Free Variables	Units	Description
B	[m]	Landing gear base
E_{land}	[J]	Max KE to be absorbed in landing
F_{w_m}	[−]	Weight factor (main)
F_{w_n}	[−]	Weight factor (nose)
I_m	[m^4]	Area moment of inertia (main strut)
I_n	[m^4]	Area moment of inertia (nose strut)
L_m	[N]	Max static load through main gear
L_n	[N]	Min static load through nose gear
$L_{n_{dyn}}$	[N]	Dyn. braking load, nose gear
L_{w_m}	[N]	Static load per wheel (main)
L_{w_n}	[N]	Static load per wheel (nose)
S_{sa}	[m]	Stroke of the shock absorber
T	[m]	Main landing gear track
W	[lbf]	Total aircraft weight
W_{lg}	[lbf]	Weight of landing gear
W_{mg}	[lbf]	Weight of main gear
W_{ms}	[lbf]	Weight of main struts
W_{mw}	[lbf]	Weight of main wheels (per strut)
W_{ng}	[lbf]	Weight of nose gear
W_{ns}	[lbf]	Weight of nose strut
W_{nw}	[lbf]	Weight of nose wheels (total)
$W_{wa,m}$	[lbf]	Wheel assembly weight for single main gear wheel
$W_{wa,n}$	[lbf]	Wheel assembly weight for single nose gear wheel
Δx_m	[m]	Distance b/w main gear and CG
Δx_n	[m]	Distance b/w nose gear and CG
$\tan(\phi)$	[−]	Angle b/w main gear and CG
$\tan(\psi)$	[−]	Tip over angle
$d_{nacelle}$	[m]	Nacelle diameter
d_{oleo}	[m]	Diameter of oleo shock absorber
d_{t_m}	[in]	Diameter of main gear tires
d_{t_n}	[in]	Diameter of nose gear tires
l_m	[m]	Length of main gear
l_n	[m]	Length of nose gear
l_{oleo}	[m]	Length of oleo shock absorber
r_m	[m]	Radius of main gear struts
r_n	[m]	Radius of nose gear struts
t_m	[m]	Thickness of main gear strut wall
t_n	[m]	Thickness of nose gear strut wall
w_{t_m}	[m]	Width of main tires
w_{t_n}	[m]	Width of nose tires

x_m	[m]	x-location of main gear
x_n	[m]	x-location of nose gear
x_{CG}	[m]	x-location of CG
y_m	[m]	y-location of main gear (symmetric)