Air Transport Association

September 21, 2001

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

Subject: Docket No. FAA-2001-10428, re: **SFAR No. 89 - Digital Flight Data Recorder Resolution Requirements**; Final Rule, 66 Fed. Reg., Vol. 163, August 22, 2001

Ladies/Gentlemen:

FAA published Special Federal Aviation Regulation (SFAR) No. 89 to provide relief, until August 18, 2003, from resolution requirements of Amendment Nos. 121-266, 125-30, 129-27, 135-69, the "'97 Flight Data Recorder Rule". The relief is applicable to a limited number of parameters in B717, B757, and B767 airplanes, and to other parameters in certain other airplanes. The SFAR was adopted without prior public comment, and FAA solicited comments upon its issuance.

Member airlines of the Air Transport Association[1/] provided the attached comments to the proposal. Operators sincerely appreciate FAA's rapid action in adopting SFAR 89 when the manufacturer indicated that the resolutions of certain flight data recorder (FDR) parameters may not meet current requirements. The action allows continued operations of the affected airplanes with their existent recording capabilities until a final resolution of the issue is accomplished, and should have no adverse effect on the safety of the traveling public.

We strongly recommend that FAA provide permanent relaxation of the resolution requirements for those parameters in B-717, B-757, and B-767 airplanes that are provided temporary relief under SFAR 89. The permanent resolution requirements for the affected parameters should be those proposed by the original equipment manufacturer in Boeing letter to Docket No. FAA-2001-9818, dated May 22, 2001. The intention of this recommendation to amend FAR Part 121.344, Appendix M, and Part 125.226, Appendix E, is to preclude any need to modify affected in-service airplanes to meet the current resolution requirements of Appendices M and E.

1/ ATA's members are Airborne Express, Alaska Airlines, Aloha Airlines, America West Airlines, American Airlines, American Trans Air, Continental Airlines, Delta Air Lines, DHL Airways, Emery Worldwide, Evergreen International Airlines, FedEx Corporation, Hawaiian Airlines, Midwest Express Airlines, Northwest Airlines, Polar Air Cargo, Southwest Airlines, United Airlines, United Parcel Service and US Airways. Our associate members are Aeromexico, Air Canada, KLM Royal Dutch Airlines, and Mexicana.

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We believe that permanent relaxation of the resolution requirements is justified. Operators have expended considerable resources, and just completed efforts, to upgrade their flight data recorder (FDR) systems with additional parameters before the ambitious compliance deadline for FAR 121.344; August 18, 2001. Two months before the deadline, operators learned of minor deviations of a limited number of parameters from their respective resolution requirements. We believe that the impact of additional modifications to correct these minor deviations cannot be justified because such action would not provide any gain in meeting the intended purpose of FDR systems.

On August 24, 1999, FAA adopted Amendment Nos. 121-217 and 125-32, which permanently relaxed the resolution requirements for thirteen parameters in certain Airbus airplanes. The parameters affected by the amendment included the five parameters for which permanent relaxation is now also recommended for B-757 and B-767 airplanes. In adopting the amendments for Airbus products, we believe that a precedent has been set with respect to resolutions that are acceptable to meet the intended purpose of certain FDR parameters in large transport category airplanes. Data available in Boeing letter to Docket No. FAA-2001-9818, and detailed in an attached table, indicates that the existing resolutions of the applicable parameters in B-757 and B-767 airplanes are comparable to, and in many cases, far superior to, those required under Amendment 121-217. When expressed as a percentage of full travel, the existing resolutions of the five parameters in B-757 and B-767 airplanes range from "equal to", to "*five times better than*" those required by Amendment 121-217 for A330 and A340 airplanes. When expressed in degrees of full travel, they range from "equal to", to "*seven times better*".

Compared to the requirements of Amendment 121-217 for other Airbus models, the resolutions of each of the five parameters in B-757 and B-767 airplanes, except for parameter A 23, are, when expressed in degrees, equal to or slightly better than those required under Amendment 121-217. When expressed as a percentage of full travel, all but one (A 19 in B-767 models) fall slightly short of the requirements applicable to the other Airbus models, but none by more 2.25 tenths of one percent of the full range of travel. In fact, the deviations are most conveniently expressed in terms of tenths or hundredths of a degree, or of a percent of full travel. As was the case with Amendment 121-217, and as FAA stated in the preamble to that amendment, the recommended deviations from current resolution requirements are "slight", and "…will not adversely affect the safety of the aircraft, hinder the investigation of accidents or incidents by the NTSB, nor compromise the intent of the DFDR rules."

One of the parameters recommended for a relaxed resolution requirement (A5; Vertical Acceleration in B-717 airplanes) was not affected by Amendment 121-217. However, the same set of circumstances applies doubly. Its deviation from current requirements, six ten-thousandths of a G, would not compromise the intent of the DFDR rules, and does not warrant correction.

The manufacturer has no approved service instructions for bringing into compliance the resolution of the applicable parameters in B-717, B-757 or B-767 airplanes. Consequently, current estimates of the cost and schedule impact of such modifications are highly preliminary. The manufacturer has indicated that the modifications would require, depending on the parameter, two or three years to design and implement, and would cost $15,000 or $25,000 per parameter, per airplane. We believe that expenditures of this order of magnitude cannot be justified because they would yield no advantage in meeting the intended purpose of FDRs.

We appreciate the opportunity to contribute comments to this proposed rulemaking and thank you for your consideration of these views.

Sincerely,

Joe White
Director, Aircraft Systems Engineering

Cc: Gary Davis, AFS-200, fax 202-267-9225
AEC

Attachments

/01Aem091

From: JEFF.BECKER [via e-mail]
Sent: Friday, September 07, 2001 3:07 PM
To: White, Joe
Subject: FW:ATA Comments - SFAR 89

Here is our comments regarding the SFAR. Regards

----------(Forwarded letter 1 follows)----------
Date: Friday, 7 September 2001 14:18 ET
To: JEFF.BECKER
Cc: *
From: BOB.BARNETT
Subject: ATA Comments - SFAR 89

ABX would like to see an amendment to FAR Parts 121 granting permanent relief from the '97 Rule resolution requirements for all the parameter cited in the Boeing petition. The value gained from the resolution increases required by FAR 121.344 Appendix M (for those parameters that today do not meet the requirement) would be costly and of minimal benefit to the FAA and NTSB.

Redesign of existing parameters that presently do not meet the resolution would cost all operators additional funds for very minute resolution gains. The basic purpose of the DFDR is to collect data on what the aircraft is doing and what inputs the pilot makes to prevent incidents or accidents. This can and is happening today very efficiently. This information is presently sufficient for all incident or accident investigation known today.

The restructuring of the 767-4 data frame digital signal for the Digital Flight Data Acquisition Unit (DFDAU) on some of the parameters would then affect other parameters that currently do not have a problem. The mandatory parameter software (for the DFDAU) along with all test equipment and DFDR readout software would all have to be modified and tested at an additional cost to the airline. Airbus was provided similar relief because of the limitation of the existing equipment installed on their aircraft.

Because of the cost (approximated to be #30 - 40K per aircraft for a Boeing Service Bulletin) associated with modifying the aircraft, DFDAU software, test equipment and DFDR readout equipment and such minute resolution gains, ABX believes that all parameters should be permanently relieved.

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From: Jessica Russell [via e-mail]

Sent: Friday, September 14, 2001 5:41 PM
To: White, Joe
Cc: Ashley Oxton; Barbara Taylor; Dennis Zvacek; Janice Tedford; Jessica Russell; Lester Wagner; Lisa Gibbs; Maurice Ingle; Mike Keller; Pat Hawley; Ray E Morgan; Regulatory Affairs; Rick Hardmeyer; Rick Yorman; William Bartelt

Subject: AE Memo No. 2001-091

September 14, 2001

Attn: Joe White - jwhite@air-transport.org

Subject: SFAR No. 89, Digital Flight Data Recorder Resolution Requirements - Request for Comments

Reference: AE2001-086

Subject of Memo:

American Airlines' response to paragraph 3.d. of SFAR No. 89 has been drafted and is being routed for signatures and distribution. American will only be affected by parameter 16 (Lateral Control Surface Position-Inboard Aileron). TWA LLC has submitted their response separately.

AAL agrees with Boeing's petition to revise Appendix M of FAR 121.344 to change the resolution requirement of parameter 16 from 0.086 to 0.087 degrees and not subject AAL to modify aircraft. Safety was apparently not degraded when Airbus requested and received relief that diminishes the resolution by four times the originally required value to 0.352 degrees.

Please call Maurice Ingle at 918-292-4309 if there are any questions concerning these comments.

Sincerely,

Mark Boes
Director
Aircraft Engineering

cc: D. Zvacek
M. Ingle
R. Yorman
M. Keller
R. E. Morgan
B. Taylor

J. Russell
A. Oxton
L. Gibbs
R. Hardmeyer
B. Bartelt
P. Hawley
Regulatory Affairs

Please confirm receipt of this memo.

Comparison of Original Appendix M and Amendment 121-217 Resolution Requirements, and Existing Boeing Resolutions

Applicable Boeing Models	B717	B757, B767	B757, B767	B757, B767	B757, B767	B767 (inboard aileron only)
Parameter	A5, Vertical Acceleration	A12 a&b, Control Column Position	A14 a&b, Rudder Pedal Position	A19, Stabilizer Position	A23, Spoiler/Speed-brake Handle Position	A16, Aileron Position
Original Appendix M Resolution Requirements:						
Percent of full range: (except where indicated otherwise)	0.004 G	0.2%	0.2%	0.3%	0.2%	0.2%
Requirements in degees:						
A300, A310					0.100	
A320 (series)		0.064	0.084			
A330, A340		0.064	0.120		0.100	0.100
All Airbus Models				0.051		
B717						
B757		0.044	0.060	0.046	0.156	
B767		0.039	0.060	0.043	0.156	0.086
Requirements per Amendment 121-217:						
Percent of full range:	NA	A320, 0.275% A330/340, 2.2%	A320, 0.21% A330/340, 1.18%	0.518% (All Models)	A300/310, 0.224% A330/340, 1.406%	A330/340, 0.704%
In degees:						
A300, A310					0.112	
A320 (series)		0.088	0.088			
A330, A340		0.703	0.703		0.703	0.352
All Airbus Models				0.088		
Proposed Requirements for Boeing Models:						
Percent of full range: (except where indicated otherwise)	0.00458 G	B757, 0.373% B767, 0.451%	B757, 0.239% B767, 0.293%	B757, 0.574% B767, 0.447%	B757, 0.451% B767, 0.451%	B767, 0.202%
Requirements in degrees:						
B717						
B757		0.082	0.088	0.088	0.352	
B767		0.088	0.088	0.064	0.352	0.087
Estimated Number of Affected Airplanes of US Registry (ATA Members)						
B717	29 (ie, all)					
B757		0	0	61	0	
B767		225	225	83	20	318 (ie, all)