

Airbrake

In the Aerofly FS 2 an airbrake represents a controllable area that creates drag.

Other Aerodynamic classes

[aerowing](#), [airfoil](#), [aerofuselage](#), [propeller](#), [aerodrag](#)

Function Description

The airbrake is probably using something similar to this formula:

$$F_d = 0.5 * \rho * v^2 * C_d * Area * Control$$

Where

- v is the velocity
- C_d is the drag coefficient for the maximum Area
- Area is the surface size in square meters perpendicular to X_0 .
- $Control$ is the dynamic input values between 0.0 and 1.0 that scales the Area linearly
- X_0 is the direction of the airbrake where it is acting (usually this is the x-axis but it could also be pointing upwards).
- ρ is the air density at the $Body.R$ position in the world (+ R_0 properly rotated with the Body orientation as far as the author of this text wants to believe)

Then the calculated drag is acted upon the Body at the R_0 location along the X_0 axis. The real formula used may be a lot more complex to account for the rotation speed of the Body.

Example Code

Caution: Requires a [rigidbody](#) with the name Fuselage

```
<[airbrake][Airbrake][  
  <[string8][Body][Fuselage]>  
  <[tmvector3d][R0][ 0.0 0.0 0.0 ]>  
  <[tmvector3d][X0][ 1.0 0.0 0.0 ]>  
  <[float64][Cd][1.5]>  
  <[float64][Area][1.0]>  
  <[string8][Control][ServoAirbrake.Output]>  
>
```

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