

October 18, 2002

Docket Management System
U.S. Department of Transportation Dockets
Room Plaza 401
400 Seventh Street SW
Washington, D.C. 20590-0001

Subject: FAR 121-344, Appendix M Resolution Deviation Notification

References: Document FAA-2001-9818-2, from Gerald R. Mack,
Boeing Commercial Airplanes dated January 9, 2001

Dear Sir/Madam:

Summary

The purpose of this letter is to advise the Federal Aviation Administration of recently discovered flight data recorder system parameters that do not meet the resolution requirements specified in Appendix M of FAR 121.344. On behalf of operators of Boeing airplanes, this letter also seeks relief for the noted parameter resolutions on Boeing 737, 747 and 777 airplanes as provided within Paragraph 3. (b) of Special Federal Aviation Regulation 89, dated 17 August 2001.

Background

During development of the flight data recording system on the 777, Boeing analysis of the resolution of the control column force measurement indicated an exceedance of the FAR 121.344, Appendix M resolution requirement for Parameter 88. This installation meets the requirements of FAR 25.1459.

In addition, testing during the development of the flight data recorder system 88 parameter data frames on production 747-400 airplanes revealed discrepancies with some digital parameters not previously identified in the referenced letter. After an expanded review, non-compliance items were found on Boeing model 737, 747 and 777 airplanes.

Analysis

Boeing conducted a thorough review of analog and digital parameters on all Boeing airplanes, both those in production and those dataframes offered for retrofit on airplane models no longer in production. A detailed listing of the non-compliant parameters are provided in the attachment to this letter.

Included in the attachment to this letter are the results of our analysis that compares the recorded resolution to the FAR 121.344, Appendix M requirement. For parameters on non-production dataframes, the specific FAR 121.344 retrofit requirement and the Boeing dataframe identifier are provided.

In accordance with SFAR 89 paragraph 3 (b), and on behalf of operators of Boeing airplanes, we are submitting this list of additional flight data recorder system parameters for temporary relief from FAR 121.344 resolution requirements. Because we believe that the parameter resolution non-compliance items outlined in the attachment are neither large enough to result in appreciable change in airplane motion, nor do they have a meaningful effect on the overall analysis of an accident, we request the FAA to evaluate these items for permanent relief.

Required Changes

Changes required to the eleven parameters to meet the Appendix M resolution requirements would require redesigned components, changes to existing dataframes and new sensor installations. We estimate that these changes to the possibly affected 1187 737 airplanes, 550 747 airplanes, and 415 777 airplanes could result in a total cost of approximately \$59 million. Boeing also estimates that redesign of the existing systems would require from to nine months to one year, with retrofit on affected airplanes requiring an additional one to two years.

Sincerely,

Chet Ekstrand
Vice President, Regulatory Affairs
Commercial Aviation Services

cc: Mr. Howard Swancy
Mr. Gary Davis

Attachment I – FAR 121.344, Appendix M Resolution Deviations



FAR121-344
Resolution Notificatio