

N317VA WEIGHT BALANCE

7-09-19

DATUM = 70 INCHES FORWARD OF WING LEADING EDGE

WING LEADING EDGE 23.375 INCHES AFT OF AFT SIDE OF UPPER FIREWALL

CG RANGE: FWD LIMIT: 80.49 18% MAX Gross Weight: 1320 lbs  
AFT LIMIT: 85.39 27%

AIRCRAFT with ZERO FUEL & ZERO BALLAST

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
LEFT WHEEL	325	93.74	30465.5
NOSE WHEEL	149	30.062	4479.238
RIGHT WHEEL	341	93.625	31926.13
TOTAL EMPTY	815	82.05014	66870.86

21.14 % chord

MOMENT ARMS:

	full	half	minimum
FUEL	100.241	100.83	101.4
PASSENGER	78.85		
PILOT	78.85		
BAGGAGE	114.42		



**SAMPLE LOADING PROBLEM: 110lb PILOT, FULL FUEL, 50lb BAGGAGE**

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
AIRCRAFT	815	82.05014	66870.86
FUEL	120	100.241	12028.92
PASSENGER	0	78.85	0
PILOT	110	78.85	8673.5
BAGGAGE	50	114.42	5721
			93294.28
GROSS WEIGHT	1095 lb		
CG LOCATION	85.20 inches		26.67 % chord

**SAMPLE LOADING PROBLEM: TWO 192.5 lb PEOPLE, FULL FUEL, NO BAGGAGE**

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
AIRCRAFT	815	82.05014	66870.86
FUEL	120	100.241	12028.92
PASSENGER	192.5	78.85	15178.63
PILOT	192.5	78.85	15178.63
BAGGAGE	0	114.42	0
			109.26
GROSS WEIGHT	1320 lb		
CG LOCATION	82.77047955 inches		22.40 % chord

**SAMPLE LOADING PROBLEM: TWO 192.5 lb PEOPLE, NO FUEL, NO BAGGAGE**

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
AIRCRAFT	815	82.05014	66870.86
FUEL	0	101.4	0
PASSENGER	192.5	78.85	15178.63
PILOT	192.5	78.85	15178.63
BAGGAGE	0	114.42	0
			97.23
GROSS WEIGHT	1200 lb		
CG LOCATION	81.02 inches		19.34 % chord

**SAMPLE LOADING PROBLEM: TWO 175 lb PEOPLE, FULL FUEL, 35lb BAGGAGE**

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
AIRCRAFT	815	82.05014	66870.86
FUEL	120	100.241	12028.92
PASSENGER	175	78.85	13798.75
PILOT	175	78.85	13798.75
BAGGAGE	35	114.42	4004.7
GROSS WEIGHT	1320 lb		
CG LOCATION	83.71 inches		24.06 % chord

**SAMPLE LOADING PROBLEM: TWO 243.5 lb PEOPLE, MINIMUM FUEL, 0lb BAGGAGE**

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
AIRCRAFT	815	82.05014	66870.86
FUEL	18	101.4	1825.2
PASSENGER	243.5	78.85	19199.98
PILOT	243.5	78.85	19199.98
BAGGAGE	0	114.42	0
GROSS WEIGHT	1320 lb		
CG LOCATION	81.13 inches		19.53 % chord