

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division
Washington, D.C. 20594

December 18, 2012

Fuel Flow Monitor

Specialist's Factual Report By George Haralampopoulos

1. EVENT SUMMARY

Location: Laramie, Wyoming
Date: September 21, 2012
Aircraft: Vans Aircraft RV-7A
Registration: N423RA
Operator: Private
NTSB Number: WPR12FA432

On September 21, 2012, about 1445 mountain daylight time, a VANS RV 7A experimental airplane, N423RA, sustained substantial damage after impacting terrain near the Laramie Regional Airport (LAR), Laramie, Wyoming. The certified commercial pilot, who was also the registered owner of the airplane, sustained fatal injuries. Visual meteorological conditions prevailed at the time of the accident. An instrument flight rules (IFR) flight plan was filed for the personal cross-country flight, which was being operated in accordance with 14 Code of Federal Regulations (CFR) Part 91. The flight departed the Duluth International Airport (DLH), Duluth, Minnesota, about 1026 central daylight time, with LAR as its destination.

2. GROUP

A group was not convened.

3. DETAILS OF INVESTIGATION

The Safety Board's Vehicle Recorder Division received the following device:

Recorder Manufacturer/Model: **Electronics International FP-5L**
Recorder Serial Number: **108829**

3.1. Electronics International FP-5L Description

The Electronics International (EI) FP-5L is a digital fuel flow monitor designed to provide fuel management information to the flight crew. The device is connected to fuel flow transducers that read out in real time, the aircraft fuel flow with a resolution of .1 gallons per hour. The unit does not interface with the aircraft's fuel quantity indicating system and requires the crew to enter the initial fuel on board the aircraft.

The unit calculates in real time, fuel remaining, fuel used, and time to empty. The unit can be connected to a Loran-C or GPS receiver serial port for additional calculations such as Miles per Gallon. The unit also contains a warning system to alert the user for low fuel conditions. The FP-5L contains Non-Volatile Memory (NVM) which will save the last value before the aircraft is powered off.

3.1.1. Electronics International MVP-50 Data Extraction

Upon arrival at the Vehicle Recorder Laboratory, an exterior examination revealed the unit had minor impact damage (figure 1); the device was turned on by connecting to a power supply. The device appeared to be operating normally and the last values were displayed as shown in Figures 2 through 3.

Figure 1. Top view of the FP-5L



Figure 2. Fuel remaining tab of FP-5L with a value of 0.1 gallons.



Figure 3. Fuel used tab of FP-5L with a value of 43.9 gallons.

