



Memorandum For Record

Timothy W. Monville
Sr. Air Safety Investigator
Eastern Region

Date: April 13, 2018
NTSB Accident Number: ERA17FA017

WEIGHT CALCULATIONS

Weight Calculations

Weight calculations were performed based on the most recent empty weight of the airplane (1,546 pounds), the weight of the pilot per his last FAA medical certificate (174 pounds), the full usable fuel amount (288 pounds), and the weights of the front and rear seat occupants (158 and 137 pounds), respectively. The calculations also included the weight of a binder containing the flight manual and Journey Logbooks (12 pounds), and the estimated weights of loose clothing and baggage retained from the accident site (150 lbs). Clothing and items not observed by NTSB was estimated to weigh 5 lbs. The airplane weight at engine start was calculated to be about 2,470 lbs, about 30 lbs more than the maximum gross weight.

Fuel consumption calculations were performed based on the environmental conditions at the departure airport at the time of departure (23°C and 30.10 inHg), and airport elevation about 168 ft. The calculations were also based on the cruise portion of the flight lasting 2 hours 55 minutes, and a best economy cruise performance setting of 55% power, resulting in a fuel burn of 6.6 gallons per hour. The fuel to climb was calculated to be 9 lbs, and the fuel consumption during the cruise portion was calculated to be about 116 lbs. Subtracting the fuel burn amount from the takeoff weight resulted in a final airplane weight of about 2,345 lbs, 95 lbs less than the maximum gross weight.