

RV-12iS Weight & Balance Worksheet

AIRCRAFT: N247RM (registration)

12098 (SN)

DATE: 3/3/2021

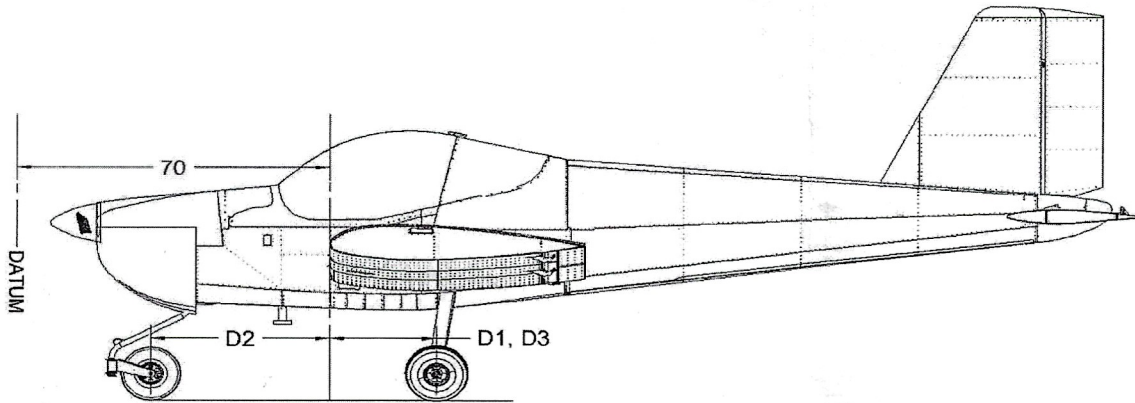


TABLE 1 - Use Left Rear, Right Rear & Right Front Scales as denoted below

	LEFT WHEEL (LR)	NOSE WHEEL (RF)	RIGHT WHEEL (RR)
WEIGHT	325 lb	157 lb	322 lb
	(W1)	(W2)	(W3)
DISTANCE FROM AXLE CENTER TO LEADING EDGE	23.25 in	40.1875 in	24 in
	(D1)	(D2)	(D3)

TABLE 2

	WEIGHT	ARM	MOMENT
LEFT WHEEL	<u>328.1</u> lb	<u>93.25</u> inches	<u>30594.33</u> in-lb
	(W1*)	(A1 = 70 + D1)	(M1 = W1* x A1)
NOSE WHEEL	<u>157.4</u> lb	<u>29.8125</u> inches	<u>4691.948</u> in-lb
	(W2*)	(A2 = 70 - D2)	(M2 = W2* x A2)
RIGHT WHEEL	<u>322.47663</u> lb	<u>94</u> inches	<u>30312.8</u> in-lb
	(W3*)	(A3 = 70 + D3)	(M3 = W3* x A3)

* Adjusted for scale calibration

EMPTY WEIGHT = **807.9 lb**
(W1 + W2 + W3)

EMPTY ARM= 81.19222 in
(Empty Moment/ Empty Weight)

EMPTY MOMENT = 65599.076 in-lb
(M1 + M2 + M3)

Aircraft measured, weighed and worksheet filled out by:

Trask Bailey
Printed Name/ Title


Signature

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	328	93.25	30594.33
NOSE WHEEL	157	29.81	4691.95
RIGHT WHEEL	322	94.00	30312.80
	808	81.19	65599.08
		19.64 % 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, 60lb BAGGAGE

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
AIRCRAFT	808	81.2	65599.1
FUEL	120	100.2	12028.9
PASSENGER	0	78.9	0.0
PILOT	110	78.9	8673.5
BAGGAGE	60	114.4	6865.2
			93.2

GROSS WEIGHT 1098 lb

CG LOCATION 84.86 inches 26.06 % chord

SAMPLE LOADING PROBLEM: TWO 199 lb PEOPLE, FULL FUEL, NO BAGGAGE

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
AIRCRAFT	808	81.2	65599.1
FUEL	120	100.2	12028.9
PASSENGER	199	78.9	15691.2
PILOT	199	78.9	15691.2
BAGGAGE	0	114.4	0.0
			109.0

GROSS WEIGHT 1326 lb

CG LOCATION 82.21 inches 21.43 % chord

SAMPLE LOADING PROBLEM: TWO 199 lb PEOPLE, NO FUEL, NO BAGGAGE

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
AIRCRAFT	808	81.2	65599.1
FUEL	0	101.4	0.0
PASSENGER	199	78.9	15691.2
PILOT	199	78.9	15691.2
BAGGAGE	0	114.4	0.0
			97.0

GROSS WEIGHT 1206 lb

CG LOCATION 80.42 inches 18.28 % chord

SAMPLE LOADING PROBLEM: TWO 165 lb PEOPLE, FULL FUEL, 65lb BAGGAGE

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
AIRCRAFT	808	81.2	65599.1
FUEL	120	100.2	12028.9
PASSENGER	165	78.9	13010.3
PILOT	165	78.9	13010.3
BAGGAGE	65	114.4	7437.3
			111.1

GROSS WEIGHT 1323 lb

CG LOCATION 83.97 inches 24.51 % chord