

Specific Technical Requirements STR-5

Date: 17.09.2003

Generic Gaseous Passenger Oxygen System

1. Definition

The Generic Gaseous Passenger Oxygen System described here provides supplemental emergency oxygen at a programmed rate and quantity to the passengers and cabin attendants in the event of cabin decompression during flight.

2. Requirements and Acceptable Means of Compliance

The Generic Passenger Oxygen System shall fulfil to the following requirements of JAR 25, Change 14:

Requirement	Title
JAR 25.853	Compartment Interiors
JAR 25.853 (a)	Flammability requirements according to Appendix F, Part I
JAR 25.853 (b)	Seat Cushions
JAR 25.853 (c)	Flammability requirements according to Appendix F, Part IV and V
JAR 25.853 (d)	Smoking in lavatories
JAR 25.853 (e)	Self-contained removable ashtrays at lavatories
JAR 25.853 (f)	Receptacle used for the disposal of flammable waste
JAR 25.1301	Function and installation
JAR 25.1301 (a)	Intended Function
JAR 25.1301 (b)	Labelling
JAR 25.1301 (c)	Installation limitations
JAR 25.1301 (d)	Proper function
JAR 25.1309	Equipment, Systems and Installations
JAR 25.1309 (a)	Intended Function
JAR 25.1309 (b)(1) to (b)(2)	Design of system
JAR 25.1309 (c)	Warning information
JAR 25.1309 (d)(1) to (d)(4)	Compliance demonstration for paragraph (b)
JAR 25.1309 (e)(1) to (e)(4)	Power supply for systems required for certification
JAR 25.1309 (f)	Reduction of power loads

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Requirement	Title
JAR 25.1309 (g)	Compliance with critical environmental conditions including vibration and acceleration loads
JAR 25.1441	Oxygen equipment and supply
JAR 25.1441 (a)	Cross Reference to JAR 25.1443 to 25.1453
JAR 25.1441 (b)	Free of hazards
JAR 25.1441 (c)	Means to determine quantity
JAR 25.1441 (d)	Flow rates above 40000 ft
JAR 25.1443	Minimum mass flow of supplemental oxygen
JAR 25.1443 (a) to (b)	Continuous flow equipment for flight crew members
JAR 25.1443 (c)	Supplemental oxygen for passengers and cabin attendants
JAR 25.1443 (c)(1) to (c)(2)	10000 ft to 18500 ft 18500 ft to 40000 ft
JAR 25.1443 (d)	First-aid oxygen
JAR 25.1443 (e)	Portable oxygen
JAR 25.1445	Equipment standards for the oxygen distributing system
JAR 25.1445 (a)	Design of oxygen distribution system for crew and passengers
JAR 25.1445 (a)(1)	Separate sources for flight crew and passengers as well as other crew members
JAR 25.1445 (a)(2)	Common source with reserve the minimum supply required by the flight crew on duty
JAR 25.1445 (a)(3)	Means to isolate the distribution system from the supply source
JAR 25.1445 (b)	Use of portable walk-around oxygen units to meet breathing requirements.
JAR 25.1447	Equipment standards for oxygen dispensing units
JAR 25.1447 (a)	Individual dispensing unit for each occupant Dispensing unit design Provisions for communication equipment for flight crew masks
JAR 25.1447 (b)	Certification up to 25000 ft Supply terminal in easy reach for each crew member Location of supply terminals for any other occupant
JAR 25.1447 (c)	Certification above 25000 ft
JAR 25.1447 (c)(1)	Availability of an oxygen dispensing unit connected to oxygen supply

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Requirement	Title
	Certification above 30000 ft Automatic presentation of dispensing units Manual means to make the dispensing units immediately available Provision of 10 % extra units Uniform distribution
JAR 25.1447 (c)(2)(i) to (c)(2)(ii)	Demand equipment of quick-donning type for flight-crew member
JAR 25.1447 (c)(3)	Minimum two outlets and units of dispensing equipment in all other compartments or work areas
JAR 25.1447 (c)(4)	Availability of portable oxygen equipment
JAR 25.1449	Means for determining use of oxygen
	Means to allow crew to determine whether oxygen is being delivered to the dispensing equipment
JAR 25.1453	Protection of oxygen equipment from rupture
JAR 25.1453 (a)	Sufficient Strength
JAR 25.1453 (b)	Requirements for sources and pipelines
JAR 25.1453 (b)(1) to (b)(2)	Protection from unsafe temperatures
RTCA/DO 160 D	Environmental Conditions and Test Procedures for Airborne Equipment
AIR 825 Revision B	Oxygen Equipment for Aircraft
AS 8010, Issue B	Aviator's Breathing Oxygen Purity Standard
AS 8025, Issue 2-24-88	Aerospace Standard Passenger Oxygen Mask
AS 861	Minimum General Standard for Oxygen Systems
AS 916 Revision A	Standard for Oxygen Flow Indicator
TSO-C64 revision A	Technical Standard Order, Oxygen Mask Assembly, Continuous Flow, Passenger

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Appendix to be used for **Chemical Oxygen Generator Assembly**:

The following requirements are not applicable:

Requirements	Title
JAR 25.853	Compartment interiors
JAR 25.1309	Intended function
JAR 25.1441	Oxygen equipment and supply
JAR 25.1445	Equipment standards for the oxygen distributing system
JAR 25.1447	Equipment standards for oxygen dispensing units
JAR 25.1449	Means for determining use of oxygen
JAR 25.1453 (b)	Requirements for sources and pipelines
Air 825, Rev. B	Oxygen equipment for aircraft
AS 861	Minimum general standard for oxygen systems
AS 916 Rev. A	Standard for oxygen flow indicator
TSO-C64, Rev. A	Technical standard order, oxygen mask assembly, continuous flow, passenger

Add the following requirements:

Requirement	Title
JAR 25.1301	Function and installation
JAR 25.1301 (a)	Intended function
JAR 25.1301 (b)	Labelling
JAR 25.1301 (c)	Installation limitations
JAR 25.1301 (d)	Proper function
JAR 25.1443	Minimum mass flow of supplemental oxygen
JAR 25.1443 (c)	Supplement oxygen for passenger and cabin attendants
JAR 25.1443 (c)(1) to (c)(c2)	10000 ft to 18500 ft 18500 ft to 40000 ft
JAR 25.1450	Chemical oxygen generators
JAR 25.1450 (a)	Definition chemical oxygen generator
JAR 25.1450 (b)	Design of chemical oxygen generator
JAR 25.1450 (b)(1)	Surface temperatures
JAR 25.1450 (b)(2)	Internal pressures

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Requirement	Title
JAR 25.1450 (c)(3)	Warning hot surface
JAR 25.1453	Protection of oxygen equipment from rupture
JAR 25.1453 (a)	Sufficient strength
RTCA/DO 160 D	Environmental conditions and test procedures for airborne equipment
AS 8010 C	Aviator`s breathing oxygen purity standard
AS 8025 § 5.5.1, 5.5.2	Passenger oxygen mask

Acceptable means but not the only means of compliance are given in the applicable JAR 25 ACJ's.