

January 18, 2013**AEROLOG version 0.1**

**This document describe AEROLOG gauge for
Microsoft Flight Simulator X and Microsoft Flight
Simulator 2004: A Century of Flight**

I. The table describes all variables displayed and written by AEROLOG gauge

No.	Variable	Description	Units	Comments
1	Seconds	Time mark		
2	Latitude	Geographic Latitude		
3	Longitude	Geographic Longitude		
4	Altitude	Pressured Altitude	Feet	
5	Pitch	Plane pitch	Degrees	Positive when nose down
6	Bank	Plane bank	Degrees	Positive when rotate counterclockwise (on left wing)
7	Heading	Plane magnetic heading	Degrees	
8	Vspeed	Vertical speed	Feet per minute	Positive when climb
9	RHeight	Radio height	Feet	

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10	Alpha	Plane body alpha	Degrees	
11	Beta	Plane body beta	Degrees	
12	IAS	Indicated airspeed	Knots	
13	TAS	True airspeed	Knots	
14	Mach	Mach number	Number	
15	G-load	G load	In units of g-acceleration	
16	Weight	Current weight	Pounds	
17	CL	Total airplane lift coefficient		
18	CD	Total airplane drag coefficient		
19	BodyVX	Lateral (X-axes) ground velocity in aircraft BODY referenced frame	Feet per second	
20	BodyVY	Vertical (Y-axes) ground velocity in aircraft BODY referenced frame	Feet per second	Positive in down direction
21	BodyVZ	Longitudinal (Z-axes) ground velocity in aircraft BODY referenced frame	Feet per second	
22	BodyAX	Lateral (X-axes) ground acceleration in aircraft BODY referenced frame	Feet per second	
23	BodyAY	Vertical (Y-axes) ground acceleration in aircraft BODY referenced frame	Feet per second	Positive in down direction
24	BodyAZ	Longitudinal (Z-axes) ground acceleration in aircraft BODY referenced frame	Feet per second	Positive when plane is accelerating

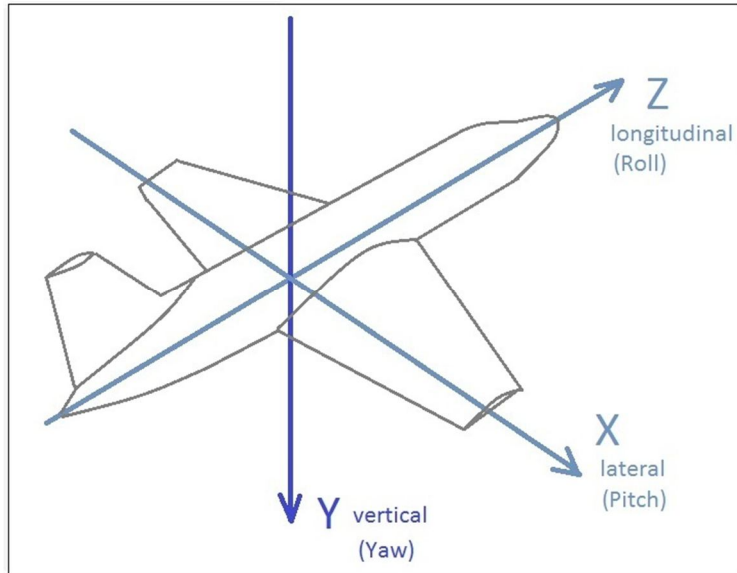
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25	NEDVN	Velocity in North direction in inertial (NED) reference frame	Feet per second	
26	NEDVE	Velocity in East direction in inertial (NED) reference frame	Feet per second	
27	NEDVD	Velocity in Down direction in inertial (NED) reference frame	Feet per second	
28	Q	Plane pitch rate	Degrees per second	
29	P	Plane roll rate	Degrees per second	
30	R	Plane yaw rate	Degrees per second	
31	Qdot	Plane pitch acceleration	Degrees per second squared	Positive when nose down
32	Pdot	Plane roll acceleration	Degrees per second squared	Positive when rotate clockwise
33	Rdot	Plane yaw acceleration	Degrees per second squared	Positive when rotate clockwise
34	Elev	Elevator deflection	Degrees	Positive when the flight control deflected down
35	Ail	Aileron deflection	Degrees	Positive when left aileron deflected down (rotate clockwise)
36	Rudd	Rudder deflection	Degrees	Positive when the flight control deflected right
37	Trim	Elevator trim (stabilizer) deflection	Degrees	Positive when the flight control deflected down
38	Thrust	Engine #1 thrust	Pound-force	
39	Lever	Engine #1 lever position	Percent	0% - idle; 100% - full thrust

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40	N1	Engine #1 N1	Percent	
41	N2	Engine #1 N2	Percent	
42	FF	Engine #1 Fuel flow	Pounds per second	
43	ITT	Engine #1 Interstage Turbine Temperature	Degree Celsius	
44	WindX	Wind at the aircraft in the lateral (X) axis	Meters per second	
45	WindY	Wind at the aircraft in the vertical (Y) axis	Meters per second	
46	WindZ	Wind at the aircraft in the longitudinal (Z) axis	Meters per second	
47	WindSpd	Total ambient wind velocity	Meters per second	
48	WindDir	Total ambient wind direction	Degrees, magnetic	
49	Visibility	Current Visibility	Statue miles	
50	theta	Standard temperature ratio (ambient air temperature divided by ISA air temperature)		
51	delta	Standard pressure ratio (ambient air pressure divided by ISA air pressure)		
52	sigma	Standard density ratio (ambient air density divided by ISA air density)		
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II. The axes frame used by the gauge and simulator



	Name of the Axis	Positive Direction	Type of rotary motion around the axis
X	Lateral	Right	Pitch
Y	Vertical	Down	Yaw
Z	Longitudinal	Forward	Roll