

ERA19LA285

Weight and Balance Information

N380SH

WEIGHT & BALANCE						
Empty Weight (Doors Off	1708.11	ARM:	102.48	Moment:	175038.88	
Pilot:	230	ARM:	64	Moment:	14720	
Pass:	335	ARM:	64	Moment:	21440	
Fuel:	96 (16 Gal.)	ARM:	96	Moment:	9216	
Baggage:	10	ARM:	135	Moment:	1350	
Total:	2379.11	CG:	93.21	Moment:	221764.88	

Figure 1 – Estimated weight and balance information for the accident flight, completed with operator supplied data.

Weight and Balance
Location for Accident Flight

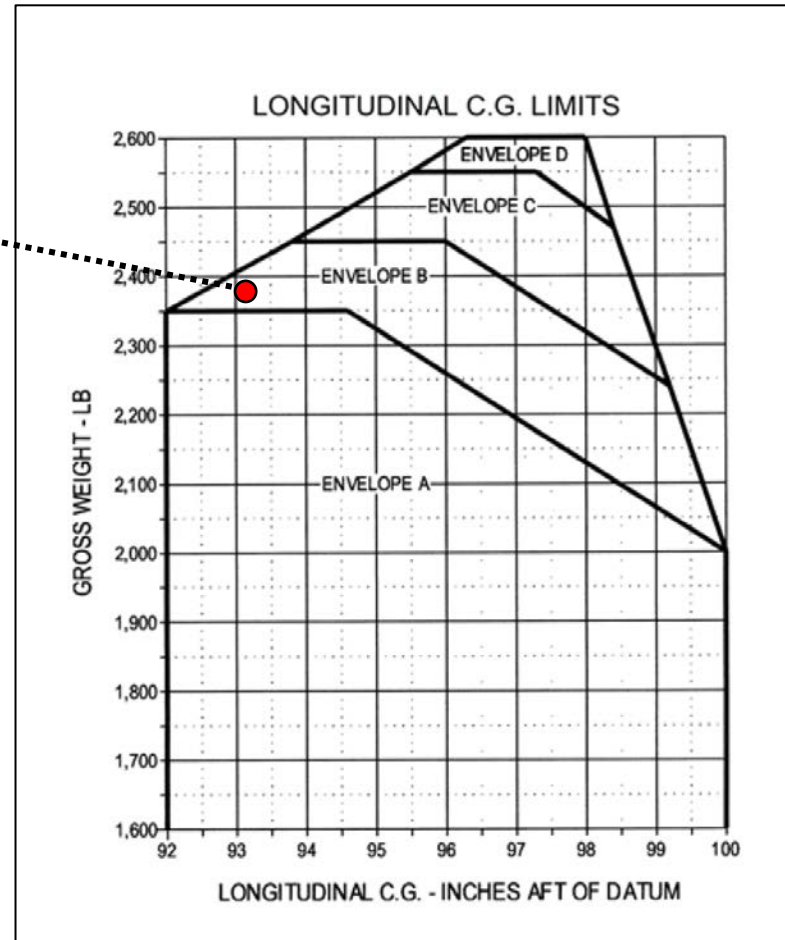


Figure 2 – Enstrom pilot operating handbook weight and balance chart

2. Sample calculation – Longitudinal C.G.

SAMPLE LOADING	Sample Helicopter			S/N: _____	
	<u>Arm</u> (in)	<u>Weight</u> (lb)	<u>Moment</u> t (1000 in-lb)	<u>Weight</u> t (lb)	<u>Moment</u> t (in-lb)
a. Basic empty weight from Figure 6-8	100.7	1610.0	162.1		
b. Pilot and passengers Cabin seats	62.0	480.0	29.8 ⁽¹⁾		
c. Baggage compartment load	135.0	20.0	2.7 ⁽¹⁾		
d. Total weight and moment with zero usable fuel to check c.g. shift with fuel burn-off (landing condition)	92.2 ⁽²⁾	2110.0	194.6		
e. Usable fuel	96.0	240.0	23.0 ⁽¹⁾		
f. Total weight and moment with usable fuel (takeoff condition)	92.6 ⁽²⁾	2350.0 ⁽³⁾	217.6		

(1) Moments obtained by multiplying weight times arm or from Loading Chart, Figure 6-5.

(2) The longitudinal c.g. relative to the datum line is found by dividing the moment by the weight.

$$\text{c.g. zero fuel} = \frac{194,600 \text{ in-lb}}{2110.0 \text{ lb}} = 92.2 \text{ inches}$$

$$\text{c.g. full fuel} = \frac{217,600 \text{ in-lb}}{2350.0 \text{ lb}} = 92.6 \text{ inches}$$

The total weight and moment can also be plotted on Figure 6-6 to determine if the loading is within longitudinal limits.

(3) Total weight not to exceed 2600 lb.

Figure 3 – Enstrom pilot operating handbook sample weight and balance chart and limitation stating 2,600 lbs is the maximum weight allowed on-board.