

# Aerospace Blockset Release Notes

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The Aerospace Blockset does not have any significant new features introduced in Release 14.

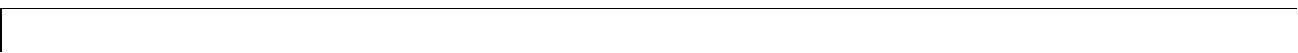
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**Note** The Aerospace Blockset 1.6 was released in Web-downloadable form as part of Release 14.

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## Printing the Release Notes

If you would like to print the Release Notes, you can link to a PDF version.



## Aerospace Blockset 1.6 Release Notes

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# Aerospace Blockset 1.6

## Release Notes

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## Major Bug Fixes

The Aerospace Blockset 2.0 includes the following bug fixes,

### **Correction to Wind Turbulence Model Magnitudes**

The Discrete Dryden Wind Turbulence and Continuous Dryden Wind Turbulence blocks did not produce output values of the same magnitude.

The power of the noise within the wind turbulence blocks has been scaled to correct the magnitudes of the turbulence models.

### **Correction for Von Karman Wind Turbulence Scaling Factors**

The longitudinal, lateral and vertical turbulence filters for the Von Karman blocks had incorrect scaling factors. An additional  $\sqrt{2/\pi}$  for longitudinal and an additional  $\sqrt{1/\pi}$  for lateral and vertical were added.

# Aerospace Blockset 1.5 Release Notes

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## New Features

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**Note** The Aerospace Blockset 1.5 is a version of the Aerospace Blockset that was made available after Release 13. It updates Version 1.0.1, which was distributed via Web download after Release 13.

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### New Aerospace Blocks

The new Simulink blocks introduced in Aerospace Blockset 1.5 are listed below:

Simple Variable Mass 3DoF (Body Axes)

Custom Variable Mass 3DoF (Body Axes)

Simple Variable Mass 6DoF (Euler Angles)

Simple Variable Mass 6DoF (Quaternion)

Custom Variable Mass 6DoF (Euler Angles)

Calculate Range

World Magnetic Model 2000

Dryden Wind Turbulence Model (Continuous (+q -r))

Dryden Wind Turbulence Model (Continuous (+q +r))

Dryden Wind Turbulence Model (Continuous (-q +r))

Von Kármán Wind Turbulence Model (Continuous (+q -r))

Von Kármán Wind Turbulence Model (Continuous (+q +r))

Von Kármán Wind Turbulence Model (Continuous (-q +r))

Dryden Wind Turbulence Model (Discrete (+q -r))

Dryden Wind Turbulence Model (Discrete (+q +r))

Dryden Wind Turbulence Model (Discrete (-q +r))

Horizontal Wind Model

Aerodynamic Forces and Moments



Moments about CG due to Forces

Symmetric Inertia Tensor

Estimate Center of Gravity

Estimate Inertia Tensor

Dynamic Pressure

Mach

Create 3x3 Matrix

Invert 3x3 Matrix

Adjoint of 3x3 Matrix

Determinant of 3x3 Matrix

SinCos

Relative Ratio

Pressure Altitude

Ideal Airspeed Correction

Incidence, Sideslip, & Airspeed

Lapse Rate Model

Non-Standard Day 310

Non-Standard Day 210C

## **Block Implementation Improvements**

The following list contains improvements to the Aerospace Blockset since the previous release:

- 6DoF blocks now output translational accelerations.
- Out of Range actions (None, Warning, Error) are now available for WGS84 Gravity Model block and the COESA Atmosphere Model block.
- Where applicable, you can now select to output velocity for blocks in knots.

