

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



ERA24LA100

FLIGHT DATA RECORDER

Specialist's Factual Report

October 14, 2025

TABLE OF CONTENTS

A. ACCIDENT.....	3
B. FLIGHT DATA RECORDER SPECIALIST	3
C. FEDERAL CARRIAGE REQUIREMENTS.....	3
D. DETAILS OF THE INVESTIGATION	3
1.0 RECORDER DESCRIPTION.....	3
1.1 Recorder Condition	4
1.2 Recording Description	4
1.3 Engineering Unit Conversions	4
1.4 Time Correlation	4
E. FIGURES AND TABULAR DATA.....	5
APPENDIX A. VERIFIED AND PROVIDED PARAMETERS	8

A. ACCIDENT

Location: Orlando, Florida
Date: January 28, 2024
Time: 1623 Eastern Standard Time (EST)
2123 Coordinated Universal Time (UTC)
Airplane: Honda HA-420, GC Aviation, N103JT

B. FLIGHT DATA RECORDER SPECIALIST

Specialist Michael Portman
Senior Aerospace Engineer – Recorder Specialist
National Transportation Safety Board (NTSB)

C. FEDERAL CARRIAGE REQUIREMENTS

The event aircraft, N103JT, was operating under Title 14 *Code of Federal Regulations* Part 135. The event aircraft was not required to be equipped with a flight data recorder (FDR).

D. DETAILS OF THE INVESTIGATION

A FDR group was not convened. The NTSB Vehicle Recorder Division received the following cockpit voice and data recorder (CVDR):

Recorder Manufacturer/Model:	Universal Avionics CVFDR
Part Number:	1065-01-00
Recorder Serial Number:	2051

1.0 Recorder Description

The Universal Avionics CVFDR with recorder independent power supply (RIPS) is a dual function recorder providing both FDR and cockpit voice recorder (CVR) functions with an integrated RIPS. The FDR function records airplane flight information in a digital format using solid-state flash memory as the recording medium. The Universal Avionics CVFDR can receive data in the ARINC 573/717/747 configurations and can record a minimum of 25 hours of flight data. It is configured to record 512 12-bit words of digital information every second. Each grouping of 512 words (each second) is called a subframe. Each subframe has a unique 12-bit synchronization (sync) word identifying it as subframe 1, 2, 3, or 4. The sync word is the first word in each subframe. The data stream is in sync when successive sync words appear at proper 512-word intervals. Each data parameter (for example,

altitude, heading, airspeed) has a specifically assigned word number within the subframe. The CVFDR is designed to meet the crash-survivability requirements of TSO-C123b and TSO-C124b. For the rest of this report, the CVFDR will be referred to as an FDR.

1.1 Recorder Condition

The recorder was in good condition, and the data were extracted normally from the recorder.

1.2 Recording Description

The FDR recording contained approximately 141 hours of data. Timing of the FDR data is measured in subframe reference number (SRN), where each SRN equals one elapsed second. The event flight was the last flight of the recording, and its duration was approximately 1 hour and 59 minutes.

1.3 Engineering Unit Conversions

The engineering unit conversions used for the data contained in this report are based on documentation from the aircraft manufacturer. Where applicable, the conversions have been changed to ensure that the parameters conform to the NTSB's standard sign convention that climbing right turns are positive (CRT=+).¹

In appendix A, table 1 lists the FDR parameters verified and provided in this report. Additionally in appendix A, table 2 describes the unit and discrete state abbreviations used in this report.

1.4 Time Correlation

Correlation of the FDR data from SRN to the event local time, EST, was established by using the recorded UTC Hours, UTC Minutes, and UTC Seconds and then applying an additional 5 hours offset to change UTC to EST.

Accordingly, the time offset for the event flight data from SRN to EST is the following: $EST = SRN - 446,117$. Therefore, for the rest of this report, all times are referenced as EST, not SRN.

¹ CRT=+ means that for any parameter recorded that indicates a climb or a right turn, the sign for that value is positive. Also, for any parameter recorded that indicates an action or deflection, if it induces a climb or right turn, the value is positive. Examples: Right Roll = +, Left Aileron Trailing Edge Down = -, Right Aileron Trailing Edge Up = +, Pitch Up = +, Elevator Trailing Edge Up = +, Right Rudder = +.

E. FIGURES AND TABULAR DATA

Figures 1 and 2 contain FDR data recorded during the event on January 28, 2024. All the parameters listed in table 1 are plotted except UTC Hours, UTC Minutes, UTC Seconds, Latitude, and Longitude.

Figure 1 shows a plot of basic parameters during the event landing, and figure 2 shows a plot of additional parameters during the event landing.

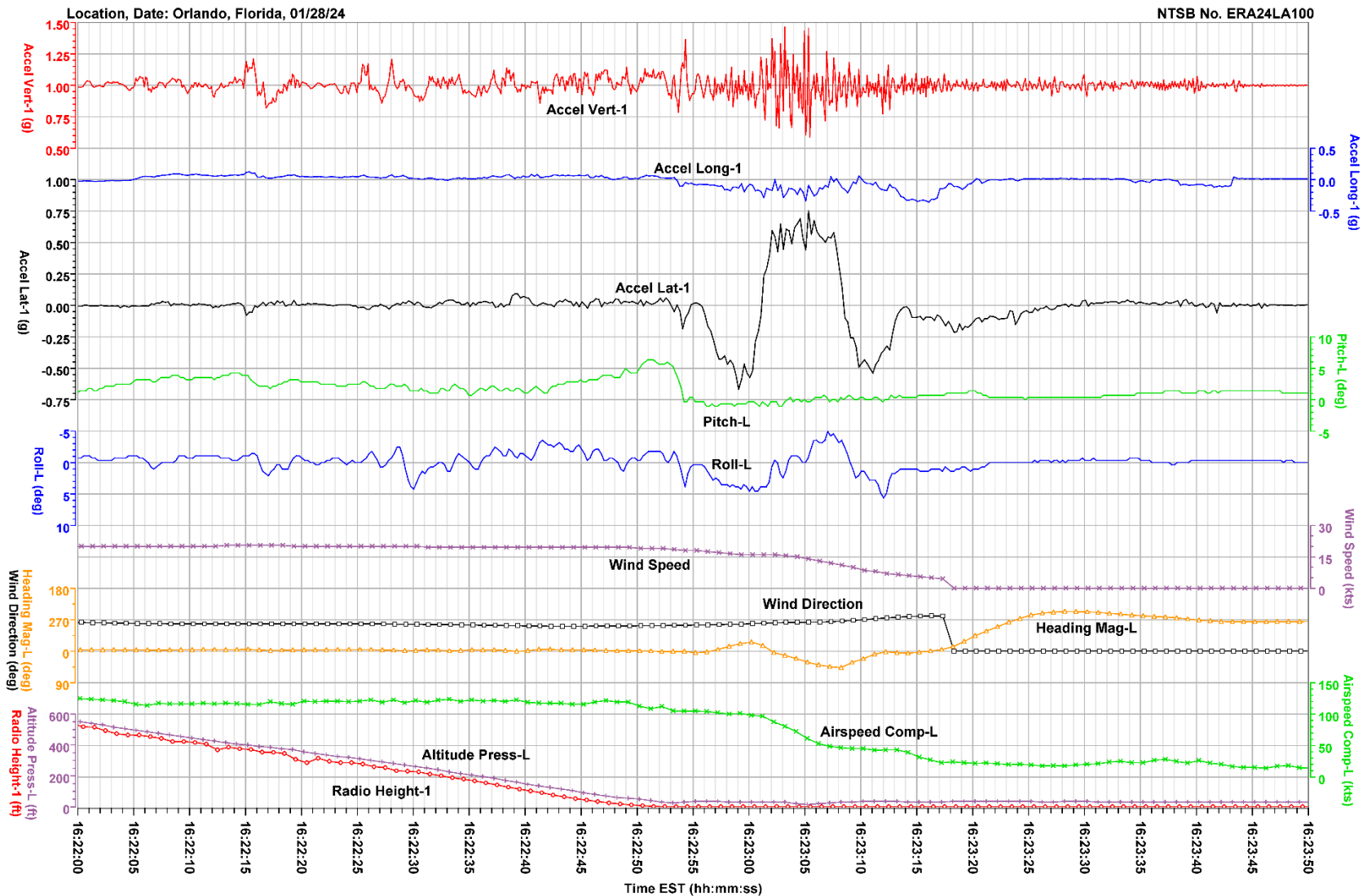
These figures are configured such that right turns are indicated by the trace moving toward the bottom of the page, left turns towards the top of the page, and nose up attitudes towards the top of the page.

In summary, the takeoff, cruise, and descent portions of the flight were uneventful. The autopilot and yaw dampener were disengaged at 16:22:34. The aircraft touched down at approximately 16:22:54 at an airspeed 105 knots (kts). Recorded winds at this time were from 286 degrees true at 19 kts. Significant lateral acceleration deviations began at 16:22:57 as the aircraft turned left, then right, then left again, throughout the remainder of the rollout sequence. The aircraft stopped at approximately 16:23:43, and the recording ended at 16:24:43.

The corresponding tabular data used to create figures 1 and 2, including UTC Hours, UTC Minutes, UTC Seconds, Latitude, and Longitude, for the entire flight, are provided in electronic comma-separated value (CSV) format as attachment 1 to this report.

Submitted by:

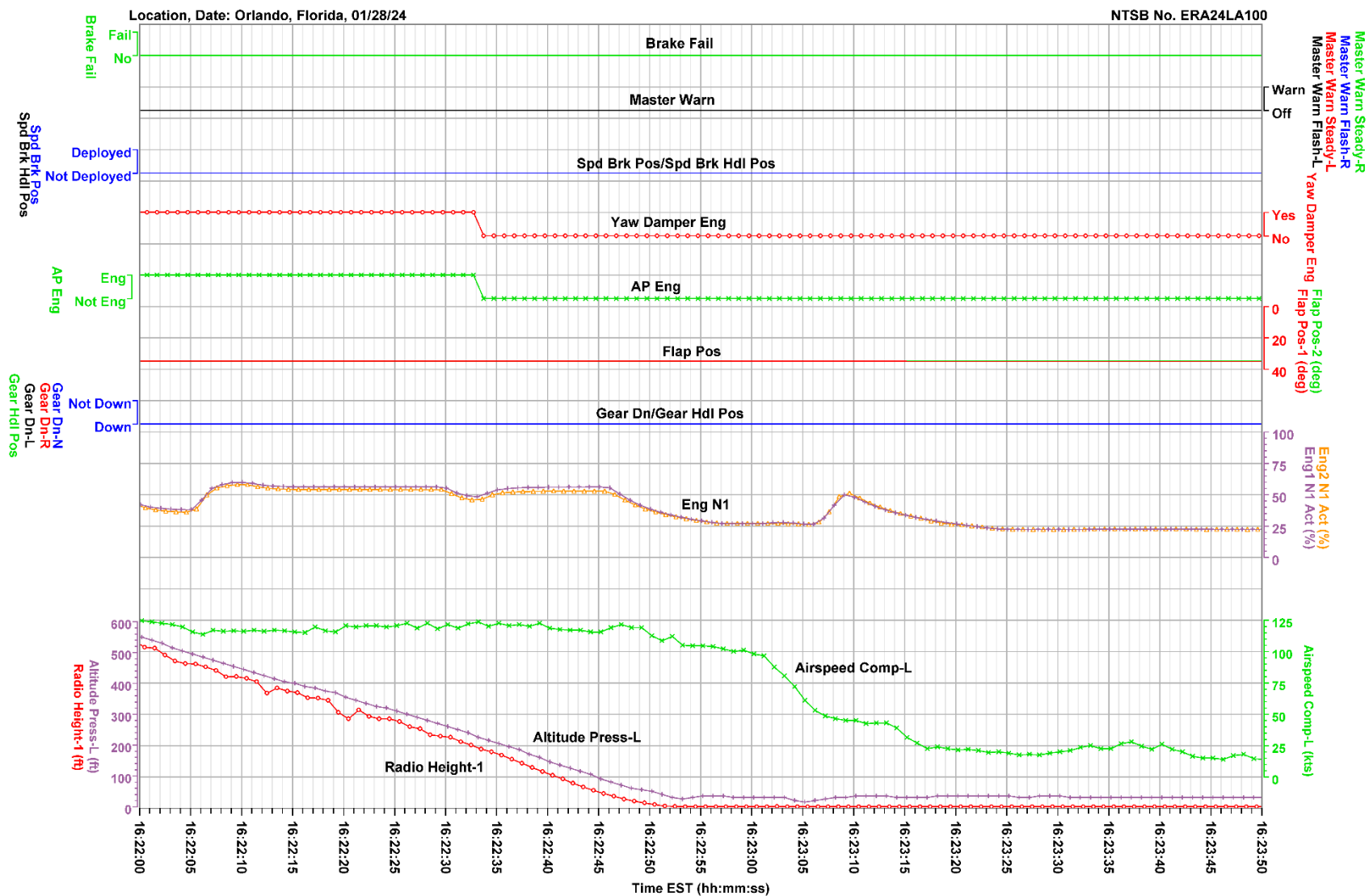
Michael Portman
Sr. Aerospace Engineer – Recorder Specialist



GC Aviation, Honda HA-420, N103JT

National Transportation Safety Board

Figure 1. Plot of basic parameters during the event landing.



GC Aviation, Honda HA-420, N103JT

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Figure 2. Plot of additional parameters during the event landing.

APPENDIX A. VERIFIED AND PROVIDED PARAMETERS

This appendix describes the parameters provided and verified in this report. Table 1 lists the plot/table labels, parameter names, and units. Additionally, table 2 describes the unit and discrete state abbreviations used in this report.

Table 1. Verified and provided FDR parameters.

Plot/Table Labels	Parameter Names	Units
Accel Lat-1	Lateral Load Factor - 1	g
Accel Long-1	Longitudinal Load Factor - 1	g
Accel Vert-1	Vertical Load Factor - 1	g
Airspeed Comp-L	Computed Airspeed - Left	kts
Altitude Press-L	Pressure Altitude - Left	ft
AP Eng	Autopilot Engaged	
Brake Fail	Brake Fail	
Eng1 N1 Act	Engine 1 Fan Speed Actual	%
Eng2 N1 Act	Engine 2 Fan Speed Actual	%
Flap Pos-1	Flap Surface Position - Left	deg
Flap Pos-2	Flap Surface Position - Right	deg
Gear Dn-L	Left Landing Gear Down	
Gear Dn-N	Nose Landing Gear Down	
Gear Dn-R	Right Landing Gear Down	
Gear Hdl Pos	Gear Handle Position	
Heading Mag-L	Magnetic Heading - Left	deg
Latitude GPS 1	GPS Latitude Coordinate - 1	deg
Longitude GPS 1	GPS Longitude Coordinate - 1	deg
Master Warn Flash-L	Master Warning Flashing - Left	
Master Warn Flash-R	Master Warning Flashing - Right	
Master Warn Steady-L	Master Warning Steady - Left	
Master Warn Steady-R	Master Warning Steady - Right	
Pitch-L	Pitch Angle - Left	deg
Radio Height-1	Radio Height - 1	ft
Roll-L	Roll Angle - Left	deg
Spd Brk Hdl Pos	Speed Brake Handle Position	
Spd Brk Pos	Speed Brake Position	
Time UTC-Hr	Coordinated Universal Time Hour	hrs
Time UTC-Min	Coordinated Universal Time Minutes	min
Time UTC-Sec	Coordinated Universal Time Seconds	sec
Wind Direction	Wind Direction	deg
Wind Speed	Wind Speed	kts
Yaw Damper Eng	Yaw Damper Engaged	

Note: This FDR records pressure altitude, which is based on a standard altimeter setting of 29.92 inches of mercury (in Hg). The pressure altitude information presented in the FDR plots and in the electronic data has not been corrected for the local altimeter setting at the time of the event.

Note: Parameters with a blank unit description in table 1 are discretes. A discrete is typically a 1-bit parameter that is either a 0 state or a 1 state where each state is uniquely defined for each parameter.

Table 2. Unit and discrete state abbreviations.

Unit and Discrete State Abbreviations	Descriptions
%	percent
deg	degrees

Unit and Discrete State Abbreviations	Descriptions
Eng	Engaged
ft	feet
g	unit of gravitation acceleration
hrs	hours
kts	knots
min	minutes
sec	seconds