

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division
Washington, D.C. 20594

December 8, 2020

Electronic Devices

Specialist's Factual Report
By Nick Swann

1. EVENT SUMMARY

Location: Eagle River, AK
Date: April 11, 2020
Aircraft: Cessna A185E
Registration: N185RN
Operator: Private
NTSB Number: ANC20LA043

2. GROUP

A group was not convened.

3. DETAILS OF INVESTIGATION

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

Device Manufacturer/Model:	Electronics International US-8
Serial Number:	Unknown
Device Manufacturer/Model:	JPI FS-450
Serial Number:	06295

3.1.1. Electronics International US-8 Device Description

The Electronics International US-8 is an instrument capable of displaying exhaust gas temperature (EGT) and cylinder head temperature (CHT) for a single engine.

3.1.2. JPI FS-450 Device Description

The JPI FS-450 is an instrument capable of displaying multiple fuel related parameters. The FS-450 uses a small turbine transducer to measure the fuel flowing into the engine and can assist pilots with managing fuel consumption by tracking parameters like total fuel used, fuel remaining, and endurance.

3.2.1 Electronics International US-8 Device Condition

Upon arrival at the Vehicle Recorder Laboratory, an examination revealed the unit had sustained impact damage as shown in figure 1.



Figure 1. Photo of damaged EI US-8

3.2.2 JPI FS-450 Device Condition

Upon arrival at the Vehicle Recorder Laboratory, an examination revealed the unit had sustained significant impact damage. The device arrived in several pieces that were examined to find the important components for extraction. The condition of the device as it arrived is shown in figure 2.



Figure 2. Photo of damaged JPI FS-450

3.3.1 Electronics International US-8 Data Description

The Electronics International US-8 does not record historical data. As such, no information relevant to the accident was extracted from this device.

3.3.2 JPI FS-450 Data Description

This device is capable of storing some data in non-volatile memory (NVM).¹ The binary data from this chip was decoded with instructions from the manufacturer. The following parameters were converted from the decoded data.

- **Twin/Single Engine:** "Single"
- **Fuel Units:** "Gallons"
- **Tanks Size:** "68"
- **Fuel Remaining:** "7.7"
- **Fuel Used:** "0"

It should be noted the fuel remaining and fuel used parameters are dependent on user input to function correctly.

¹ Non-volatile memory is semiconductor memory that does not require external power for data retention.