Chapter 1

Basic Definitions

1.1 Dynamic Variables

Name	Symbollic Representation	Units	Description
Lift	L	N	Upward force experienced by the aircraft
Drag	D	N	Backward force experienced by the aircraft

1.2 Geometrical variables

Name	Symbollic Representation	Units	Description
Angle of attack	α	rad	How pitched up or down the wing or horizontal stabilizer is usually, could represent more than just wings or horizontal stabilizers though
Leading Edge	-	-	The front-most edge of the airfoil
Trailing Edge	-	-	The back-most edge of the airfoil
Chord length		m	Length of the chord line, wherein chord line is a line joining the leading edge and trailing edge
Span length		m	The sideways length of the wing. The distance between one wing tip to another wing tip
Mean Camber line			
Chord line			

1.3 Processed Geometry

Name	Symbollic Representation	Units	Description
Aerodynamic Center		-	A specific point in the airfoil wherein the moments acting on the airfoil due to fluid pressures is unchanging with angle of attack
Center of Pressure		-	A specific point in the airfoil wherein the airfoil experiences no resultant moment about this point
Neutral Point			
Aspect Ratio			

1.4 Dimensionless Coefficients

Name	Symbollic Representation	Units	Description
Coefficient of Lift			
Coefficient of Drag			
Coefficient of Moments			

1.5 Definition of Processes

Name	Symbollic Representation	Description
Isothermal	it	Constant temperature
Isobaric	ib	Constant pressure
Isochoric	ic	Constant volume
Adiabatic	ad	No heat exchange with external system
Reversible	rev	No dissipative phenomena, no mass diffusion, no thermal conducitvity, no viscosity
Isentropic	ise	Both Adiabatic and Reversible