429   -0.8883    0.8762↙
```

```
0
         0         0         0↙
0    0.8860    0.0399   -0.1895↙
0
         0         0         0↙
0         0    1.0000    0.1763↙
0


B_longltrl =

    0.0010   -3.8114         0↙
0
   -0.0000   -0.0515         0↙
0
         0   -2.8791         0↙
0
         0         0         0↙
0
```

```
         0         0   -0.0149↙
0.0207
         0         0    8.3320↙
0.9541
         0         0   -0.0420↙
-0.6277
         0         0         0↙
0
```

C_longltrl =

```
    1    0    0    0    0    0↙
0    0
    0    1    0    0    0    0↙
0    0
    0    0    1    0    0    0↙
0    0
    0    0    0    1    0    0↙
```

```
0     0
      0     0     0     0     1     0↙
0     0
      0     0     0     0     0     1↙
0     0
      0     0     0     0     0     0↙
1     0
      0     0     0     0     0     0↙
0     1
```

```
D_longltrl =

      0     0     0     0
      0     0     0     0
      0     0     0     0
      0     0     0     0
      0     0     0     0
      0     0     0     0
```

```
     0     0     0     0
     0     0     0     0


A_longltrl9 =

   -0.0239  -28.3166         0↙
-32.2000         0         0↙
0         0         0
   -0.0003   -0.3621    1.0000↙
0         0         0         0↙
0         0
   -0.0000   -2.2115   -0.2532↙
0         0         0         0↙
0         0
         0         0    1.0000↙
0         0         0         0↙
0         0
         0 -435.9226         0↙
```

```
435.9226         0         0↙
0         0         0
         0         0         0↙
0         0   -0.0374    0.1736↙
-0.9848    0.0727
         0         0         0↙
0         0   -8.5429   -0.8883↙
0.8762         0
         0         0         0↙
0         0    0.8860    0.0399↙
-0.1895         0
         0         0         0↙
0         0         0    1.0000↙
0.1763         0
```

B_longltrl9 =

```
    0.0010   -3.8114         0↙
```

```
0
   -0.0000   -0.0515         0↙
0
         0   -2.8791         0↙
0
         0         0         0↙
0
         0         0         0↙
0
         0         0   -0.0149↙
0.0207
         0         0    8.3320↙
0.9541
         0         0   -0.0420↙
-0.6277
         0         0         0↙
0
```

C_longltrl9 =

```
     1     0     0     0     0     0↙
0     0     0
     0     1     0     0     0     0↙
0     0     0
     0     0     1     0     0     0↙
0     0     0
     0     0     0     1     0     0↙
0     0     0
     0     0     0     0     1     0↙
0     0     0
     0     0     0     0     0     1↙
0     0     0
     0     0     0     0     0     0↙
1     0     0
     0     0     0     0     0     0↙
0     1     0
     0     0     0     0     0     0↙
```

```
0     0     1


D_longltrl9 =

     0     0     0     0
     0     0     0     0
     0     0     0     0
     0     0     0     0
     0     0     0     0
     0     0     0     0
     0     0     0     0
     0     0     0     0
     0     0     0     0

Longitudnal states: [V alpha q theta↙
]
Longitudinal controls [ T  d_STAB]
```

```
A_x =

   -0.0239  -28.3166         0↙
-32.2000
   -0.0003   -0.3621    1.0000↙
0
   -0.0000   -2.2115   -0.2532↙
0
         0         0    1.0000↙
0


B_x =

    0.0010   -3.8114
   -0.0000   -0.0515
         0   -2.8791
         0         0
```

```
Longitudnal states: [V alpha q theta↙
h ]
Longitudinal controls [ T  d_STAB]

A5_x =

   -0.0239  -28.3166         0↙
-32.2000         0
   -0.0003   -0.3621    1.0000↙
0         0
   -0.0000   -2.2115   -0.2532↙
0         0
         0         0    1.0000↙
0         0
         0 -435.9226         0↙
435.9226         0


B5_x =
```

```
    0.0010   -3.8114
   -0.0000   -0.0515
         0   -2.8791
         0         0
         0         0

Lateral states: [beta p r phi]
Lateral controls [ d_AIL  d_RUD]

A_y =

   -0.0374    0.1736   -0.9848↙
0.0727
   -8.5429   -0.8883    0.8762↙
0
    0.8860    0.0399   -0.1895↙
0
         0    1.0000    0.1763↙
```

```
0


B_y =

   -0.0149    0.0207
    8.3320    0.9541
   -0.0420   -0.6277
         0         0

eigenvalues of A_longltrl

ans =

  -0.3094 + 1.4799i
  -0.3094 - 1.4799i
  -0.0101 + 0.1008i
  -0.0101 - 0.1008i
  -0.2873 + 1.4530i
```

```
  -0.2873 - 1.4530i
  -0.4888 + 0.0000i
  -0.0518 + 0.0000i

eigenvalues of A_longltrl9

ans =

   0.0000 + 0.0000i
  -0.3094 + 1.4799i
  -0.3094 - 1.4799i
  -0.0101 + 0.1008i
  -0.0101 - 0.1008i
  -0.2873 + 1.4530i
  -0.2873 - 1.4530i
  -0.4888 + 0.0000i
  -0.0518 + 0.0000i

eigenvalues of A_x
```

```
ans =

  -0.3094 + 1.4799i
  -0.3094 - 1.4799i
  -0.0101 + 0.1008i
  -0.0101 - 0.1008i

eigenvalues of A5_x

ans =

   0.0000 + 0.0000i
  -0.3094 + 1.4799i
  -0.3094 - 1.4799i
  -0.0101 + 0.1008i
  -0.0101 - 0.1008i

eigenvalues of A_y
```

```
ans =

  -0.2873 + 1.4530i
  -0.2873 - 1.4530i
  -0.4888 + 0.0000i
  -0.0518 + 0.0000i

>>
```