

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



CEN23FA353

ELECTRONIC DEVICE

Specialist's Factual Report

January 22, 2024

A. ACCIDENT

Location: Gilman City, Missouri
Date: August 8, 2023
Time: 1150 central daylight time (CDT)
Airplane: Air Tractor Inc AT-802, Rice Flying LLC, N804AA

B. ELECTRONIC DEVICE 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 electronic device:

Recorder Manufacturer/Model: SATLOC Air IntelliFlow Hemisphere GPS
Part Number: Unknown
Recorder Serial Number: Unknown

1.0 SATLOC Description

The SATLOC Air IntelliFlow Hemisphere GPS is part of an on-board control system designed to programmatically control agricultural, aerial spray operations based on vendor and user specified prescription maps. Flow rates can be pilot selected or based on mapping created using a proprietary software package called MapStar that runs on a desktop computer. The SATLOC Air IntelliFlow can record historical information to an internal, compact flash (CF) card and can contain parameters such as GPS altitude, heading, GPS latitude, GPS longitude, and speed.

1.1 SATLOC Data Recovery

The SATLOC was severely damaged in the event, as shown in figure 1. The internal circuit board was removed from the device and a compact flash card was recovered, as shown in figure 2. The compact flash card showed signs of fire damage as well, as shown in figure 3.



Figure 1. SATLOC as received by the NTSB Vehicle Recorder's Lab.

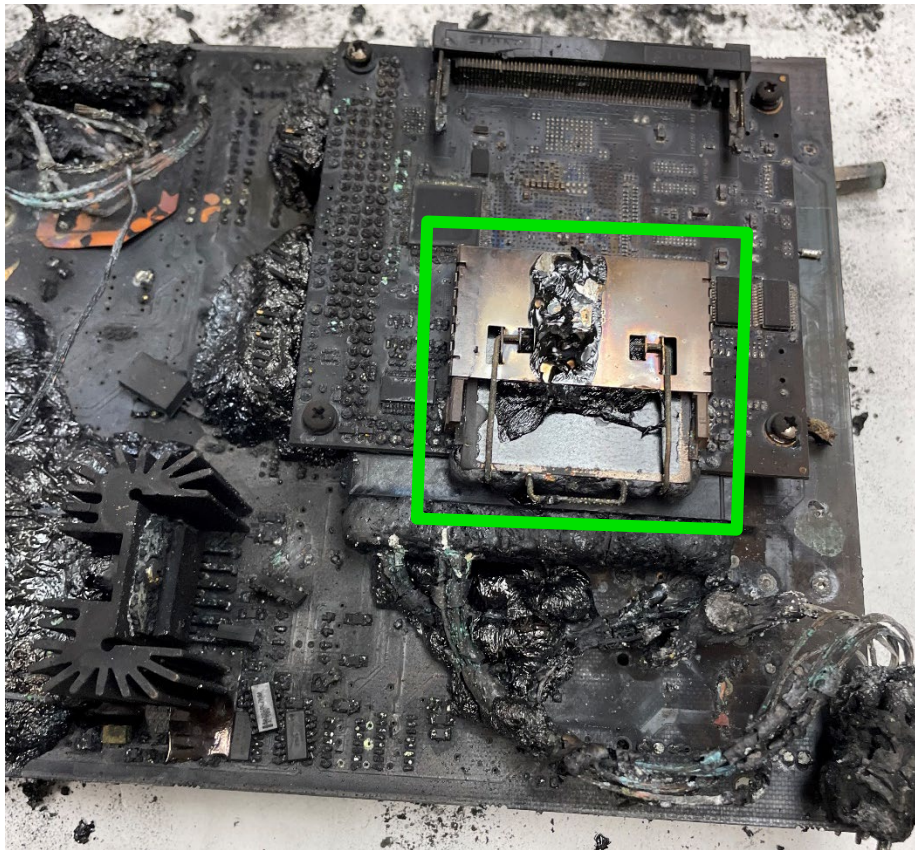


Figure 2. SATLOC internal circuit board with Compact Flash card (green box).



Figure 3. Compact Flash card recovered from the SATLOC.

1.2 SATLOC Compact Flash Card Data Recovery

The Compact Flash card's internal components showed signs of fire damage, as shown in figure 4. The Vehicle Recorder's Lab shipped the Compact Flash card to DriveSavers Data Recovery Experts and Service Company. DriveSavers was unable to recover any data from the Compact Flash Card. Therefore, no data were recovered.

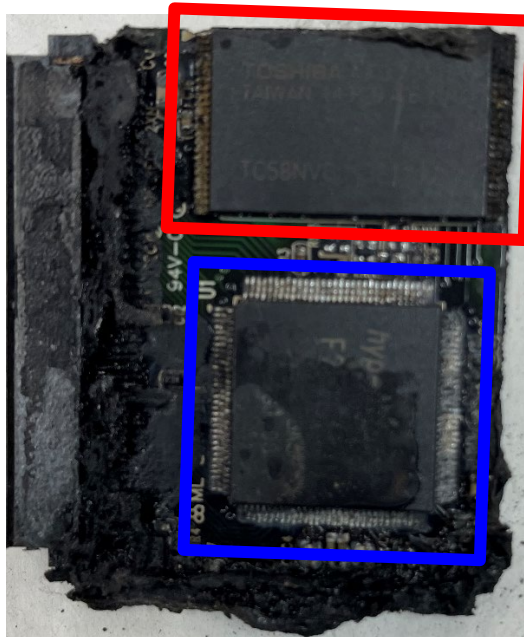


Figure 4. Compact Flash card microprocessor (bottom blue box) and Non-Volatile Memory chip (top red box) recovered from the SATLOC.

Submitted by:

Steven Smith
Mechanical Engineer (Recorder Specialist)