FORCES AND THEIR UNITS OF MEASURE

AERODYNAMIC FORCES and MOMENTS

force — L = CL * q * Aref

D = CD * q * Aref

moment — M = CM * q * Aref * Lref

wind pressure

coefficient: effects of shape and attitude

reference length: effects of size, to make dimensions consistent

reference area: effects of size

DIMENSIONALLY-CONSISTENT UNITS OF MEASURE

L or D = (CL or CD * q * Aref

US	lb	dimensionless	lb / ft^2	ft^2
metric	N	dimensionless	N / m^2	m^2

M = CM * q * Aref * Lref

US	ft-lb	dimensionless	lb / ft^2	ft^2	ft
metric	N - m	dimensionless	N / m^2	m^2	m