

Final Summary Report for the MDC-3110

AIR 13-03

TEARDOWN DATE: July 29 2013
TEARDOWN LOCATION: Rockwell Collins Cedar Rapids , IA 52498

AIRLINE CUSTOMER: The Vein Guys (owned by Pavilion Group LLC)
DATE OF INCIDENT: 20 Feb. 2013
INCIDENT LOCATION: Thomson-McDuffie County Airport, GA
AIRCRAFT TYPE / TAIL: Beechcraft Premier 1A / N777VG

DESCRIPTION / PART# / SERIAL#:
Rockwell Collins MDC 3110 CPN:822-1987-005 / SN: 1YLCF

REPORTED PROBLEM: A Beechcraft Premier IA corporate jet, registered N777VG, was destroyed in a landing accident at Thomson-McDuffie County Airport, GA, USA. The airplane departed Nashville-John C. Tune Airport, TN about 18:25 CST on a flight to Thomson-McDuffie County Airport, GA. Preliminary reports indicate, that the pilot aborted the landing on runway 10. The plane went airborne off the end of the runway but hit the top of a 60-foot-tall cast-concrete utility pole. The impact sheared the left wing from the plane, causing the aircraft to catch fire. It continued airborne for about a quarter mile through trees before crashing into a wooded area and caught fire.

IFF Reported to (Authority) FAA

Test Date: July 29, 2013
Rockwell Collins Representatives present
RC Cognizant Engineer: Eric I. Knoll
RC Quality Assurance: Greg S. Allen
RC Test Technician: William S. Jones (Steve)
RC Project Certification: Robert W. Haug (Wayne)

Authorities outside Rockwell Collins present

NTSB:-Senior Air Safety Investigator Ralph Hicks
Beechcraft - Senior Air Safety Investigator: Earnest Hall

PURPOSE:

The purpose of this document is to provide a summary report of the investigation conducted at Rockwell Collins on the MDC -3110 maintenance computer referenced above.

OVERVIEW:

The Maintenance Diagnostic Computer MDC-3110, Rockwell Collins part number 822-1987-005 with SN: 1YLCF was received by Rockwell Collins. The MDC was inspected, the MDC's history data downloaded and finally tested. The fault history data and data downloaded were analyzed. After testing the MDC covers were installed and the MDC was reloaded with the same memory data image that it was received with. The unit was returned.

ASSESSMENT:

The MDC did not show any damage externally or internally from the incident.

The MDC external power inputs measured normal. An image of the MDC's memory was captured using JTAG. After taking the memory image the unit powered up on the MDC development rig running a premier aircraft simulation and the aircraft history data was downloaded to disk. The MDC-3110 was tested using the PTR test for the unit and the MDC passed its functional tests.

An evaluation of the MDC-3110 history data showed that the only faults recorded in the final leg were informational items indicating that the subscription to the FSU XM weather and FSU Charts database were not current. The MDC has some internal debug data that records the MDC functional mode being used by an operator. The debug log indicated the MDC had been in a checklist mode for the final 5 minutes and 37 seconds and the MDC last recorded debug data event occurred at 01:06:27 Greenwich time which would have been when the power to MDC was lost.

Though the MDC-3110 displayed no visible damage and passed the PTR testing that was performed, Rockwell Collins general policy does not recommend or guarantee future use of any unit that may have been subject to unknown variables possibly exceeding specification limits. Many unforeseen issues may have developed through the course of an incident in this nature. Therefore, since the g levels experienced by the equipment may have exceeded the our spec limits, we cannot guarantee the continued performance of the MDC-3110 LRU due to possible latent failures of components with the MDC-3110 that may have experienced excessive g levels.

Examples of latent failures could be cracked internal bonding leads within larger mass components such as crystal filters, transformers, and filter inductors. A full teardown of the unit and inspection under a microscope would not reveal any internal to component latent damage and in turn the unit would not be flight worthy afterwards. There are no other developed means to physically or electrically test for such latencies. Given the history at hand, Rockwell Collins cannot recommend or guarantee product for future use. Recommendation would be to scrap the unit in question.