

NATIONAL TRANSPORTATIONS SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594

SUMMARY OF EXAMINATION

-- CEN22FA021 --

A. ACCIDENT

Location: Lena, Wisconsin
Date: October 27, 2021
Time: 1817 central daylight time
Aircraft: Beech B36TC (s/n EA-402), N75RM

B. PARTICIPANTS

Timothy Sorensen
Senior Aviation Accident Investigator
National Transportation Safety Board
Denver, Colorado

Brad Stankey
General Manager
Mountain High Equipment & Supply Co.
Redmond, Oregon

C. ACCIDENT SUMMARY

On October 27, 2021, about 1817 central daylight time, a Beech B36TC airplane, N75RM, was substantially damaged when it was involved in an accident near Lena, Wisconsin. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

D. DETAILS OF EXAMINATION

The pulse-demand oxygen delivery module and in-line regulator were retained by the NTSB investigator-in-charge at the accident site. Examinations of the module and regulator were conducted at the MH Aviation Oxygen Systems / Mountain High Equip & Supply facility in Redmond, Oregon, on December 7, 2021. The module and regulator were released by the NTSB following the examinations.

Summary of Examination

E. SUMMARY OF EXAMINATION

Oxygen Delivery Module: Model No. EDS O2D2 (s/n 04836)

The module appeared intact and undamaged.¹ The module was connected to the test bench and batteries were installed. The module powered-up as expected and performed normally. Leak and weep pressure checks were nominal consistent with the module retaining pressure as required. Simulated demand at both module outlets – position 1 and 2 – resulted in delivery of oxygen pulses as required. Oxygen pulses were delivered at rates of 3.0 lpm and 3.2 lpm for outlet positions 1 and 2, respectively.

The module provided a flow-fault alarm (red LED/audible tone) as expected when the oxygen supply was removed. An apnea alarm (amber LED/audible beep) was provided when the demand (simulated inhalation) interval exceeded the expected interval of approximately 30 seconds at the test pressure altitude. Inhalation event/oxygen delivery notifications (green LED) were observed when demand (simulated inhalation) was provided to and detected by the module.

In-line Pressure Regulator: Part No. 00REG-1048-01 (s/n 1048-0763)

The regulator appeared intact and undamaged. The unit was connected to the test apparatus and performed normally. At an inlet pressure of 90 psi, the regulator provided a static outlet pressure of 19.5 psi and a dynamic outlet pressure of 17.5 psi. The open flow rate was 63 lpm. At an inlet pressure of 20 psi, the regulator provided a static outlet pressure of 19 psi and a dynamic outlet pressure of 16 psi. The open flow rate was 39 lpm.

The required static outlet pressure was 16 ~ 22 psi. The required dynamic outlet pressure was 15 psi minimum at a supply pressure of 90 psi, and 10 psi minimum at a supply pressure of 20 psi.

----- end of summary -----

¹ An audible alarm was reported by first responders and FAA inspectors when they arrived on-scene. The batteries were removed from the module at that time to silence the alarm.