

National Transportation Safety Board

Office of Research and Engineering

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ENGINE DATA MONITOR

Specialist's Factual Report

July 8, 2025

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A. ACCIDENT

Location: Green Valley, Arizona
Date: April 13, 2025
Time: 1342 mountain standard time (MST)
2042 coordinated universal time (UTC)
Airplane: Piper PA-32-260, private operator, N3797W

B. ENGINE DATA MONITOR SPECIALIST

Specialist: Steven Smith
Mechanical Engineer (Recorder Specialist)
National Transportation Safety Board (NTSB)

C. DETAILS OF THE INVESTIGATION

A group was not convened. The NTSB Vehicle Recorder Division received the following engine data monitor (EDM):

Recorder Manufacturer/Model: JPI EDM-730/830
Part Number: EGT-701-6OTFL
Recorder Serial Number: 37441

1.0 JPI EDM-730/830 Description

The J. P. Instruments EDM-730/830 is a panel mounted LCD display that the operator can monitor and record up to 24 parameters related to engine operations. Depending on the installation engine parameters monitored can include:

- Battery Voltage
- Carburetor Temperature
- Compressor Discharge Temperature
- Cylinder Head Temperature (CHT)
- Engine Revolutions per Minute
- Exhaust Gas Temperature (EGT)
- Fuel Flow
- Manifold Pressure
- Oil Pressure and Temperature
- Outside Air Temperature
- Turbine Inlet Temperature

The unit can also calculate, in real-time, horsepower, fuel used, shock cooling rate and EGT differentials between the highest and lowest cylinder temperatures. The calculations are also based on the aircraft installation.

The unit contains non-volatile memory for data storage of the parameters recorded and calculated.¹ The rate at which the data is stored is selectable by the operator from 2 to 500 seconds per sample. The memory can store up to 20 hours of data at a 6 second sample rate. For a non-damaged unit, the data can then be downloaded by the operator using a USB flash drive and following the instructions on the unit.

1.1 JPI EDM-730/830 Data Recovery

The JPI EDM-730/80 was in good condition and was able to power on as shown in figure 1. However, when downloading data from the unit, no files were recovered.



Figure 1. JPI EDM-730/830 as received by the Vehicle Recorder Laboratory (left) and powered on in the download menu (right).

1.2 JPI EDM-730/830 Data Description

The investigator in charge notified the specialist that from interviews with the pilot, the circuit breakers powering the JPI EDM-730/830 were in the off position for the event flight. Therefore, no data were recovered from this device.

Submitted by:

Steven Smith
Mechanical Engineer (Recorder Specialist)

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