

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division
Washington, D.C. 20594

August 13, 2021

Electronic Flight Instrument System Device

Specialist's Factual Report
By Deven Chen

1. EVENT SUMMARY

Location: Heber City, Utah
Date: December 16, 2020
Aircraft: SilverLight Aviation LLC AR-1 gyroplane
Registration: N261MD
Operator: Private
NTSB Number: WPR21LA070

2. GROUP

A group was not convened.

3. DETAILS OF INVESTIGATION

On April 19, 2021, the National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following Electronic Flight Instrument System (EFIS) device:

Device Manufacturer/Model:	MGL Challenger Lite
Serial Number:	iCL200300152

3.1. Device Description

The Challenger Lite is an Electronic Flight Instrument System (EFIS) by MGL Avionics. The device integrates functions of GPS and engine monitoring. The unit displays to the pilot several engine and airplane systems on a 10.4-inch screen. The information presented on the display is the aircraft's altitude, airspeed and engine fuel quantity. Additionally, the unit displays engine data such as engine RPM, cylinder head temperature and engine exhaust temperature. The unit automatically keeps track of the current airborne flight time and creates a log file for each flight. The log file contains the flight time, engine total time, the maximum altitude and airspeed obtained during the flight and any exceedance that may have been reported during the flight. Upon proper configuration, the device stores the last hour of flight data onto an internal flash memory chip. When enabled, the device can also store flight data onto an external secure digital (SD) card; the amount of data stored depends on the size of the SD card.

3.2. Data Recovery

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had sustained severe impact damage, as shown in Figure 1. An SD card mounted in the device did not contain any data. The internal flash memory chip, as shown in Figure 2, was removed from the device and read out, however, no data were contained in the file. The raw data were then sent to the manufacturer for examination, and the manufacturer confirmed that the device had never recorded a flight due to improper configuration during installation. Thus, no accident-related data were recovered from the device.



Figure 1. Front and back of MGL Avionics Challenger Lite as received.

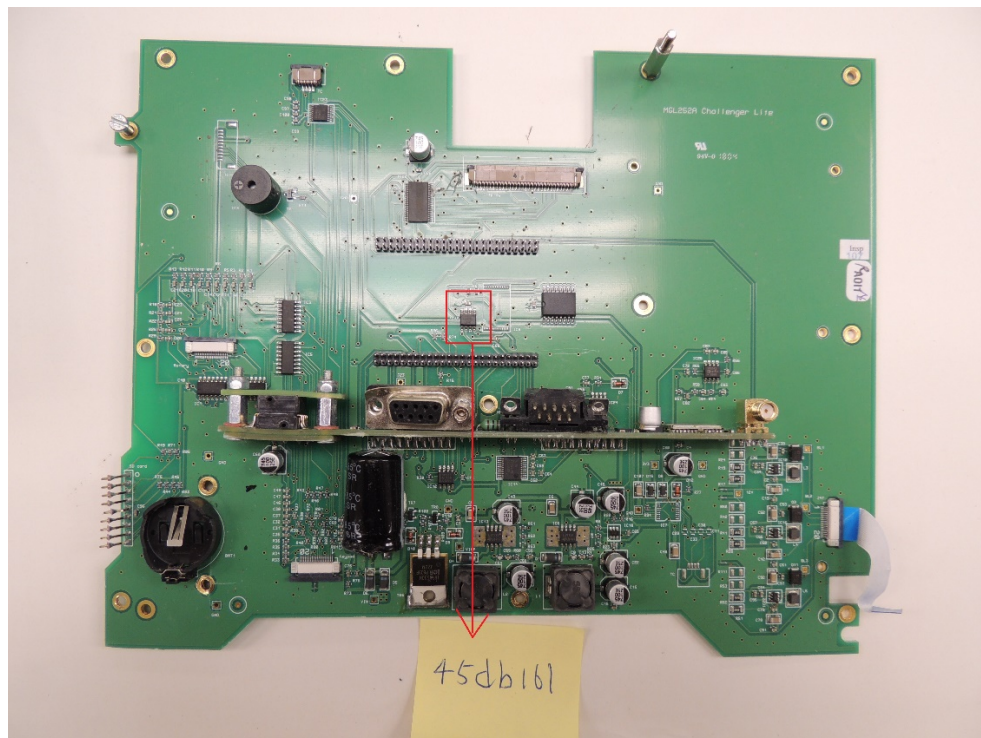


Figure 2. Internal flash memory chip of the MGL Challenger Lite.