

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering

Washington, D.C.

May 30, 2000

Flight Data Recorder and Cockpit Voice Recorder Overlay Study

A. ACCIDENT DCA00MA006

Location: About 60 miles south of Nantucket, Massachusetts
Date: October 31, 1999
Time: About 0150 EST
Aircraft: EgyptAir Flight 990, a Boeing B-767-300ER, SU-GAP

B. GROUP IDENTIFICATION

No group was formed for this activity.

C. SUMMARY

About 0150 eastern standard time (EST), on October 31, 1999, a Boeing 767-366ER, SU-GAP, operated by EgyptAir, as flight 990, crashed into the Atlantic Ocean about 60 miles south of Nantucket, MA. EgyptAir flight 990 was being operated under the provisions of Egyptian Civil Aviation Regulations Part 121 and United States Title 14 Code of Federal Regulations Part 129 as a scheduled, international flight from John F. Kennedy Airport (JFK), New York, New York to Cairo International Airport in Cairo, Egypt. The flight departed JFK about 0122 EST, with 4 flightcrew members, 10 flight attendants, and 203 passengers on board. There were no survivors. The airplane was destroyed by impact forces. Floating debris from the aircraft was recovered on the morning of October 31, 1999.


D. DETAILS OF INVESTIGATION

As detailed in the Aircraft Performance Study and Group Chairman Factual Report – Flight Data Recorder, the recorded radar returns, Cockpit Voice Recorder (CVR) transcript (English version), and Flight Data Recorder (FDR) data were combined onto several plots. Similar plots are presented in the Aircraft Performance Study. The plots in the Aircraft Performance Study and in this study differ in the parameters plotted and plot format.

The time base for the plots was based on information supplied by the Aircraft Performance Group Chairman. The time of each subframe of accident flight FDR data were adjusted to local time (Eastern Standard Time) by correlation of Mode C altitude radar data

returns recorded by the Nantucket Airport Surveillance Radar (ASR-9). Subsequently, each second of FDR data were correlated to the CVR transcript by use of microphone keying, as recorded by the FDR (VHF Microphone Keying parameters – VHF1, VHF2, and VHF3) and CVR. Once correlated through each data set, the adjusted Local Time was used for all the accident flight data and is indicated on all overlay plots.

Overlay plots of selected FDR parameters for approximately the final minute of recorded accident flight data, from 1:49:40 EST to 1:50:35:98 EST, are included in Attachments I-1 to I-5. The same selected FDR parameters found in Attachment I-1 are contained in Attachments II-1 and II-2 but the with the time range from 1:47:40 EST to 1:49:40 EST.


Tom Jacky
Aerospace Engineer

Enclosures:

- Attachments I (pp. 3-5): Selected FDR Data in Graphical Format for the Last Minute of Accident Flight Data (from 1:49:40 EST to 1:50:35.98 EST)
- Attachments II (pp. 6-7): Same Selected FDR Data as Attachment I-1 but with graphed from 1:47:40 EST to 1:49:40 EST