

EASA Safety Information Bulletin

SIB No.:	2011-23R1
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Subject:	Koito Industries Seats – EASA Airworthiness Directive (AD) 2011-0098 – Compliance Information
Ref. Publications:	EASA <u>AD 2011-0098</u> dated 02 June 2011.
Applicability:	All aeroplanes, manufactured by Airbus, Boeing, Fokker Aircraft and McDonnell Douglas, as identified in EASA AD 2011-0098, if equipped with seats manufactured by Koito Industries.
Description:	This SIB proposes acceptable methods to use the similarity concept, as detailed in Note 2 and Note 3 of EASA AD 2011-0098, and specifies the use of the Alternative Method of Compliance (AMOC – EASA Form 42) procedure to obtain approval of certification programs and test plans, as required by paragraph (1.3) of the AD.
	The information contained within this SIB is for guidance only to facilitate compliance with the AD of reference; this SIB has no mandatory character and does not grant any rights or impose any obligations to the addresses of the aforesaid AD.
	This SIB revises EASA SIB 2011-23 dated 29 July 2011 to include corrections of typographical errors, to add new seat models and new clusters, to re-cluster some seats, and to identify the next less critical seat part number to be tested, when the critical seat part number tested has failed, or is no longer in-service. Some seat models are listed twice in Appendix 1 or 2 of this SIB, due to rearranging of the seat cluster, while some clusters may have multiple critical part numbers identified.
	This SIB is expected to be revised again when further information becomes available.

Recommendations:

1. Note 2 of EASA AD 2011-0098 states (quoted in part) that "It is not required to test all in-service seat part numbers. The use of similarity is acceptable to show that the results obtained from a chosen test article are valid for other seat part numbers".

In order to facilitate AD compliance the concept of "seat clusters" has been developed based on similarity of design/construction.

Each row of the tables shown in Appendix 1 and 2 of this SIB corresponds to a seat cluster that may include one or more Koito Industries seat models.

The most critical seat part number for each cluster has been identified. Successfully testing such part number will be sufficient to show that all seat part numbers in that cluster are in compliance with the relevant structural requirement of the AD.

- 2. Since November 2009, Koito Industries, under the oversight of the Japan Civil Aviation Board (JCAB), has performed a series of tests (both static and dynamic). The results of these tests are fully acceptable to EASA.
 - Note 1: All Koito testing to date has been conducted on newly manufactured test articles. While this is acceptable to demonstrate compliance to the AD static strength requirements, it is not currently acceptable for compliance to the AD dynamic strength requirements.
 - Note 2: Information on available test data has been incorporated into the seat cluster tables only to assist Operators in action planning to meet the requirements of the AD. Any commercial arrangements necessary to obtain such data are the responsibility of the Operators.
 - Note 3: After the effective date of AD 2011-0098 (01 August 2011), EASA has approved several AMOCs to the static and dynamic strength requirements included in paragraphs (3) and (4) of the AD. The AMOCs in question are applicable to Airbus and Boeing seat clusters. However, the tables shown in Appendices 1 and 2 of this SIB mention only acceptable test data available at Koito Industries.
- 3. The following further guidance is provided to ease the submittal of compliance plans to EASA.
 - 3.1 According to Note 2 included in AD-2011-0098, the date of manufacture is included in the list of items to be checked when testing in service seats. The intention is that the seat which is to be tested was manufactured at a date reasonably close to the manufacture date(s) of the seats installed on the associated aircraft. The submitted test plan should provide details in this regard of how the test seat has been selected.
 - 3.2 When using a new build seat test article, in lieu of an EASA Form 1, some other form of Koito documentation,

underwritten by JCAB, will be acceptable for release of the test article. Details of the documentation to be used should be included in the Test Plan.

- 3.3 In addition to passing a static strength test (as required by the AD), the following ways are acceptable for showing compliance to the static strength requirements of the AD:
 - i. Successful dynamic testing conducted on new build test articles, or
 - ii. Unsuccessful dynamic testing conducted on new build test articles or in-service seats, provided that the failure occurred in the seat track and must have occurred after the seat has demonstrated substantive load carrying capability.
- 3.4 Submittal of test plans and reports should be done via an application for an AMOC, using EASA Form 42. The AMOC can be approved according to the following procedure:
 - i. An application is submitted to EASA. The application must include the list of the affected aeroplane serial numbers and seat part numbers.
 - ii. A test plan is submitted to EASA.
 - iii. The test plan is approved by EASA.
 - iv. Test results are submitted to EASA.
 - v. Depending on the test results, the appropriate AD action and correction time are identified, together with the list of affected seat part numbers.
 - vi. The AMOC is approved.

The content of the present SIB can be referenced to omit steps (ii), (iii) and (iv) of the above procedure, provided that compliance can be shown by similarity in accordance with already tested clusters.

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Appendix 1 – Airbus Seat Clusters

A seat model marked with an asterisk (*) means that, according to currently available information, that seat model is no longer in service.

Seat Models	Critical Seat Part Number (P/N) for the Static Tests required by EASA AD 2011-0098	Critical Seat P/N for the Dynamic Test required by EASA AD 2011- 0098	An available Koito Dynamic/Static Test Report is acceptable to show compliance with the AD static strength requirements (ref. section 2 of the SIB)
ARS-451 (*)	83-178B5860-403	N/A	
ARS-507	83-214B6686-401	83-214B6686-401	
ARS-511	83-201B6764-401	83-201B6764-401	
ARS-514	83-178B7542-413	83-178B7542-413	
ARS-516	83-214B7086-401	83-214B7086-401	
ARS-571	83-227B7955-401	83-227B7955-401	
ARS-604	83222B8743-404	N/A	
ARS-617	83-240B10457-407 or 83-240B8865-407	83-240B10457-407 or 83-240B8865-407	
ARS-641	83247B10752-401	83247B10752-401	YES
ARS-642	83248B10761-405	83248B10761-405	
ARS-646 (*)	83250B10730-403	83250B10730-403	
ARS-658 and P22A23	83255B12061-401 From ARS-658	N/A	
ARS-659 and Y21A23	83256B12051-401 From ARS-659	N/A	
ARS-667	83257B11418-403	N/A	
ARS-670	83270B17113-401	83270B17113-401	
ARS-672, ARS- 643, ARS-643R, ARS-694, ARS- 707, ARS-837, ARS-647 and ARS-838	83262B12136-401 From ARS-672	83262B12136-401 From ARS-672	YES
ARS-697	83267B15046-401	N/A	
ARS-832	83274B16017-401	N/A	
ARS-836	83279B16586-411	83279B16586-411	
ARS-840	83284B17131-401	83284B17131-401	
F44A33	F4439A3S014-401	F4439A3S014-401	

Appendix 2 – Boeing Seat Clusters

A seat model marked with an asterisk (*) means that, according to currently available information, that seat model is no longer in service.

Seat Models	Critical Seat P/N for the Static Tests required by EASA AD 2011-0098	Critical Seat P/N for the Dynamic Test required by EASA AD 2011- 0098	An available Koito Dynamic/Static Test Report is acceptable to show compliance with the AD static strength requirements (ref. section 2 of the SIB)
ARS-311	145-2455-401F		
ARS-339	161-3325-401		YES
ARS-347	166-3624-401		
ARS-385 (*)	179-9828-401		
ARS-392	181-5029-405		YES
ARS-423, ARS-417 and ARS-446	161-5319-401 From ARS-423		YES
ARS-478 and ARS-418	83-178B6124-401 From ARS-478		
ARS-480	83204B10018-403		
ARS-482	83-206B5596-401		YES
ARS-483	83-193B6354-401		YES
ARS-514	83-178B7325-409		
ARS-550 and ARS-595		83-222B7451-403 From ARS-550	
ARS-553	83-223B7336-401		
ARS-577 and Y11B31	83-220B8711-437 From ARS-577		YES
ARS-591, ARS- 600, ARD-610, ARS-615, ARS- 620, ARS-626, ARS-636, ARS-673 and Y11B73	83-220B8306-401 From ARS-591	83-220B8306-401 From ARS-591	YES
ARS-644, ARS-596 and Y11B33	83236B10621A401 From ARS-644 or 83-220B8306-401 From ARS-591	83236B10621A401 From ARS-644	YES
ARS-592, ARS- 616, ARS-814, ARS-859 and Y27B73		83-220B8308-402 or 83-220B8308-412 From ARS-592	YES
ARS-597, ARS- 669, ARS-601 and ARS-629		83-237B8545A401 From ARS-597	YES
ARS-607	83-239B9071-403		YES

Appendix 2 – Boeing Seat Clusters

A seat model marked with an asterisk (*) means that, according to currently available information, that seat model is no longer in service.

Seat Models	Critical Seat P/N for the Static Tests required by EASA AD 2011-0098	Critical Seat P/N for the Dynamic Test required by EASA AD 2011- 0098	An available Koito Dynamic/Static Test Report is acceptable to show compliance with the AD static strength requirements (ref. section 2 of the SIB)
ARS-627 and ARS-594		83-227B9988-401 From ARS-627	YES
ARS-649	83251B10915-415		YES
ARS-652	83252B11112-401		YES
ARS-668		83258B11456A401	
ARS-657, ARS- 670, ARS-709, ARS-843 and F11M11		F1141B7C341-401 From ARS-670	YES
ARS-671 – Std Row	83261B11288-401		YES
ARS-674 - Std Row, ARS-649, ARS-651, ARS-815 and Y21B73		83264B12255-401 or 83264B15875-401 From ARS-674	YES
ARS-694 - Front Row		83289B20021-401	
ARS-694 - Std Row		83289B20019-401	
ARS-704	83258B12423-401 (or dynamic test on ARS-668)		
ARS-710 - Std Row		83269B15257-403 (or test ARS-674 with additional 11 pounds of ballast)	YES
ARS-813		83252B16199-401	
ARS-823 (*)		83273B15860-407	
ARS-831 (*)		83220B16151-401	
ARS-833 PB7-2001		83274B16049-403 From ARS-833	
ARS-835 and ARS-869	83283B16713-403 From ARS-835	83283B16713-403 From ARS-835	YES
ARS-841		83285B17224-401	
ARS-844		83290B17256-401	
ARS-849 and ARS-857		83296B18681-431 From ARS-849	YES

Appendix 2 – Boeing Seat Clusters

A seat model marked with an asterisk (*) means that, according to currently available information, that seat model is no longer in service.

Seat Models	Critical Seat P/N for the Static Tests required by EASA AD 2011-0098	Critical Seat P/N for the Dynamic Test required by EASA AD 2011- 0098	An available Koito Dynamic/Static Test Report is acceptable to show compliance with the AD static strength requirements (ref. section 2 of the SIB)
ARS-858		83296B19960-401 or 83296B19143-401	YES
ARS-861		83296B19310-407	
ARS-862		83294B19312-409	
P11B33, P11B31, ARS-832 and ARS-853		P1143B3J306-401 From P11B33	YES
P11M93		P1141M9J302-401	YES
P21B35 P21B33		P2141B3A405-401 with additional 8 pounds of ballast From P21B35	YES
P21B73		P2161B7A401-401	YES
P32B73		P3249B7J401-401	YES
P52B41, P56B63 and ARS-847	P5241B4A401-401 From P52B41	P5641B6A407-401 From P56B63	
Y15B73, ARS-671 - Front Row, ARS-674 - Front Row ARS-710 - Front Row		Y1551B7C341-401 From Y15B73	YES
YE1B35		YE157B3A407-401	YES
YG7B35		YG751B3A401-401	