flight pahse C	Design	Modes		ζ	ωd(F1)	T2	τ	Design	Modes		ζ	ωd(F1)	T2	τ
Iter 1	With Weight	long.	phugoid (3)	.0097415				Without Weight	long.	hugoid (3)	.0094905			
			sp (1)	0.617551						sp (1)	0.674			
		lateral	spiral (4)			7.22664			lateral	spiral (4)			6.47386	
			roll (1)				0.0360394			roll (1)				0.032238
			dutch (2)	0.121115	0.728307					dutch (2)	0.135635	0.727863		
Iter 2	With Weight	long.	phugoid (3)	0.0188645				Without Weight	long.	hugoid (3)	0.0179791			
			sp (1)	0.378027						sp (1)	0.430617			
		lateral	spiral (4)			6.14956			lateral	spiral (4)			5.36392	
			roll (1)				0.0669459			roll (1)				0.0575566
			dutch (2)	0.0779981	0.650641					dutch (2)	0.0919635	0.655326		
Iter 3	With Weight	long.	phugoid (3)	0.0213318				Without Weight	long.	hugoid (3)	0.0195438			
			sp (1)	0.9803062						sp (1)	0.960312			
		lateral	spiral (4)			4.28352			lateral	spiral (4)			5.27639	
			roll (1)				0.0272726			roll (1)				0.027439
			dutch (2)	0.214735	0.678907					dutch (2)	0.214003	0.675472		
Iter 4	With Weight	long.	phugoid (3)											
			sp (1)											
		lateral	spiral (4)											
			roll (1)											
			dutch (2)											

NOTES

Make sure inertia extracted from solidworks/fusion is wrt the same axes corresponding to those in xflr5

assumed dutch maximum wd=.6

LVL 1 (Best)

LVL 2

LVL 3 (Least)

Dangero us

Too much stability

Damping ratio

Damped natural frequency () or F1

Time to double (T2) or (t2) (for unstable system)

Time constant ()