

# NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division  
Washington, D.C. 20594

October 23, 2015

## Engine Data Monitor (EDM)

### Specialist's Factual Report By Sean Payne

#### 1. EVENT SUMMARY

Location: Bedminster, New Jersey  
Date: September 8, 2015  
Aircraft: Lake LA-4-250  
Registration: N1401P  
Operator: Private  
NTSB Number: ERA15FA348

On September 8, 2015, about 2048 eastern daylight time, an Aerofab Lake LA-4-250, N1401P, was destroyed when it impacted trees and terrain during shortly after takeoff from Somerset Airport (SMQ), Bedminster, New Jersey. The private pilot was fatally injured. Night visual meteorological conditions prevailed, and no flight plan was filed for the local personal flight, which was conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91.

#### 2. ENGINE DATA MONITOR GROUP

An Engine Data Monitor (EDM) group was not convened.

#### 3. DETAILS OF INVESTIGATION

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following EDM:

Recorder Manufacturer/Model: **Shadin Fuel Flow Indicator**  
Recorder Serial Number: **8160**

##### 3.1. Shadin Fuel Flow Indicator Description

The Shadin Fuel Flow Indicator is a panel mounted gauge that acts as a digital fuel management system. It has capabilities to interface with other devices via a RS-232 serial connection. It can provide endurance (time), fuel flow (gallons per hour), fuel used (gallons), and fuel remaining (gallons) if the operator has set the initial fuel level correctly before starting the engine. The system includes a non-volatile<sup>1</sup> memory that retains fuel remaining and fuel used information when the power to the unit is shut down.

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<sup>1</sup> Non-volatile memory – semiconductor memory that does not need power applied to retain data.

### 3.1.1. Data Recovery

The recorder was in good condition and the unit was able to be powered normally using the appropriate power harness and voltage for the device. Figure 1 shows the condition of the device upon arrival to laboratory.



Figure 1. The Shadin fuel flow unit.

### 3.1.2. Data Description

Upon power up, the fuel flow indicator performed a self-test and reported a status of “good” (figure 2). The unit was then prompted to show the logged number of gallons used after making an input to the interface. Figure 3 shows the fuel flow indicator reported a value of 44.7 gallons used. Figure 4 shows the fuel flow indicator reporting a value of 21.7 gallons remaining when commanded by the appropriate input. The device’s fuel value may not represent the total fuel amount relevant to the accident flight as it relies on proper user input to reflect accurate fuel load values upon engine start. No other data was available from the Shadin device.



Figure 2. The Shadin unit's self test upon power up.



Figure 3. The indicated amount of gallons used.



Figure 4. The indicated amount of gallons remaining.