

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: CEN21FA272 - (Parker, CO) - GoPro Hero 9 Camera - Email Report
Date: Thursday, December 2, 2021 10:37:00 AM

Email Report Instructions

The narrative and attachments from this email report may be used in other reports at the discretion of the IIC. This email, including attachments (if applicable), should also be placed in the public docket by the IIC.

Email Report

The Vehicle Recorder Division received the following **GoPro Hero 9 Black**, serial number c3441325544547. **Photo1_GoPro.jpeg** shows the arrival state of the GoPro. The GoPro appeared to be undamaged, and the associated microSD card was seated inside the camera's housing. The card was removed and read with a forensic write blocker. The card contained one .mp4 video file and one .lrv (low resolution) video file. Both video files were not associated with the accident flight.

In high impact scenarios, there exists the possibility that the impact can corrupt the camera's internal process of saving a video file. In this scenario, it is possible that a video file of the accident will not appear in the Windows file system when the card is read. As per laboratory procedures, the memory card was scanned for video fragments to test for this scenario. No extra video fragments were recovered as a result of this process.

No accident video data was recovered from the device.

Prepared by: Sean Payne, Recorder Specialist, NTSB RE-40

Sean Payne

Sr. Mechanical Engineer // Investigator

National Transportation Safety Board – NTSB

[REDACTED] (cell)

[REDACTED] (desk)

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: CEN21FA272 - (Parker, CO) - Appareo Stratus 3 - Email Report
Date: Tuesday, January 4, 2022 2:14:14 PM
Attachments: [stratus1.jpg](#)
[stratus2.jpg](#)
[StratusDataOverlay.PNG](#)
[CEN21FA272_StratusData_Attachment1.csv](#)

Email Report Instructions

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Email Report

The Vehicle Recorder Division received the following device: **Appareo Stratus 3, serial number unknown.**

Appareo Stratus 3

The device sustained both fire and impact damage. The device is pictured in stratus1.jpg and stratus2.jpg which are attached to this email. The device was disassembled and the battery was removed. The unit's non-volatile memory (NVM) chip was identified and removed from the device's board. The NVM chip was read out on the appropriate socket reader and the contained information was converted to flight data.

Appareo Stratus 3 Recovered Data

The device contained data between January 15, 2021, and June 16, 2021 (the accident date). GPS data recovered from the device was plotted along with ADS-B data recovered from the accident flight. The data displayed from the accident date show the recording originated near a hangar at Henry County Airport (KPHT), Paris, Tennessee and ended while the aircraft was enroute over the border of southwest Tennessee and northeast Arkansas. The attached jpg photo (StratusDataOverlay.PNG) illustrates these two positions.

The Stratus 3 is a portable device and is user controlled and activated. As such, the device requires a charged battery or a power source to operate. The unit can be turned off in flight, also the device can be deactivated by the user.

Attachment1.csv is converted flight data in .csv format from the device for the accident date only. The data has not been validated.

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[REDACTED] (cell)

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6/16/2021 2:44 pm

End of Data

Start of Data

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Image NOAA

Google Earth

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: CEN21FA272 - (Parker, CO) - Garmin Autopilot Servos- Email Report
Date: Tuesday, January 18, 2022 12:28:36 PM
Attachments: [AileronServoOpened.jpg](#)
[ElevatorServoOpened.jpg](#)
[ElevatorServo.jpg](#)
[AileronServo.jpg](#)

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Email Report

The Vehicle Recorder Division received two Garmin Autopilot servos. The servos were unable to be conclusively identified by their markings, however, the units appeared to be congruent with GSA-8X series servos.

Garmin GSA-8X Series Servos

The devices sustained both fire and impact damage. The devices are pictured in their arrival state as **AileronServo.JPG** and **ElevatorServo.JPG**. The devices were opened on the bench in the laboratory. Photos **AileronServoOpened.JPG** and **ElevatorServoOpened.JPG** show the internal contents of the devices. It was evident that all internal components of both devices had been destroyed by fire and heat damage. Electronic remains also fell out of the devices as they were opened. These electronic remains were examined for recoverable non-volatile memory (NVM) components, and no NVM were identified.

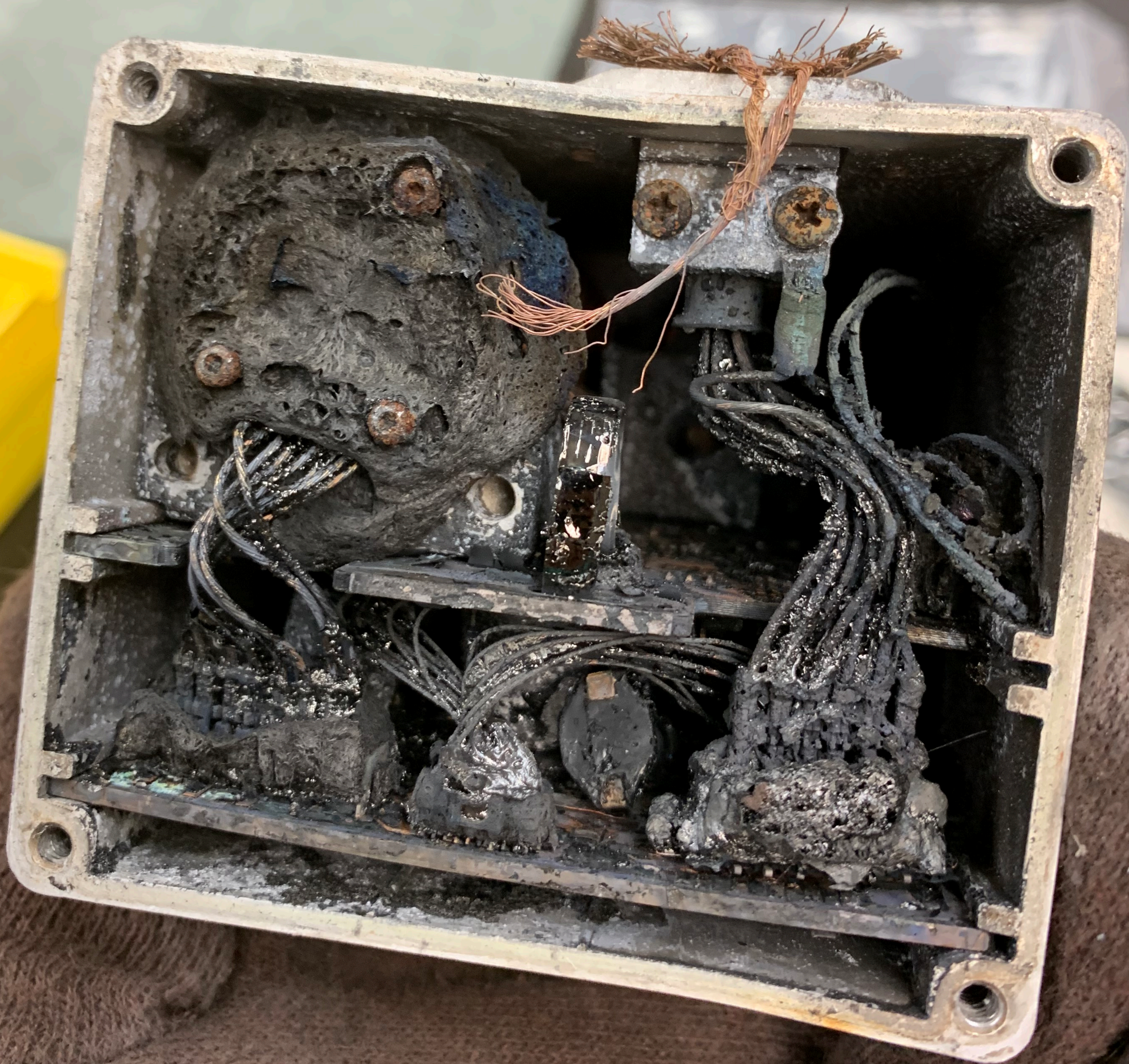
Garmin GSA-8X Series Servos Recovered Data

Due to extensive internal fire and heat damage, there was no recoverable electronic components discovered inside the devices. No data was recovered from the units.

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N704AK
Elevator
Garmin GFL



From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: CEN21FA272 - (Parker, CO) - Garmin G900/1000 Series MFD, Garmin G5 and Unknown Electronic Device - Email Report
Date: Thursday, December 2, 2021 8:38:07 AM

Email Report Instructions

The narrative and attachments from this email report may be used in other reports at the discretion of the IIC. This email, including attachments (if applicable), should also be placed in the public docket by the IIC.

Email Report

The Vehicle Recorder Division received the following **Garmin G900/1000 series MFD**, serial number unknown, **Garmin G5**, serial number unknown and **unknown panel mounted electronic device**.

Photo1.jpeg shows the arrival state of the electronics which remained mounted in the remnants of the instrument panel. The figure has been annotated to identify the devices in this report.

Garmin G900/1000 Series, serial number unknown

The device arrived to the lab mounted in the aircraft's instrument panel. The device is shown in **Photo1.jpeg** which is annotated. The device contains two card slots on the right side of the unit. The lower card slot typically contains a chart data card, while the upper card slot can contain a user insertable SD card that can record flight data. **Photo2.jpeg** is a photo of the card slots as received. The bottom slot appeared unoccupied, while the top slot contained fragile brittle material. The fragile brittle material was removed with an xacto knife. **Photo 3.jpeg** is a photo of the extracted fragile, brittle material. It was undetermined if the fragile, brittle material was an SD card, or some other melted plastic matter. The fragile, brittle material did not appear to contain a silicon chip, or display the properties of potentially data recoverable material. No flight data was recovered.

Garmin G5, serial number unknown

The device arrived to the lab mounted in the aircraft's instrument panel. The device is shown in **Photo1.jpeg** which is annotated. The device contains a single microSD sized card slot at the bottom of the unit. When a card is inserted, it has the potential to record flight data. **Photo4.jpeg** is a photo of the unit's microSD card slot. The slot contained fragile, brittle material. The card slot was cut around successfully, and the entire card slot was removed from the device. The back of the unit was examined. There were no material consistent with a microSD card found behind the card slot. The back of the card slot is shown in **Photo5.jpeg** which was taken at the time of the examination. No data was recovered from the device.

Unknown Panel Mounted Electronic Device, serial number unknown

The device arrived to the lab mounted in the aircraft's instrument panel. The device is shown in **Photo1.jpeg** which is annotated. The device could not be identified conclusively. The device's remains were not considered a candidate for data recovery. No data was recovered from the device.

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