



NTSB MEMORANDUM FOR RECORD

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Eastern Region, Office of Aviation Safety (ERA)
National Transportation Safety Board

Date: 4/28/2020
Person Contacted: See Below
NTSB Accident Number: ERA20LA160

Haverfield Aviation's Party Member Representative Todd Tuttle (Director of Safety) was asked several questions via email from the NTSB investigator-in-charge. Below are excerpts of the questions (black text) and answers (red text):

Narrative:

Below is the fuel limitation section from the job task card that was effective at the time of our accident. In addition, is an excerpt from the External Load Ops Manual, which was effective at the time of the accident.

Fuel Limitations, JOB CARD AT TIME OF ACCIDENT:

Fuel Check Off and Limitations	
☒ Fuel Truck Sump Complete and Inspected	☒ Helicopter Fuel Sample Complete and Inspected
Fuel Checks Completed by: [REDACTED]	
Helicopter Fuel Minimum (Flight Following):	
☒ MD500: 100 lbs. Landing Minimum	☐ UH-1 HUEY: 300 lbs. Landing Minimum
☐ K-MAX: 300 lbs. Landing Minimum	☐ BK 117: 265 lbs. Landing Minimum
☐ MD500: Wire / Rope Pull and Wreck Out Operations: Maximum 1hr (45 min F / FF) flight time with max fuel load	☐ UH-60 Black Hawk: 425 lbs. Landing Minimum



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ROTORCRAFT EXTERNAL LOAD OPERATIONS MANUAL	HAVERFIELD AVIATION, INC.	PAGE: 302 SEC.: 3 REV.: 47 DATE: 1/4/18
OPERATING LIMITATIONS MDHC HELICOPTER MODEL 369D AND 369E Class A rotorcraft-load combination: See Operating Limitations set forth in Appendix A and B Class B rotorcraft-load combination: Class C rotorcraft-load combination: (1) The total weight of this aircraft and load combination shall not exceed 3550 pounds gross take-off weight. (2) The location of the center of gravity for this type aircraft and load combination shall be within the center of gravity range established during type certification under FAR Part 27. (3) The total weight of this aircraft and load combination shall not exceed 3550 pounds (demonstrated). (4) This aircraft shall be operated, as much as possible, within its limiting height-speed envelop, if any, but average speed shall not exceed 80 knots. Extreme caution shall be exercised when carrying external loads as controllability may be affected due to the size and shape of the cargo. (5) The class B external load shall not exceed 2000 pounds (hook limit). (6) Class C rotorcraft-load combination: a. The magnitude and direction of the loading force must be established at those values for which the effective location of the center of gravity remains within its established range. b. Always start any Class C external load with a full tank of fuel. As the aircraft leans over in a steep bank to the right, this may easily uncover the fuel sump. There should be a maximum of one hour of flight time while performing any Class C external load. c. Using either a full 21-gallon Fargo or 30-Gallon Soloy aux tank can extend flight time as follows. d. 40 minutes for a Fargo tank, 60 minutes for a Soloy tank. e. The PIC must be supplying to the main tank no later than 50 minutes after the start of the Class C external load and must observe an increase in the fuel level of the main tank.		



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1) The External Load Ops manual requires for all Class C operations, the fuel minimums to be followed were 1hr maximum flight time, from full tanks. Based upon this policy statement, the pilot after completing the HEC operation, should have landed, topped off the tanks, and then proceeded to assist with the wire pull. Do you agree with this assessment?

The pilot considered the task to be Class B since he was using an open clip versus a closed hook/clasp. As a result, he followed the 100lb landing minimum limitations policy and did so in accordance with that policy.

2) The fuel minimums section in the Job Task Card stated that flights must abide by the 1hr flight time limit, specifically for "Wire/ Rope Pull" and "Wreck Out Operations." The job task card in effect at the time of the operation did not use Class B or C terminology. Postaccident, the JHA/ Job Task Card was amended to ensure Class B and C terminology is provided, and additional examples are provided, for clarity on what fuel mins need to be followed. Do you agree with this assessment?

As part of Haverfield's post accident review, I interviewed numerous pilots across the industry on the Class B versus Class C issue. Many pilots considered the assigned task to be Class B because the conductor was not clamped in (closed hook). Instead, it involved an open lifting lip. As a result, I updated the policy to add mission sets to the external load class and disseminated it to pilots. I also submitted to Quanta Aviation for a rapid revision of the Job Hazard Assessment (JHA).