

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division
Washington, D.C. 20594

April 17, 2020

Engine Monitor Device

Specialist's Factual Report
By Ben Hsu

1. EVENT

Location: Mecca, California
Date: December 11, 2016
Aircraft/ID: Cessna T210M / N761SZ
Operator: Private
NTSB Number: WPR17LA036

2. EVENT SUMMARY

On December 11, 2016, at an undetermined time, a Cessna T210M, N761SZ, landed off airport in rough terrain near Mecca, California. Aspen Flying Club was operating the rented airplane under the provisions of Title 14 *Code of Federal Regulations* (CFR) Part 91. The commercial pilot sustained serious injuries; the airplane sustained substantial damage. The cross-country personal flight departed Colorado Springs, Colorado, about 1200 PST (1400 central standard time) with a planned destination of Thermal, California. Visual meteorological conditions prevailed, and no flight plan had been filed.

3. DETAILS OF DEVICE INVESTIGATION

The National Transportation Safety Board's (NTSB) Vehicle Recorder Division received the following device:

Device: Insight GEM-610
Device Serial Number: 3073

The device arrived at the NTSB's laboratory in good condition. Figure 1 shows the condition of the device as it arrived. The device was inspected, and power was applied normally using laboratory hardware. Data was downloaded from the device using the manufacturer's tools.

Figure 1. Insight GEM-610



3.1. Device Description

The Insight GEM-610 is a panel-mounted gauge that allows the operator to monitor and record parameters related to engine operations. The unit contains non-volatile memory¹ for data storage of the parameters. The data can then be downloaded by the operator using manufacturer tools.

3.2. Data Description

The data extracted included 19 sessions from November 19, 2016 through December 11, 2016. The last recorded session was determined to be related to the accident and is included in this report.

3.3. Parameters Provided

Table 1 describes data parameters recorded by the device. The recorded time is based on the unit's internal clock, which is set and updated by the user.

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

Table 1. Recorded Parameters

Parameter Name	Parameter Description
Time	Time for recorded data point (elapsed seconds)
CHT# (degF)	Cylinder Head Temperature Cylinder # (degrees Fahrenheit)
EGT# (degF)	Exhaust Gas Temperature Cylinder # (degrees Fahrenheit)
TIT1 (degF)	Turbine Inlet Temperature (degrees Fahrenheit)

3.4. Time Correlation

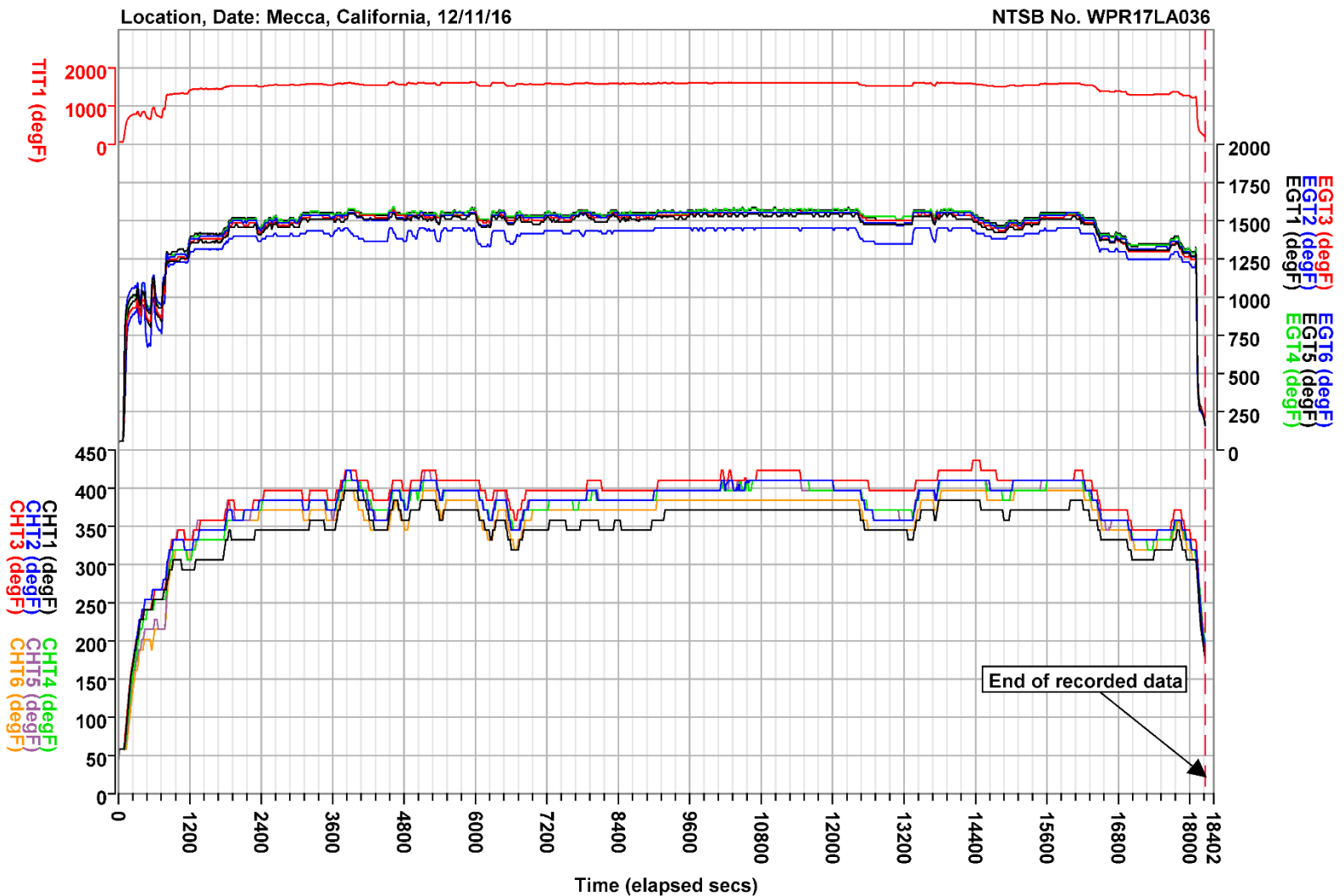
The date and time on the device are manually adjusted by the operator. The accuracy of the device's internal clock could not be determined, therefore, time is presented in this report as elapsed seconds from the beginning of the session.

4. OVERLAYS AND TABULAR DATA

Figure 2 is a plot of engine parameters from the last recorded session.

The tabular data from the last recorded session is included as Attachment 1. This attachment is provided in electronic comma separated value (CSV) format.

Aspen Flying Club, Cessna T210M, N761SZ



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Figure 2. Plot of the last recorded session