



GUIDANCE FOR CABIN TRAINING DEVICES

ARINC REPORT 435-1

PUBLISHED: August 31, 2016

DISCLAIMER

THIS DOCUMENT IS BASED ON MATERIAL SUBMITTED BY VARIOUS PARTICIPANTS DURING THE DRAFTING PROCESS. NEITHER AEEC, AMC, FSEMC NOR SAE ITC HAS MADE ANY DETERMINATION WHETHER THESE MATERIALS COULD BE SUBJECT TO VALID CLAIMS OF PATENT, COPYRIGHT OR OTHER PROPRIETARY RIGHTS BY THIRD PARTIES, AND NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, IS MADE IN THIS REGARD.

ARINC INDUSTRY ACTIVITIES USES REASONABLE EFFORTS TO DEVELOP AND MAINTAIN THESE DOCUMENTS. HOWEVER, NO CERTIFICATION OR WARRANTY IS MADE AS TO THE TECHNICAL ACCURACY OR SUFFICIENCY OF THE DOCUMENTS, THE ADEQUACY, MERCHANTABILITY, FITNESS FOR INTENDED PURPOSE OR SAFETY OF ANY PRODUCTS, COMPONENTS, OR SYSTEMS DESIGNED, TESTED, RATED, INSTALLED OR OPERATED IN ACCORDANCE WITH ANY ASPECT OF THIS DOCUMENT OR THE ABSENCE OF RISK OR HAZARD ASSOCIATED WITH SUCH PRODUCTS, COMPONENTS, OR SYSTEMS. THE USER OF THIS DOCUMENT ACKNOWLEDGES THAT IT SHALL BE SOLELY RESPONSIBLE FOR ANY LOSS, CLAIM OR DAMAGE THAT IT MAY INCUR IN CONNECTION WITH ITS USE OF OR RELIANCE ON THIS DOCUMENT, AND SHALL HOLD AEEC, AMC, FSEMC, SAE ITC, AND ANY PARTY THAT PARTICIPATED IN THE DRAFTING OF THE DOCUMENT HARMLESS AGAINST ANY CLAIM ARISING FROM ITS USE OF THE STANDARD.

THE USE IN THIS DOCUMENT OF ANY TERM, SUCH AS SHALL OR MUST, IS NOT INTENDED TO AFFECT THE STATUS OF THIS DOCUMENT AS A VOLUNTARY STANDARD OR IN ANY WAY TO MODIFY THE ABOVE DISCLAIMER. NOTHING HEREIN SHALL BE DEEMED TO REQUIRE ANY PROVIDER OF EQUIPMENT TO INCORPORATE ANY ELEMENT OF THIS STANDARD IN ITS PRODUCT. HOWEVER, VENDORS WHICH REPRESENT THAT THEIR PRODUCTS ARE COMPLIANT WITH THIS STANDARD SHALL BE DEEMED ALSO TO HAVE REPRESENTED THAT THEIR PRODUCTS CONTAIN OR CONFORM TO THE FEATURES THAT ARE DESCRIBED AS MUST OR SHALL IN THE STANDARD.

ANY USE OF OR RELIANCE ON THIS DOCUMENT SHALL CONSTITUTE AN ACCEPTANCE THEREOF "AS IS" AND BE SUBJECT TO THIS DISCLAIMER.

ARINC REPORT 435-1
GUIDANCE FOR CABIN TRAINING DEVICES

Published: August 31, 2016

Prepared by the Flight Simulator Engineering and Maintenance Conference (FSEMC)
Adopted by the FSEMC Steering Committee

Report 435	Adoption Date March 5, 2004	Published Date June 21, 2004
Report 435-1	Supplements to this ARINC Standard July 19, 2016	August 31, 2016

A summary of the changes introduced by each supplement is included at the end of this document.

[This is a preview. Click here to purchase the full publication.](#)

FOREWORD

The FSEMC, SAE ITC, and ARINC Standards

ARINC Industry Activities, an SAE ITC program, organizes aviation industry committees and participates in related industry activities that benefit aviation at large by providing technical leadership and guidance. These activities directly support aviation industry goals: promote safety, efficiency, regularity, and cost-effectiveness in aircraft operations.

ARINC Industry Activities organizes and provides the secretariat for international aviation organizations (AEEC, AMC, FSEMC) which coordinate the work of aviation industry technical professionals and lead the development of technical standards for airborne electronic equipment, aircraft maintenance equipment and practices, and flight simulator equipment used in commercial, military, and business aviation. The AEEC, AMC, and FSEMC develop consensus-based, voluntary standards that are published by SAE ITC and are known as ARINC Standards. The use of ARINC Standards results in substantial technical and economic benefit to the aviation industry.

There are three classes of ARINC Standards:

- a) ARINC Characteristics – Define the form, fit, function, and interfaces of avionics and other airline electronic equipment. ARINC Characteristics indicate to prospective manufacturers of airline electronic equipment the considered and coordinated opinion of the airline technical community concerning the requisites of new equipment including standardized physical and electrical characteristics to foster interchangeability and competition.
- b) ARINC Specifications – Are principally used to define either the physical packaging or mounting of avionics equipment, data communication standards, or a high-level computer language.
- c) ARINC Reports – Provide guidelines or general information found by the airlines to be good practices, often related to avionics maintenance and support.

The release of an ARINC Standard does not obligate any organization to purchase equipment so described, nor does it establish or indicate recognition or the existence of an operational requirement for such equipment, nor does it constitute endorsement of any manufacturer's product designed or built to meet the ARINC Standard.

In order to facilitate the continuous product improvement of this ARINC Standard, two items are included in the back of this document:

An Errata Report solicits any corrections to existing text or diagrams that may be included in a future Supplement to this ARINC Standard.

An ARINC IA Project Initiation/Modification (APIM) form solicits any proposals for the addition of technical material to this ARINC Standard.

ARINC REPORT 435
TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	Purpose.....	1
1.2	Related Documents.....	1
2.0	DESIGN CONSIDERATIONS.....	2
2.1	Introduction	2
2.2	Construction Standards.....	2
2.2.1	Structural Strength.....	2
2.2.2	Dimensions.....	2
2.3	Software Requirements.....	2
2.4	Service Life	3
2.5	Maintainability	3
2.6	Reliability.....	4
2.7	Safety Consideration	4
2.7.1	Environmental.....	4
2.8	Diagnostic	4
2.9	Daily Readiness	5
2.10	Start and Shut Down	5
2.11	Trainer Reload Time.....	5
2.12	Integration	5
3.0	DOCUMENTATION.....	6
3.1	General	6
3.2	Compliance	6
4.0	DATA PACKAGE	7
4.1	General	7
4.2	Relevant System Data Package.....	7
5.0	DOOR/EXIT TRAINING DEVICES DESCRIPTION	8
5.1	Introduction	8
5.2	Exit Trainers.....	8
5.2.1	Main Cabin Doors.....	8
5.2.2	Part Task Main Cabin Door Trainer	8
5.2.3	Cabin Window Exit.....	8
5.2.4	Other Emergency Exits.....	9
5.3	Interior Door Trainers	9
5.3.1	Flight Deck Door Trainer.....	9
5.3.2	Maintenance and Cargo Doors	9
5.4	Exit Force Measurements.....	9
6.0	CABIN TRAINERS DEVICES DEFINITIONS	11
6.1	Introduction	11
6.2	Galley Trainer.....	11
6.2.1	Galley Trainer – Generic.....	12
6.2.2	Galley Trainer – Aircraft Type Specific.....	12
6.3	Cabin Service Trainer.....	12
6.3.1	Cabin Service Trainer – Generic.....	12
6.3.2	Cabin Service Trainer – Aircraft Type Specific.....	13
6.4	Fire and Smoke Trainers	13
6.4.1	Fire Trainer – Real Fire – Generic Environment.....	13
6.4.2	Fire Trainer – Real Fire – Aircraft Specific Environment	13
6.4.3	Fire Trainer – Simulated Fire – Generic Environment	13
6.4.4	Fire Trainer – Simulated Fire – Aircraft Specific Environment	14

**ARINC REPORT 435
TABLE OF CONTENTS**

6.4.5	Smoke Trainer – Simulated Smoke – Generic Area.....	14
6.4.6	Smoke Trainer – Simulated Smoke – Aircraft Specific Environment	14
6.5	Wet Drill Trainers.....	14
6.5.1	Wet Drill Trainer – Generic	14
6.5.2	Wet Drill Trainer – Type Specific.....	14
6.6	Emergency/Evacuation Procedures Trainers.....	15
6.6.1	Evacuation Slide Trainer.....	15
6.6.2	Emergency Evacuation Procedures Trainer – Generic – Fixed Based	15
6.6.3	Emergency Evacuation Procedures Trainer – Generic – With Motion System	15
6.6.4	Emergency Procedure Trainer – Aircraft Type Specific – Fixed Based	16
6.6.5	Emergency Procedure Trainer – Aircraft Type Specific – With Motion System	16
6.7	Cabin Simulator.....	16
6.7.1	Full Cabin Simulator	16
6.8	Part Task Aircraft Equipment Trainers.....	17
7.0	FLIGHT DECK	18
7.1	Flight Deck Considerations.....	18
8.0	INTERIOR.....	20
8.1	Configuration and Trim	20
8.2	Lavatories	20
8.3	Overhead Stowage Bins.....	20
8.4	Passenger Service Units (PSUs).....	20
8.5	Oxygen Mask System	20
8.5.1	Oxygen Considerations	20
8.6	Lighting	21
8.6.1	Cabin Lighting.....	21
8.6.2	Emergency Lighting	21
8.7	Emergency Equipment	21
8.8	Galley	21
8.9	Windows	21
8.10	Seats.....	21
8.10.1	Passenger	21
8.10.2	Cabin Crew.....	22
8.10.3	Flight Deck	22
9.0	CABIN EXTERIORS.....	23
9.1	Cabin Exterior Considerations	23
10.0	FUSELAGE DOORS HATCHES	24
10.1	Fuselage	24
11.0	SLIDES, RAFTS, OTHER FLOTATION DEVICES	25
11.1	Floatation Devices.....	25
12.0	SOUND	26
12.1	Sound Considerations	26
13.0	MOTION.....	27
13.1	General	27
13.2	Cues.....	27
13.3	Safety Features.....	27
13.4	Maintenance Considerations	28
13.5	Structural Strength	28
14.0	VISUAL	29