

# **NATIONAL TRANSPORTATION SAFETY BOARD**

Vehicle Recorder Division

Washington, D.C. 20594

November 10, 2021

## **Global Positioning System Device**

### **Specialist's Factual Report**

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#### **1. EVENT SUMMARY**

Location: Gainesville, GA  
Date: February 26, 2021  
Aircraft: Cessna R182  
Registration: N3652C  
Operator: Private  
NTSB Number: ERA21FA140

#### **2. DETAILS OF INVESTIGATION**

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following global positioning system (GPS) device:

|                            |                          |
|----------------------------|--------------------------|
| Device Manufacturer/Model: | <b>Garmin GPSMAP 396</b> |
| Serial Number:             | <b>28207904</b>          |

##### **2.1. Device Description**

The Garmin GPSMAP 396 is a hand-portable GPS unit equipped with a detachable antenna, a 256 color TFT LCD display, built in base map, and an internal Jeppesen aviation database. The unit employs a parallel 12 channel receiver and can be operated using external power, alternatively by using an internal Li-Ion rechargeable battery. The GPSMAP 396 is capable of storing date, route of flight, and flight time information for up to 50 individual flights in the form of a flight log. A detailed track log including latitude, longitude, date, time, and groundspeed is stored within the unit whenever the receiver has a lock on the GPS navigation signal. Position is updated within the track log as a function of time or distance moved, depending on how the unit has been configured. Once the current track log memory becomes full, new information either overwrites the oldest information or recording stops, depending on how the unit is configured. Track log storage may be activated or de-activated at user discretion.

## 2.2. Data Recovery

The GPS device showed signs of impact damage upon arrival at the Vehicle Recorder Division, as shown in Figure 1. The circuit board was removed and placed onto a surrogate device. Upon powering on, the device screen showed that the device time was at 15:00:55 on February 24, 2021 (as shown in Figure 2), while the accident occurred on February 26, 2021. This indicated that the device's power was cut off since February 24, 2021, and the device had not powered on since. The flight log history showed that the last flight recorded was a flight from KMCN (Middle Georgia Regional Airport) to KGVV (Lee Gilmer Memorial Airport) on February 24, 2021. The flight was about 1 hour, 1 minutes and 59 seconds long, as shown in Figure 3. This flight was downloaded and plotted on Google Earth. The result confirmed that the last recorded flight was the flight from MCN to GVL on February 24, 2021, and that the accident flight was not recorded on the device. Thus, no accident pertinent data were recovered from this device.



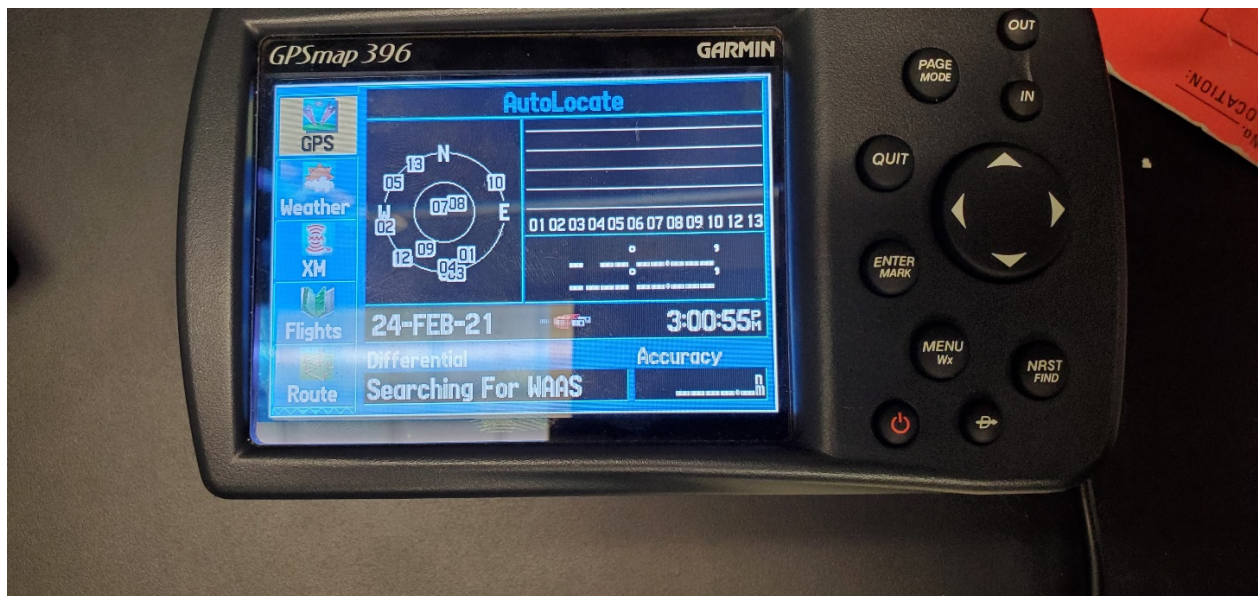


Figure 2: Display of the Garmin GPSMAP 396 when it powered on at the lab.

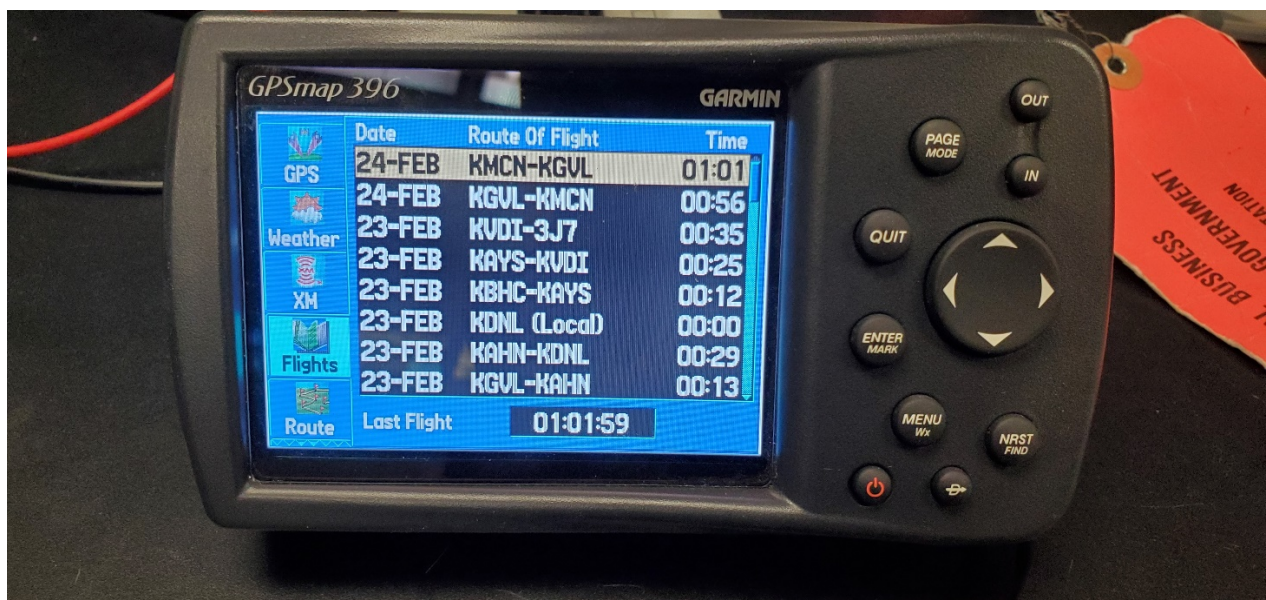


Figure 3: Flight log history of the Garmin GPSMAP 396.