

From: [REDACTED]
To: [REDACTED]; [REDACTED]
Subject: RE: CEN22LA146 (N500MZ) - Torque Wrench Question
Date: Friday, May 6, 2022 5:51:36 PM
Attachments: [image001.png](#)

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Mike,

The wrench that was supplied in that service truck for that task would have been Snap on Model-QD1R200 SN-0920901179, last calibration date 8/20/21, next calibration due 8/20/22. So yes, that torque wrench was within its calibration due date, and was not expired.



Shane Lair | Director of Maintenance
Winco, Inc. | [REDACTED] | Aurora, OR 97002
Mobile: [REDACTED]

From: Hodges Michael [REDACTED]
Sent: Friday, May 6, 2022 1:58 PM
To: Walker, Trevor [REDACTED]; Lair, Shane [REDACTED]
Subject: CEN22LA146 (N500MZ) - Torque Wrench Question

[EXTERNAL]

Hi Trevor and Shane,

I hope you both are doing well.

For the torque wrench that the mechanic, Dan Murphy, used to tighten the b-nuts on N500MZ on 03/16/2022 (the day before the accident on 03/17/2022), are you able to please check:

1. When was the last time that torque wrench was calibrated?
2. For the calibration date of that torque wrench, was that date within the time limitations, for

the date of the maintenance work performed on 03/16/2022 (i.e. was the calibration still good or expired at the time of the maintenance work)?

Thank you.

Mike

Mike J. Hodges, MS, CHP
Air Safety Investigator
National Transportation Safety Board

4760 Oakland Street, Suite 500
Denver, Colorado 80239-2793

Cellular/SMS: [REDACTED]
Facsimile: [REDACTED]
Response Operations Center (24/7): 1-844-373-9922
Work Hours: Monday-Friday, 0900-1730 Mountain Time

“We always need to prepare ourselves for handling the unexpected.” – Neil A. Armstrong

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From: [REDACTED]
To: [REDACTED]
Subject: RE: CEN22LA146 - N500MZ Weight Questions
Date: Tuesday, April 12, 2022 10:42:00 AM
Attachments: [image001.png](#)

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Good morning Mike,

After reviewing the Weight and Balance records this is what I came up with:

1. Aircraft Basic Empty= 1601
2. Fuel at time of accident=170 pounds
3. Pilot weight= 200 pounds

Total weight=1971

Gross Weight Internal=3000 pounds

Gross Weight External and Jettisonable=3550 pounds

Trever Walker | Chief Pilot

Winco, Inc. | [REDACTED] Aurora, OR 97002

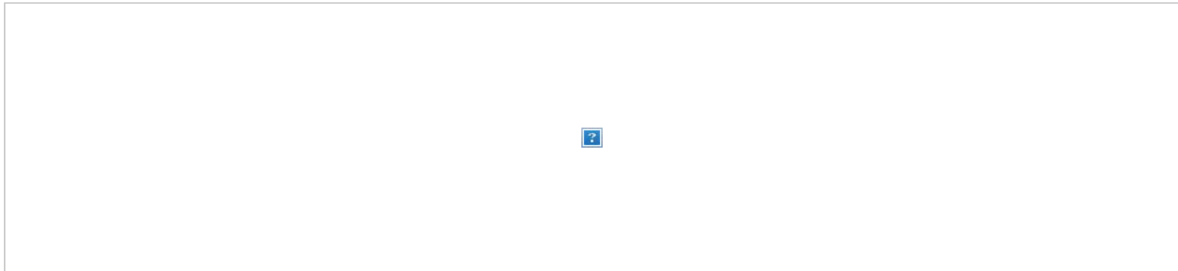
Office: [REDACTED] | **Fax:** [REDACTED] | **Mobile:** [REDACTED]
www.winco-services.com

From: Hodges Michael [REDACTED]
Sent: Tuesday, April 12, 2022 9:05 AM
To: Walker, Trever [REDACTED]
Subject: CEN22LA146 - N500MZ Weight Questions

[EXTERNAL]

Hi sir,

In the NTSB Form 6120.1 that I received from Winco, it is showing the weight numbers as:



Can you please let me know what the maximum gross weight of N500MZ is?

Can you please let me know what the weight of N500MZ was at the time of the accident?

Thank you again.

Mike

Mike J. Hodges, MS, CHP
Air Safety Investigator
National Transportation Safety Board

4760 Oakland Street, Suite 500
Denver, Colorado 80239-2793

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Height Velocity Diagram – CEN22LA146

Helicopter: N500MZ, Hughes 500D

Maximum Gross Weight: 3,000 lbs*

Maximum Gross Weight (External and Jettison-able): 3,550 lbs*

Weight at Accident Time: 1,971 lbs*

Accident Altitude/Airspeed: About 90' AGL / 30 kts

Accident Time: 1430 Local Time

Weather: KDSM 171854Z [1354 Local Time] COR 01014KT
7SM -RA FEW010 SCT050 BKN070 OVC250 07/06 A2996
RMK AO2 RAB22 SLP147 P0000 T00720056

Celsius to Fahrenheit Conversion:

Temperature, 7° C = 44.6° F

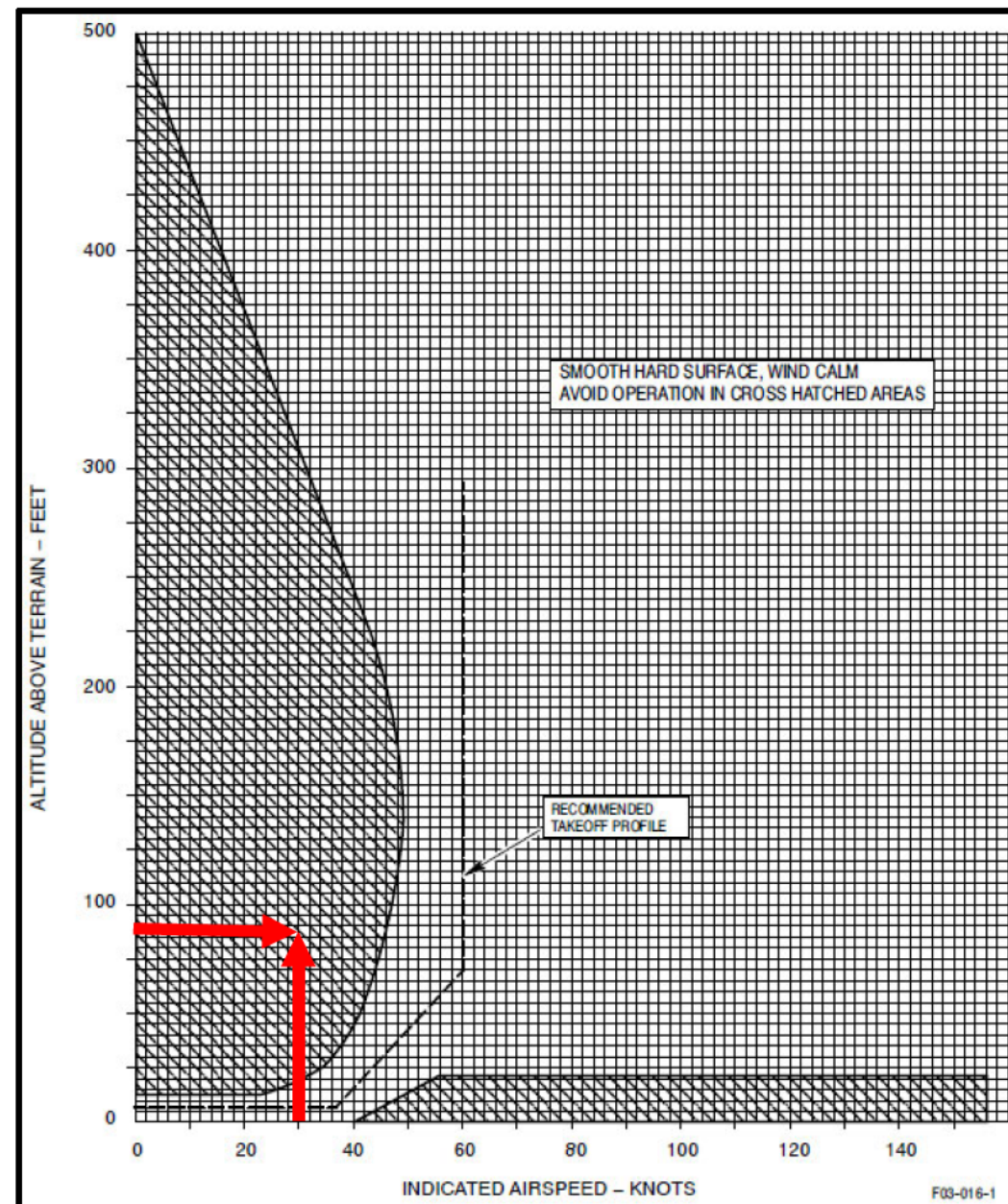
Dew Point, 6° C = 42.8° F

Accident Site Elevation: 1,403 ft above MSL

Estimated Density Altitude: 857 ft above MSL

Diagram Source: FAA Approved MD Helicopters
MD 500D Rotorcraft Flight Manual

*Data provided by the operator.



Height Velocity Diagram Gross Weight Limits – CEN22LA146

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