

From: [REDACTED]
To: [REDACTED]
Subject: RE: N24030 W&B
Date: Thursday, September 19, 2019 12:32:03 PM
Attachments: [N24030 Weight and Balance. 40 gallons.pdf](#)
[N24030 Weight and Balance. 45 gallons.pdf](#)
[N24030 Weight and Balance. 50 gallons.pdf](#)

Hi Andrew,

Attached you will find the weight and balance calculated at several different fuel scenarios. The 50 gallon calculation is what I believe to be the closest to the initial departure in the morning. According to FlightAware, the aircraft climbed up to 8,000' and spent around 30 minutes in the air. Based on the performance charts and fuel burn during taxi, run-up and takeoff, the fuel onboard at the evening takeoff would be somewhere around 42-43 gallons.

I made a few assumptions in the calculations. The forward seats have two different arm measurements, a forward and aft position. Since the concern would be an aft CG, I chose to use the aft position. Additionally, the weights of the occupants was likely taken at autopsy. I added 10 lbs. to each occupant to hopefully get an accurate "flying weight" with clothes, cell phones, headsets, etc. I was unsure of the weight of the tools so arbitrarily selected 20 lbs. of baggage weight.

The aircraft was overweight in all scenarios and certainly close to the aft limit if you extend the envelope. If you would like a copy of the excel sheet so you can play with the numbers or have questions, please let me know. If you are planning to use any of the PDF's in the docket, I would like the opportunity to clean them up a little. I wanted to get the information to you as quickly as possible.

Have a great day!

Jennifer Barclay
Air Safety Investigator, Air Safety Investigations

Textron Aviation
[REDACTED]

From: Swick Andrew [REDACTED]
Sent: Wednesday, September 18, 2019 11:06 AM
To: Barclay, Jennifer [REDACTED]
Subject: Fwd: N24030 W&B

Good morning,

Let me know what you find. Thanks.
Get [Outlook for iOS](#)

From: Waugh, John C (FAA) [REDACTED]

Sent: Wednesday, September 18, 2019 8:55:58 AM

To: Swick Andrew [REDACTED]; Ramirez, Richard (FAA) [REDACTED];
Barclay, Jennifer [REDACTED]

Subject: N24030 W&B

Here is a scanned copy of the most current W&B sheet for N24030. The useful load listed is significantly less than we thought.

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1977 Beechcraft C24R

MC-487; N24030

Henderson, NV; D/A 09-07-19

max gross wt 2750

useful load = 919

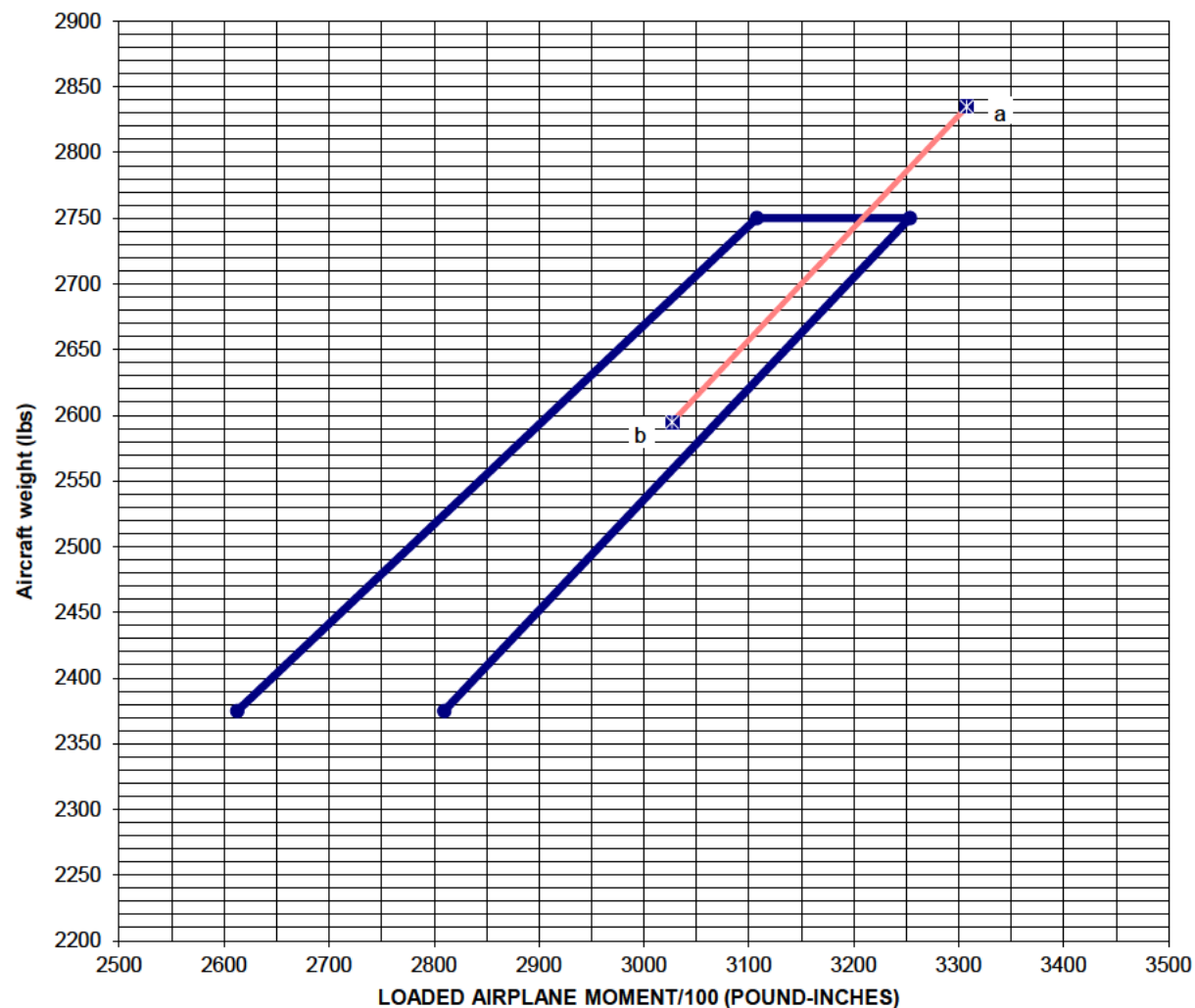
Loaded Aircraft

	wt	arm	mom/100	C.G.
empty wt	1831	xxx	2036.9	
fuel	240	xxx	280.8	40 gallons
oil				0 quarts
Seat # 1	164	112	183.7	
Seat # 2	195	112	218.4	
Seat # 3	210	144	302.4	
Seat # 4	175	144	252.0	
Aft Baggage	20	167	33.4	
Total Wt.	2835	116.6808	3307.6	-85 lbs.

PLOT DATA

Envelope		Actual Data		
mom/100	wt			
2612.5	2375	3307.6	2834.7	a Loaded a/c
3107.5	2750	3026.8	2594.7	b empty fuel
3253.25	2750			
2809.625	2375			

CENTER OF GRAVITY MOMENT ENVELOPE WORKSHEET



1977 Beechcraft C24R

MC-487; N24030

Henderson, NV; D/A 09-07-19

max gross wt 2750

useful load = 919

Loaded Aircraft

	wt	arm	mom/100	C.G.
empty wt	1831	xxx	2036.9	
fuel	270	xxx	280.8	45 gallons
oil				0 quarts
Seat # 1	164	112	183.7	
Seat # 2	195	112	218.4	
Seat # 3	210	144	302.4	
Seat # 4	175	144	252.0	
Aft Baggage	20	167	33.4	
Total Wt.	2865	115.4589	3307.6	-115 lbs.

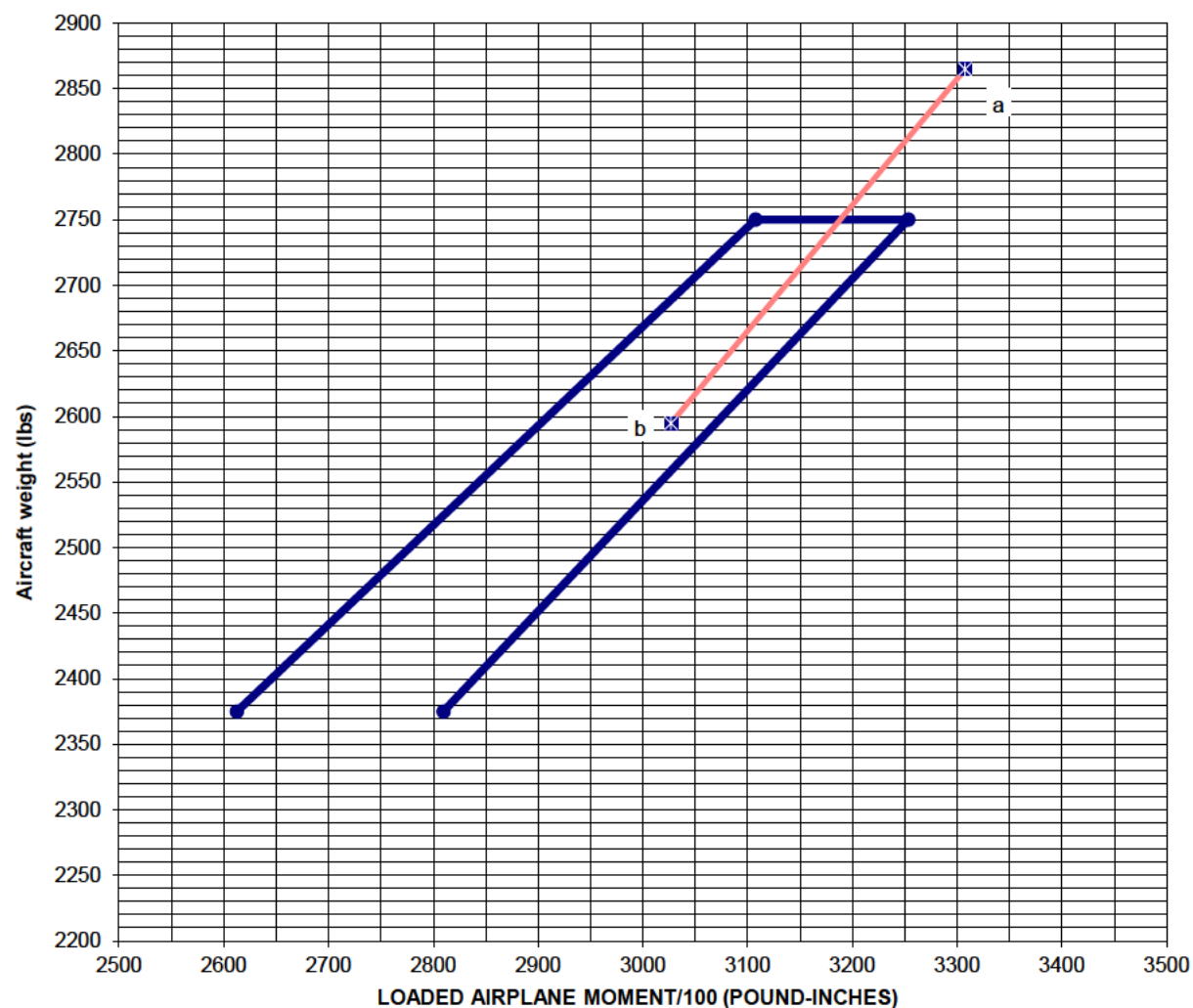
PLOT DATA

Envelope		Actual Data	
mom/100	wt		
2612.5	2375	3307.6	2864.7
3107.5	2750	3026.8	2594.6
3253.25	2750		
2809.625	2375		

Note 1: Shaded areas require manual input

Note 2: A & b tags must be positioned manually

CENTER OF GRAVITY MOMENT ENVELOPE WORKSHEET



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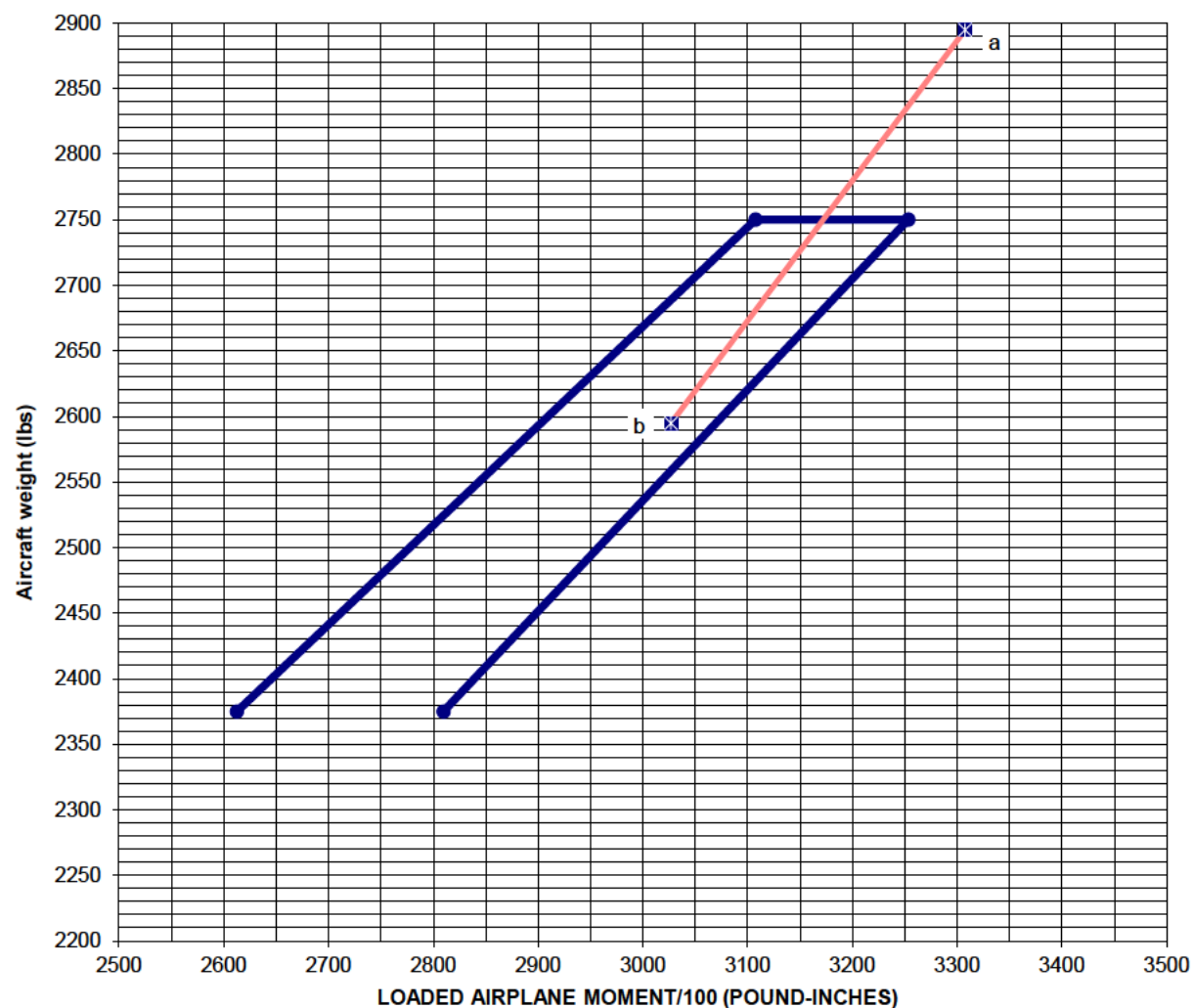
Loaded Aircraft

	wt	arm	mom/100	C.G.
empty wt	1831	xxx	2036.9	
fuel	300	xxx	280.8	50 gallons
oil				0 quarts
Seat # 1	164	112	183.7	
Seat # 2	195	112	218.4	
Seat # 3	210	144	302.4	
Seat # 4	175	144	252.0	
Aft Baggage	20	167	33.4	
Total Wt.	2895	114.2623	3307.6	-145 lbs.

PLOT DATA

Envelope		Actual Data			
mom/100	wt				
2612.5	2375	3307.6	2894.7	a	Loaded a/c
3107.5	2750	3026.8	2594.7	b	empty fuel
3253.25	2750				
2809.625	2375				

CENTER OF GRAVITY MOMENT ENVELOPE WORKSHEET



1977 Beechcraft C24R

MC-487; N24030

Henderson, NV; D/A 09-07-19

max gross wt 2750

useful load = 919

Loaded Aircraft

	wt	arm	mom/100	C.G.
empty wt	1831	xxx	2036.9	
fuel	300	xxx	280.8	50 gallons
oil				0 quarts
Seat # 1	164	112	183.7	
Seat # 2	195	112	218.4	
Seat # 3	210	144	302.4	
Seat # 4	175	144	252.0	
Aft Baggage	20	167	33.4	
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CENTER OF GRAVITY MOMENT ENVELOPE WORKSHEET

