

EMPTY WEIGHT C.G. (NO PILOT, NO FUEL)		TABLE #1	
ITEM	WEIGHT (LBS.)	ARM	MOMENT
MAIN WHEEL	273	53.25	14537
TAIL WHEEL	7	172.1	1205
-TOTALS- WEIGHT AND MOMENT	<sup>A</sup> 280	----	<sup>B</sup> 15742
$15742 \div 280 = 56.22$		" E.W.C.G.	

C.G. WITH PILOT (NO FUEL)		TABLE #2	
ITEM	WEIGHT (LBS.)	ARM	MOMENT
MAIN WHEEL	427	53.25	22738
TAIL WHEEL	33	172.1	5679
-TOTALS- WEIGHT AND MOMENT	<sup>A</sup> 460	----	<sup>B</sup> 28417
$28417 \div 460 = 61.77$		" C.G. WITH PILOT	

CALCULATION FOR PILOT C.G. ARM TABLE #3			
TOTAL WT. WITH PILOT (TABLE 2A)	460	TOTAL MOMENT WITH PILOT (TABLE 2B)	28417
TOTAL EMPTY WT. (TABLE 1A)	280	TOTAL EMPTY WT. MOMENT (TABLE 1B)	15742
TOTAL WEIGHT DIFFERENCE	180	TOTAL MOMENT DIFFERENCE	12675
$12675 \div 180 = 70.41$		" PILOT C.G. ARM	

C.G. WITH PILOT AND BALLAST (NO FUEL)		TABLE #4	
ITEM	WEIGHT (LBS.)	ARM	MOMENT
TOTALS FROM TABLE 2 (A AND B)	460	---	28417
BALLAST	30	17.6"	528
-TOTALS- WEIGHT AND MOMENT	490	----	28945
$28945 \div 490 = 59.07$		" C.G.	

- MAXIMUM GROSS WEIGHT ----- 560 LBS.
- MAXIMUM GROSS AEROBATIC WEIGHT ----- 500 LBS.
- INTENTIONAL SPINS PROHIBITED BEYOND AFT AEROBATIC C.G. LIMIT

### WEIGHT AND BALANCE FORMULA

WEIGHT x ARM = MOMENT -----  $W \times A = M$   
 TOTAL MOMENT  $\div$  TOTAL WEIGHT = CENTER OF GRAVITY -----  $\frac{TM}{TW} = C.G.$   
 WEIGHT = TOTAL WEIGHT OF PLACED OBJECT  
 ARM = NUMBER OF INCHES WEIGHT CENTER IS PLACED AFT OF DATUM

### SAMPLE WEIGHT AND BALANCE

EMPTY WEIGHT C.G. (NO PILOT, NO FUEL) TABLE #1			
ITEM	WEIGHT (LBS.)	ARM	MOMENT
MAIN WHEEL	280	53.4	13950
TAIL WHEEL	10	171.4	1714
-TOTALS- WT. AND MOMENT	290	----	15064
$15064 \div 290 = 52.98$		" E.W.C.G.	

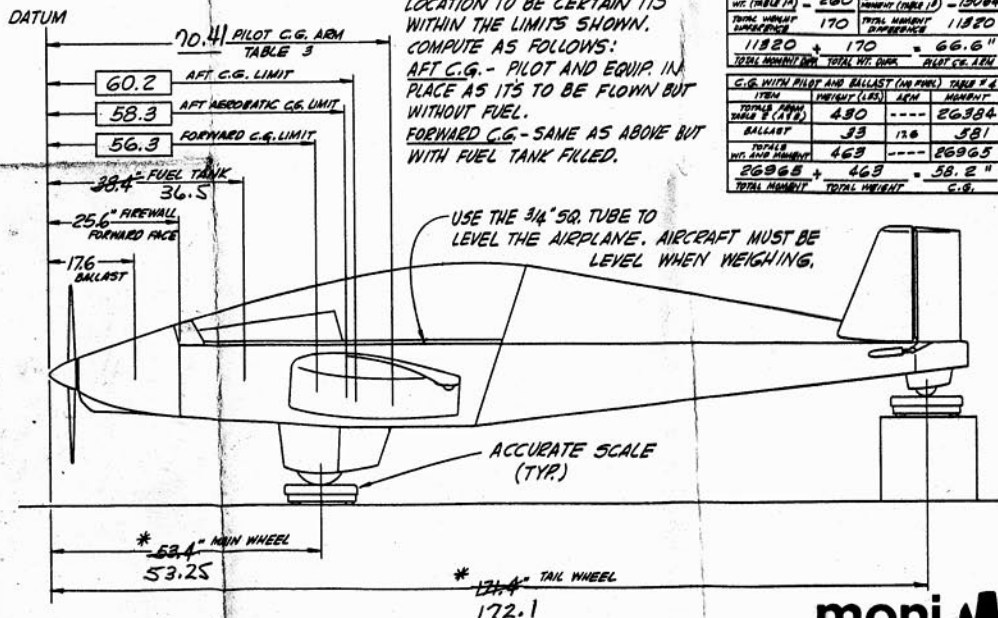
C.G. WITH PILOT (NO FUEL) TABLE #2			
ITEM	WEIGHT (LBS.)	ARM	MOMENT
MAIN WHEEL	401	53.4	21413
TAIL WHEEL	29	171.4	4971
-TOTALS- WT. AND MOMENT	430	----	26384
$26384 \div 430 = 61.36$		" C.G. WITH PILOT	

CALCULATIONS FOR THE PILOT C.G. ARM TABLE #3			
TOTAL WT. WITH PILOT (TABLE 2A)	430	TOTAL MOMENT WITH PILOT (TABLE 2B)	26384
TOTAL EMPTY WT. (TABLE 1A)	290	TOTAL EMPTY WT. MOMENT (TABLE 1B)	15064
TOTAL WEIGHT DIFFERENCE	140	TOTAL MOMENT DIFFERENCE	11320
$11320 \div 140 = 80.86$		" PILOT C.G. ARM	

C.G. WITH PILOT AND BALLAST (NO FUEL) TABLE #4			
ITEM	WEIGHT (LBS.)	ARM	MOMENT
TOTALS FROM TABLE 2 (A AND B)	430	----	26384
BALLAST	33	17.6	581
-TOTALS- WT. AND MOMENT	463	----	26965
$26965 \div 463 = 58.2$		" C.G.	

BEFORE FLYING THE MONI AND WITH THE BALLAST IN PLACE CHECK THE GROSS WEIGHT AND C.G. LOCATION TO BE CERTAIN ITS WITHIN THE LIMITS SHOWN. COMPUTE AS FOLLOWS:  
 AFT C.G. - PILOT AND EQUIP. IN PLACE AS ITS TO BE FLOWN BUT WITHOUT FUEL.  
 FORWARD C.G. - SAME AS ABOVE BUT WITH FUEL TANK FILLED.



\* VERIFY THESE DIMENSIONS WHEN WEIGHING THE AIRPLANE