



CANADIAN AMATEUR ROCKETRY  
STANDARDS AND BEST PRACTICES



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# Standards and Best Practices

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July 31, 2017



### **Abstract**

This is an Abstract



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## List of Abbreviations

Abbreviation	Description	Function of	Units
AOA, $\alpha$	Angle of Attack		radians
COP	Center of pressure		N/A
COG	Center of gravity	time	N/A
Re	Reynolds Number	$\rho, \mu, \vec{v}, L$	dimensionless
$Re_{crit}$	Critical Reynolds Number	$\rho, \mu, \vec{v}, L$	dimensionless
$I_{zz}$	Pitch/Yaw Moment of Inertia	time	$m^4$
D	Drag Force (combined)		N
W	Weight of the Rocket		N
R	Specific Gas Constant		$Jkg^{-1}K^{-1}$
T	Thrust of the Rocket		N
$t_f$	Fin thickness	distance	m
$L_{cf}$	Aerodynamic Chord Length of Fins	distance	m
c	Speed of sound	$\sqrt{\gamma RT}$	
$R_a$	Surface Finish	distance	microns
M	Mach Number	$\vec{v}, c$	dimensionless
$D_{pa}, C_{pa}$	Parasitic Drag Force, Coefficient		
$D_{fb}, C_{fb}$	Body Drag Force, Coefficient		
$D_{fp}, C_{fp}$	Fin Pressure Drag Force, Coefficient		
$D_{pr}, C_{pr}$	Pressure Drag Force, Coefficient		
$D_{in}, C_{in}$	Interference Drag Force, Coefficient		
$D_{ba}, C_{ba}$	Base Drag Force, Coefficient		
$D_{sk}, C_{sk}$	Skin Friction Drag Force, Coefficient		
$D_{aoa}, C_{aoa}$	Additional Angle of Attack Drag Force, Coefficient		
$C_{MC}$	Corrective Moment Coefficient		
$C_{FN}$	Normal Force Coefficient		
$C_{PDM}$	Propulsive Damping Moment Coefficient		
$C_{ADM}$	Aerodynamic Damping Moment Coefficient		
$A_{wb}$	Area of Wetted Body		$m^2$
$A_{wf}$	Area of Wetted Fins		$m^2$
$A_{fr}$	Frontal Reference Area		$m^2$
$A_{fp}$	Fin Planform Area		$m^2$
$A_{fe}$	Exposed Fin Planform Area		$m^2$
OD, $\phi_{bt}$	Outer Diameter		m
L	Total Length of Rocket		m
h_n	Height of the nose cone		m
$S_{fc}$	Thrust Specific Fuel Consumption		$\frac{g}{s} \cdot \frac{1}{N} = \frac{s}{m}$
$\dot{m}_{fc}$	Mass Flow Rate due to Fuel Consumption		$\frac{g}{s} \cdot \frac{1}{N} = \frac{s}{m}$
$T_{avg}$	Average Thrust		N
$t_{burn}$	Burn Time		s
$m_{mt}$	Total Motor Mass		g
$W_{mt}$	Total Motor Weight		N
$F_N$	Aerodynamic Normal Force		N
$F_A$	Aerodynamic Axial Force		N
$F_L$	Aerodynamic Lift Force		N
$S_{lm}$	Longitudinal Stability Margin		Calibers
$f_B$	Fineness Ratio		dimensionless
$\mu$	Dynamic Viscosity		$Ns/m^2$
$\nu$	Kinematic Viscosity	$\mu, \rho$	$m^2/s$
$\lambda$	Angular Acceleration		$rad/s^2$
$\omega$	Angular Velocity		$rad/s$
$\theta$	Angular Position		radians

Table 2: List of Abbreviations



## Section 1

### Section 1

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## Section 2

### Section 3

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## Section 3

### Section 3

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