



Australian Government

Civil Aviation Safety Authority

I, SHANE PATRICK CARMODY, Director of Aviation Safety, on behalf of CASA, make this instrument under:

- (a) paragraph 28BA (1) (b) and subsection 98 (4A) of the *Civil Aviation Act 1988*; and
- (b) regulation 21.010D of the *Civil Aviation Safety Regulations 1998*; and
- (c) regulations 5, 207 and 209 of the *Civil Aviation Regulations 1988*.

[CONSULTATION DRAFT – NOT FOR SIGNATURE]

Shane Carmody
Director of Aviation Safety

[DATE] 2017

Civil Aviation Legislation Amendment and Repeal (Australian Technical Standard Orders) Instrument 2017

1 Name of instrument

This instrument is the *Civil Aviation Legislation Amendment and Repeal (Australian Technical Standard Orders) Instrument 2017*.

2 Commencement

This instrument commences on the day after registration [being on or before 30 November 2017].

3 Schedules

Each instrument that is specified in a Schedule to this instrument is amended or repealed as set out in the applicable items in the Schedule concerned, and any other item in a Schedule to this instrument has effect according to its terms.

4 References to Civil Aviation Orders

A reference in this instrument to a Civil Aviation Order identified by a specified number is taken to include a reference to the section of the Civil Aviation Orders with that number.

Note Some legislative instruments are referred to as a Civil Aviation Order followed by a number. Other instruments are referred to as a section of the Civil Aviation Orders. For consistency, in this instrument, all such instruments are referred to as a Civil Aviation Order followed by a number. For example, a reference to Civil Aviation Order 82.1 is taken to include a reference to section 82.1 of the Civil Aviation Orders.

5 Transitional - ATSO authorisations and letters of ATSO design approval

Despite the amendments and repeals made by this instrument, an ATSO authorisation or letter of ATSO design approval that was in force immediately

before the commencement of this instrument is continued in force after the commencement of this instrument according to its terms as if the amendments and repeals had not been made.

Schedule 1 Amendments to Part 21 Manual of Standards

Part 21 Manual of Standards Instrument 2016

1 Section 1.10

Insert:

EUROCAE means the European Organisation for Civil Aviation Equipment.

failure condition classification has the same meaning that it has in EASA Acceptable Means of Compliance AMC 25.1309, as in force from time to time.

Note EASA AMC 25.1309 can be found in Book 2 of EASA Certification Specifications CS-25 at: <https://www.easa.europa.eu/certification-specifications/cs-25-large-aeroplanes>

RTCA means RTCA, Inc.

2 Section 13.1

Repeal the section, substitute:

13.1 What this Part is about

- (1) The term ATSO is short for Australian Technical Standard Order.
- (2) Subpart 21.O of CASR sets out requirements that must be met for CASA to issue an ATSO authorisation or a letter of ATSO design approval.
- (3) Paragraph 21.601 (2) (a) of CASR defines an **ATSO** to be a minimum performance standard prescribed by the Part 21 Manual of Standards for specified articles used on civil aircraft. This Part prescribes those minimum performance standards.

13.2 Minimum performance standards

- (1) For the definition of **ATSO** in paragraph 21.601 (2) (a) of CASR, the minimum performance standard mentioned in column 2 of an item of the following table is prescribed for the article used on civil aircraft mentioned in column 1 of the item.

Note The Schedules mentioned in column 2 of the table are Schedules to this Manual of Standards.

Minimum performance standards for specified articles used on civil aircraft

Item	Column 1 Specified article used on civil aircraft	Column 2 Minimum performance standard
1	Life preservers	Schedule 21 ATSO-1C13a — Life preservers
2	Airborne ATC transponder equipment	Schedule 22 ATSO-1C74c — Airborne ATC transponder equipment

Minimum performance standards for specified articles used on civil aircraft

Item	Column 1 Specified article used on civil aircraft	Column 2 Minimum performance standard
3	Air traffic control radar beacon system/mode select (ATCRBS/MODE S) airborne equipment	Schedule 23 ATSO-1C112 — Air traffic control radar beacon system/mode select (ATCRBS/MODE S) airborne equipment
4	Dispatcher's restraint strap	Schedule 24 ATSO-C1001 — Dispatcher's restraint strap
5	Refrigerated cargo unit load container	Schedule 25 ATSO-C1002 — Refrigerated cargo unit load container
6	Helicopter external personnel lifting devices	Schedule 26 ATSO-C1003 — Helicopter external personnel lifting devices
7	Restraint system automated release device	Schedule 27 ATSO-C1006 — Restraint system automated release device
8	Flight data recorder interface unit	Schedule 28 ATSO-C1007b — Flight data recorder interface unit

- (2) A Schedule mentioned in an item of the table in subsection (1) may be cited as the ATSO number mentioned in the item.

Example Schedule 21 of this Manual of Standards may be cited as ATSO-1C13a.

Schedules 1 to 20

Note These Schedules are reserved for future use.

CONSULTATION DRAFT

Schedule 21 ATSO-1C13a – Life preservers

(section 13.2, table, item 1)

1 Application

This Schedule applies to a life preserver for use on an aircraft that is manufactured by an article manufacturer.

2 Definitions

In this Schedule:

ATSO application means an application under subregulation 21.605 (1) of CASR or a submission under paragraph 21.617 (1) (b) of CASR.

FAA TSO-C13f means TSO-C13f - Life Preservers as in force from time to time.

FAA TSO-C13g means TSO-C13g - Life Preservers as in force from time to time.

3 Minimum performance standards

- (1) The life preserver must:
 - (a) be of an inflatable type; and
 - (b) be fitted with a whistle in suitable stowage, unless the life preserver is for an infant; and
 - (c) if an ATSO application for the life preserver is received by CASA after 3 August 2018—meet the performances standards mentioned in FAA TSO-C13g; and
 - (d) if an ATSO application for the life preserver is received by CASA before 4 August 2018—meet the performances standards mentioned in subclause (2).
- (2) For paragraph (1) (d), the performance standards are either:
 - (a) the performances standards mentioned in FAA TSO-C13g; or
 - (b) the performances standards mentioned in subclause (3) and FAA TSO-C13f, other than the following:
 - (i) the requirement to furnish the note mentioned in subsection c(2) of FAA TSO-C13f;
 - (ii) the standard mentioned in section d. (Previously Approved Equipment) of FAA TSO-C13f.
- (3) For paragraph (2) (b), the article manufacturer of a life preserver must give to each person receiving a life preserver for use on an aircraft a note that states the following:

This article meets the minimum performance and quality control standards required by an Australian Technical Standard Order (ATSO). Installation of this article requires separate approval.
- (4) For subclauses (1) and (2), a reference in FAA TSO-C13g to a term mentioned in column 1 of an item of the following table is taken to be a reference to the term mentioned in column 2 of the item.

Reference to terms in FAA TSO-C13g		
Item	Column 1 Reference in FAA TSO-C13g	Column 2 Deemed reference
1	pursuant to Title 14 of the Code of Federal Regulations (14 CFR) § 21.618	under regulation 21.609 of CASR
2	14 CFR § 45.15(b)	paragraph 21.607 (1) (c)
3	TSO number	ATSO number
4	the FAA aircraft certification office (ACO) manager responsible for your facility	CASA
5	14 CFR § 21.603(a)(1)	paragraph 21.605 (2) (a)
6	required by a technical standard order (TSO)	required by an Australian Technical Standard Order (ATSO)
7	TSO approved design	ATSO approved design
8	14 CFR § 21.608	paragraph 21.605 (2) (c)
9	the responsible ACO	CASA
10	the manager of the FAA aircraft certification office (ACO) to which this TSO data is to be submitted	CASA

- (5) For subclause (2), a reference in FAA TSO-C13f to a term mentioned in column 1 of an item of the following table is taken to be a reference to the term mentioned in column 2 of the item.

Reference to terms in FAA TSO-C13f		
Item	Column 1 Reference in FAA TSO-C13f	Column 2 Deemed reference
1	FAR section 21.607(d)	paragraph 21.607 (1) (c) of CASR
2	FAR section 21.605	regulation 21.605 of CASR
3	furnish the Manager, Aircraft Certification Office (ACO), Federal Aviation Administration (FAA), having geographical purview of the manufacturer's facilities,	give CASA
4	the manager of the FAA ACO to which this TSO data is to be submitted, as required by Paragraph c., Data Requirements	CASA

Schedule 22 ATSO-1C74c – Airborne ATC transponder equipment

(section 13.2, table, item 2)

1 Application

This Schedule applies to airborne ATC transponder equipment manufactured by an article manufacturer.

2 Definitions

In this Schedule:

FAA TSO-C74c means TSO-C74c - Airborne ATC Transponder Equipment as in force on 20 February 1973.

3 Minimum Performance Standards— FAA TSO-C74c

- (1) The airborne ATC transponder equipment must meet the requirements mentioned in the FAA TSO-C74c, other than the requirements mentioned in paragraph (e) (*Previously approved equipment*) of FAA TSO-C74c.
- (2) For subclause (1), a reference in FAA TSO-C74c to a term mentioned in column 1 of an item of the following table is taken to be a reference to the term mentioned in column 2 of the item.

Reference to terms in FAA TSO-C74c		
Item	Column 1 Reference in FAA TSO-C74c	Column 2 Deemed reference
1	RTCA Document No. DO-138 entitled “Environmental Conditions and Test Procedures for Airborne Electric/Electrical Equipment and Instruments,” dated June 27, 1968, must be used	RTCA Document No. DO-160D called “Environmental Conditions and Test Procedures for Airborne Equipment”, or a later version of RTCA Document No. DO-160, as in force from time to time, must be used
2	paragraphs 4.0, 5.0, 6.0, 7.0, and 9.0 of DO-138	sections 4, 6, 7, 8 and 16 of RTCA Document No. DO-160D called “Environmental Conditions and Test Procedures for Airborne Equipment”, or a later version of RTCA Document No. DO-160, as in force from time to time
3	§37.7	paragraph 21.607 (1) (c) of CASR
4	Appendix B of RTCA Document No. DO-138	Appendix A of RTCA Document No. DO-160D called “Environmental Conditions and Test Procedures for Airborne Equipment”, or a later version of RTCA Document No. DO-160, as in force from time to time
5	TSO number	ATSO number
6	§37.5	regulation 21.605 of CASR

Reference to terms in FAA TSO-C74c		
Item	Column 1 Reference in FAA TSO-C74c	Column 2 Deemed reference
7	furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division (or in case of the Western Region, the Chief, Aircraft Engineering Division), Federal Aviation Administration, in the region in which the manufacturer is located,	give CASA
8	Appendix A of RTCA Document No. DO-138 entitled “Environmental Conditions and Test Procedures for Airborne Electric/Electrical Equipment and Instruments,” dated June 27, 1968	section 21 of RTCA Document No. DO-160D called “Environmental Conditions and Test Procedures for Airborne Equipment”, or a later version of RTCA Document No. DO-160, as in force from time to time
9	set forth in RTCA Document No. DO-138 entitled “Environmental Conditions and Test Procedures for Airborne Electric/Electrical Equipment and Instruments,” dated June 27, 1968	mentioned in RTCA Document No. DO-160D called “Environmental Conditions and Test Procedures for Airborne Equipment”, or a later version of RTCA Document No. DO-160, as in force from time to time

Schedule 23 ATSO-1C112 – Air traffic control radar beacon system/mode select (ATCRBS/MODE S) airborne equipment

(section 13.2, table, item 3)

1 Application

This Schedule applies to air traffic control radar beacon system/mode select (ATSRBS/MODE S) airborne equipment manufactured by an article manufacturer.

2 Definitions

In this Schedule:

ED-12 means the document called “Software considerations in Airborne Systems and Equipment Certification” published by EUROCAE as in force from time to time.

ED-14 means the document called “Environmental Conditions and Test Procedures for Airborne Equipment” published by EUROCAE as in force from time to time.

ED-73 means the document called “Minimum Operational Performance Specification for Secondary Surveillance Radar MODE S Transponders” published by EUROCAE as in force from time to time.

RTCA/DO-160D means the RTCA Document RTCA/DO-160D, called “Environmental Conditions and Test Procedures for Airborne Equipment”, or a later version of RTCA Document No. DO-160, as in force from time to time.

RTCA/DO-160F means the RTCA Document RTCA/DO-160F, called “Environmental Conditions and Test Procedures for Airborne Equipment”, or a later version of RTCA Document No. DO-160, as in force from time to time.

RTCA/DO-178C means the RTCA Document RTCA/DO-178C, *Software Considerations in Airborne Systems and Equipment Certification* as in force from time to time.

RTCA/DO-181 means the RTCA Document RTCA/DO-181 called “Minimum Operational Performance Standards for Air Traffic Control Radar Beacon System/Mode Select (ATCRBS/Mode S) Airborne Equipment” as in force from time to time.

3 Minimum performance standard—general

- (1) The equipment must meet the requirements mentioned in:
 - (a) section 2 of RTCA/DO-181; or
 - (b) ED-73.
- (2) The airborne equipment must have a design assurance level commensurate with its failure condition classification as ‘major’.

4 Minimum performance standard—environmental test

The equipment must be tested in accordance with the test conditions mentioned in RTCA/DO-160D or ED-14.

5 Minimum performance standard—fire protection

The material used in the equipment, other than small parts (such as knobs, fasteners, seals, grommets and small electrical parts) that would not contribute

significantly to the propagation of a fire, must be self-extinguishing in the event of fire.

6 Minimum performance standard—marking

- (1) The equipment must be permanently and legibly marked with the following:
 - (a) either:
 - (i) the class of the equipment in accordance with RTCA/DO-181 or ED-73; or
 - (ii) if the equipment meets more than 1 class—the class with the more stringent requirements;
 - (b) if the equipment is of a level within the meaning of ED-73—either:
 - (i) the level of the equipment in accordance with ED-73; or
 - (ii) if the equipment meets more than 1 level—the level with the more stringent requirements;
 - (c) the environmental categories over which the equipment has been designed to operate mentioned in Appendix A of RTCA/DO-160F;
 - (d) if an environmental test procedure is not applicable and the test is not conducted—an “X” in the space in which the category would otherwise be marked.
- (2) Each component of the equipment, including the antenna and receiver-transmitter, must be permanently and legibly marked with:
 - (a) the name of the manufacturer;
 - (b) “ATSO-1C112”; and
 - (c) the environmental categories over which it is designed to operate.

7 Minimum performance standard—technical data

The technical data mentioned in paragraph 21.605 (2) (b) of CASR for an application by an article manufacturer for an authorisation in relation to the equipment must include the following:

- (a) a description of the manufacturer’s operating instructions and equipment limitations in sufficient detail to explain the operational capability of the equipment;
- (b) the installation procedures and limitations for the equipment including:
 - (i) an explanation of how the limitations will be sufficient to ensure that the transponder will meet the requirements set out in this Schedule; and
 - (ii) a description of any unique aspects of the installation procedures;
- (c) schematic drawings for the installation procedures;
- (d) wiring diagrams for the installation procedures;
- (e) a list of the components of the equipment including the part number of each component and vendor part number cross references if any;
- (f) a Component Maintenance Manual for the equipment that includes:
 - (i) information about the periodic maintenance, calibration and repair of the installed equipment for its continued airworthiness; and
 - (ii) recommended inspection intervals and service life of the installed equipment;
- (g) a material and process specifications list;

- (h) the manufacturer's ATSO qualification test reports;
- (i) nameplate drawing showing the information to be marked on the equipment in accordance with clause 6 of this Schedule;
- (j) a list of the drawings and processes, including revision level, necessary to define the equipment's design;
- (k) an environmental qualification form for each component of the equipment as mentioned in RTCA/DO-160D or ED-14;
- (l) if the equipment includes a digital computer— a Plan for Software Aspects of Certification mentioned in RTCA/DO-178C.

8 Minimum performance standard—supply of equipment

If the manufacturer of the equipment supplies a unit of the equipment to a person, the manufacturer must give the person the following:

- (a) a copy of the technical data and information mentioned in paragraphs 7 (a) to (e), (i) and (k) of this Schedule;
- (b) a copy of any other data or information necessary for the proper installation, certification, use and continued airworthiness of the equipment;
- (c) for each item of equipment—a document containing the following statement:

“The conditions and tests required for ATSO approval of this article are minimum performance standards. It is the responsibility of the person installing this article either on or within a specific type or class of aircraft to determine that the aircraft installation conditions are within the ATSO standards. ATSO articles must have separate approval for installation in an aircraft.”

Schedule 24 ATSO-C1001—Dispatcher's restraint strap

(section 13.2, table, item 4)

1 Application

This Schedule applies to a dispatcher's restraint strap manufactured by an article manufacturer.

2 Definitions

In this Schedule:

AS/NZS 1891.1:1995 means AS/NZS 1891.1:1995, *Industrial fall – arrest systems and devices, Part 1: Safety belts and harnesses*, as published on 5 March 1995.

dispatcher's restraint strap means an adjustable restraint line that is:

- (a) for use when a door or hatch of an aircraft is open; and
- (b) attached to the aircraft and an occupant of the aircraft when the occupant is not seated with a seat belt or harness fastened; and
- (c) intended to prevent the wearer from falling from the aircraft when carrying out duties at, or near, the door or hatch.

restraint line means a line used to restrict the horizontal movement of the wearer and not designed for either free or restrained fall.

3 Minimum performance standard—general

- (1) Subject to subclauses (2) to (6), the dispatcher's restraint strap must meet the requirements mentioned in AS/NZS 1891.1:1995 relating to restraint lines.
- (2) Despite clause 3.2.4 of AS/NZS 1891.1:1995, the dispatcher's restraint strap may have 1 eyelet for a parachute-type 3 ring quick-release if:
 - (a) the design of the eyelet results in the free edges of the webbing being restrained in the eyelet; and
 - (b) the strap meets the strength requirements mentioned in clause 4.4.2 of AS/NZS 1891.1:1995, tested in accordance with Appendix D of AS/NZS 1891.1:1995, as if it were a separately supplied lanyard.
- (3) The dispatcher's restraint strap does not need to meet the requirements mentioned in clause 4.2.3 of AS/NZS 1891.1:1995 if the strap meets 1 of the following requirements for demonstrating its resistance to degradation by light:
 - (a) a substantiated life limitation;
 - (b) the use of webbing previously qualified to a similar performance standard.
- (4) The instructions mentioned in Clause 5.1 of AS/NZS 1891.1:1995 do not need to include the matters mentioned in paragraphs 5.1 (a) to (f) of AS/NZS 1891.1:1995.
- (5) The marking or labelling mentioned in Clause 5.2 of AS/NZS 1891.1:1995 does not need to include the information about the maximum allowable free fall mentioned in paragraph 5.2 (d) of AS/NZS 1891.1:1995.
- (6) For the test mentioned in Appendix D of AS/NZS 1891.1:1995:
 - (a) a manually operated hydraulic pump may be used to apply the load; and
 - (b) the specimen may be loaded at a speed other than 150 mm/min.

4 Minimum performance standard—quick-release device

The dispatcher's restraint strap must incorporate a quick-release device that:

- (a) is at the harness end of the strap; and
- (b) is simple and obvious to action; and
- (c) can be easily released under load with 1 hand; and
- (d) is protected against inadvertent release.

5 Minimum performance standard—marking

Instructions for the adjustment of the dispatcher's restraint strap to restrict the occupant from moving any further than the door threshold of the aircraft must be permanently and legibly marked on the webbing of the strap.

6 Minimum performance standard—technical data

The technical data mentioned in paragraph 21.605 (2) (b) of CASR must include the following:

- (a) a complete technical description of the dispatcher's restraint strap including detail drawings, manufacturing procedures, material identification and specifications;
- (b) a summary of how the design and manufacture of the strap will comply with the requirements of this Schedule;
- (c) conformity inspection reports for the tested components;
- (d) operating instructions and limitations in accordance with AS/NZS 1891.1:1995;
- (e) maintenance instructions in accordance with AS/NZS 1891.1:1995;
- (f) installation instructions and limitations;
- (g) qualification and approval test reports.

7 Minimum performance standard—supply of dispatcher's restraint strap

If the article manufacturer supplies a dispatcher's restraint strap to a person, the manufacturer must give the person the following:

- (a) information requiring the user of the strap to refer to approved data for approved harness types and hard points;
- (b) a document containing the following statement for each strap supplied:

“The conditions and tests required for ATSO approval of this article are minimum performance standards. It is the responsibility of those desiring to install the article either on or within a specific type or class of aircraft to determine that the aircraft's installation conditions are within ATSO standards. The article may be installed only if further evaluation by the applicant (user/installer) substantiates an acceptable installation and the installation is approved by CASA.”

Schedule 25 ATSO-C1002 – Refrigerated cargo unit load container

(section 13.2, table, item 5)

1 Application

This Schedule applies to a refrigerated cargo unit load container that:

- (a) is for carriage as main cabin (upper deck) cargo in transport category aeroplanes; and
- (b) will be connected to the aeroplane's electrical system; and
- (c) is manufactured by an article manufacturer.

2 Definitions

In this Schedule:

ICAO DOC 9284-AN/905 means the ICAO document called *Technical Instructions For The Safe Transport Of Dangerous Goods By Air* as in force from time to time.

NAS 3610 means the document called the National Aerospace Standard (NAS) 3610, *Cargo Unit Load Devices - Specifications for*, published by the Aerospace Industries Association of America, Inc., as in force from time to time.

RTCA/DO-160D means the RTCA Document RTCA/DO-160D, *Environmental Conditions and Test Procedures for Airborne Equipment* as in force from time to time, or a later version of RTCA Document RTCA/DO-160 as in force from time to time.

RTCA/DO-178B means the RTCA Document RTCA/DO-178B, *Software Considerations in Airborne Systems and Equipment Certification* as in force from time to time.

RTCA/DO-178C means the RTCA Document RTCA/DO-178C, *Software Considerations in Airborne Systems and Equipment Certification* as in force from time to time.

RTCA/DO-254 means RTCA Document RTCA/DO-254, *Design Assurance Guidance for Airborne Electronic Hardware* as in force from time to time.

Technical Instructions has the meaning defined in regulation 92.010 of CASR.

ULD Technical Manual 13th means the ULD Technical Manual 13th, published by the International Air Transport Association, as in force from time to time.

3 Minimum performance standard—general

- (1) The refrigerated cargo unit load container must meet the requirements mentioned in the following:
 - (a) NAS 3610;
 - (b) AS/NZS 1677.2:1998, *Refrigeration Systems Part 2: Safety Requirements for Fixed Applications*, (Category 2 Occupancy Classification) as in force from time to time;
 - (c) SAE ARP 1308, *Preferred Electrical Connectors for Aerospace Vehicles and Associated Equipment* as in force from time to time;
 - (d) SAE ARP 1199, *Selection, Application, and Inspection of Electric Overcurrent Protective Devices* as in force from time to time;
 - (e) SAE ARP 1870, *Aerospace Systems Electrical Bonding and Grounding For Electromagnetic Compatibility and Safety* as in force from time to time.

- (2) The container must meet the requirements mentioned in the following sections of the ULD Technical Manual 13th:
 - (a) Standard Specification 50/4 - Certified Aircraft Container;
 - (b) Standard Specification 80/1 - Requirements for Thermal Containers:
 - (i) 4.7 Spillage;
 - (ii) 4.8 Pressurization;
 - (iii) 8 Markings;
 - (c) Standard Specification 80/2 - Pressure Equalization Requirements for Aircraft and Shipping Containers.

4 Minimum performance standard—environmental test

The refrigerated cargo unit load container must meet be tested in accordance with the test conditions mentioned in RTCA/DO-160D.

5 Minimum performance standard—software

If the refrigerated cargo unit load container includes a digital computer, the software for the computer must be developed in accordance with RTCA/DO-178B, RTCA/DO-178C or RTCA/DO-254.

6 Minimum performance standard—refrigeration unit

- (1) The refrigerant for the refrigerated cargo unit load container must:
 - (a) meet the requirements for refrigerants mentioned in 5.9 of ULD Technical Manual 13th with the title Standard Specification 80/1 Requirements for thermal containers, which requires refrigerants to meet the ICAO Dangerous Goods Regulations; and
 - (b) be of a type acceptable to CASA.
- (2) The refrigeration unit of the refrigerated cargo unit load container must be shown not to create a hazard when subjected to the combined loads mentioned in NAS 3610 and the following self-inertia loads:
 - (a) Up 3.0g;
 - (b) Forward 9.0g;
 - (c) Side 3.0g;
 - (d) Down 6.0g.

7 Minimum performance standard—fire protection

- (1) All materials used, except small parts (such as knobs, fasteners, seals, grommets and small electrical parts) that would not contribute significantly to the propagation of a fire, must comply with the applicable requirements of § 25.853 and Part 25, Appendix F of the FARs as in force from time to time.
- (2) The design of the refrigerated cargo unit load container must include provisions for the following:
 - (a) an overheat protection system for the refrigerator compressor unit;
 - (b) overheat protection for all electric motors;
 - (c) a method of ensuring that the discharge air from the refrigeration unit, during its normal operation, will not activate any fire detection system installed in the aeroplane cabin.

8 Minimum performance standard—dangerous goods

- (1) The refrigeration unit for the refrigerated cargo unit load container must not be excluded from being subject to the Instructions in ICAO DOC 9284-AN/905 because of Special Provision A26 in Part 3, Chapter 3 of the Technical Instructions.
- (2) Lubricating oils used in the container must not be a flammable liquid within the meaning of Part 2, Chapter 3 of the Technical Instructions.

9 Minimum performance standard—marking

- (1) The refrigerated cargo unit load container must be permanently and legibly marked in accordance with section 8 of the ULD Technical Manual 13th.
- (2) The container must be permanently and legibly marked with:
 - (a) the environmental categories over which the equipment has been designated to operate in accordance with RTCA/DO-160D; and
 - (b) if an environment category is not applicable and a test is not conducted—an “X” in the space in which that category would otherwise be marked.

10 Minimum performance standard—technical data

The technical data mentioned in paragraph 21.605 (2) (b) of CASR for a refrigerated cargo unit load container must include the following:

- (a) a complete technical description of the container including detail drawings, manufacturing procedures, material identification and specifications;
- (b) the manufacturer’s analysis or test results and the results of the environmental qualification tests conducted in accordance with RTCA/DO-160D;
- (c) the conformity inspection reports for the tested components;
- (d) the manufacturer’s operating instructions and limitations;
- (e) the manufacturer’s instructions for maintenance and repair of the container;
- (f) the manufacturer’s instructions for installation and servicing of the container together with any limitations;
- (g) the appropriate documentation in relation to the container mentioned in RTCA/DO-178B, RTCA/DO-178C or RTCA/DO-254;
- (h) if the container includes a digital computer—a Plan for Software Aspects of Certification or a Plan for Hardware Aspects of Certification mentioned in RTCA/DO-178B, RTCA/DO-178C or RTCA/DO-254.

11 Minimum performance standard—supply of container

If the article manufacturer for the refrigerated cargo unit load container supplies a container to a person, the manufacturer must give the person the following:

- (a) the manufacturer’s operating instructions and limitations;
- (b) the manufacturer’s instructions for maintenance and repair of the container;
- (c) the manufacturer’s instructions for installation and servicing the container and any limitations;
- (d) for each container—a copy of a document containing the following statement:

The conditions and tests required for ATSO approval of this article are minimum performance standards. It is the responsibility of those proposing

to install the container on or within a specific type or class of aeroplane to determine that the aeroplane's installation conditions are within ATSO standards. The container may be installed only if further evaluation by the applicant (user/installer) substantiates an acceptable installation and is approved by CASA.

CONSULTATION DRAFT

Schedule 26 ATSO-C1003 – Helicopter external personnel lifting devices

(section 13.2, table, item 6)

1 Application

This Schedule applies to a helicopter external personnel lifting device manufactured by an article manufacturer that is 1 of the following kinds of helicopter external personnel lifting device:

- (a) a winchman's or rescue harness;
- (b) a rescue or retrieval strop combination.

2 Definitions

In this Schedule:

AS/NZS 1891.1:1995 Amdt 4 means AS/NZS 1891.1:1995, *Industrial fall-arrest systems and devices, Part 1: Safety belts and harnesses*, incorporating amendments to Amendment No. 4, published on 5 August 1999.

dispatcher's restraint strap has the meaning as defined in Schedule 24.

rescue or retrieval strop combination means an item of equipment that:

- (a) is used in either a single or double lift; and
- (b) is fitted around a person under the person's arms, across the person's back and securing in front of the person's chest.

winchman's or rescue harness means either:

- (a) a full harness that:
 - (i) is worn by a person when suspended outside a helicopter from a winch hook; and
 - (ii) may be used in conjunction with a dispatcher's restraint strap to prevent the wearer from inadvertently exiting the aircraft; or
- (b) a rappel harness.

3 Minimum performance standards—device

- (1) Subject to subclauses (3) to (6), if the helicopter external personnel lifting device is a winchman's or rescue harness, it must meet the requirements mentioned in AS/NZS 1891.1:1995 Amdt 4 for a fall-arrest harness.
- (2) Subject to subclauses (3) to (6), if the helicopter external personnel lifting device is a rescue or retrieval strop combination, it must meet the requirements mentioned in AS/NZS 1891.1:1995 Amdt 4 for a retrieval strap.
- (3) The helicopter external personnel lifting device does not need to meet the requirements mentioned in clause 4.2.3 of AS/NZS 1891.1:1995 Amdt 4 if the device meets 1 of the following requirements for demonstrating its resistance to degradation by light:
 - (a) a substantiated life limitation;
 - (b) the use of webbing previously qualified to a similar performance standard.
- (4) The instructions mentioned in Clause 5.1 of AS/NZS 1891.1:1995 Amdt 4 do not need to include the matters mentioned in paragraphs 5.1 (a) to (f) of AS/NZS 1891.1:1995 Amdt 4.

- (5) The marking or labelling mentioned in Clause 5.2 of AS/NZS 1891.1:1995 Amdt 4 does not need to include the information about the maximum allowable free fall mentioned in paragraph 5.2 (d) of AS/NZS 1891.1:1995 Amdt 4.
- (6) For the test mentioned in Paragraph D5(b) of Appendix D of AS/NZS 1891.1:1995 Amdt 4:
 - (a) a manually operated hydraulic pump may be used to apply the load; and
 - (b) the testing machine may be set at an unladen crosshead speed other than 150 ± 20 mm/min.
- (7) If the helicopter external personnel lifting device incorporates a quick-release device when attached to the winch hook, the quick-release device must:
 - (a) be simple and obvious to action; and
 - (b) be able to easily release under load with 1 hand; and
 - (c) be protected against inadvertent release; and
 - (d) only be able to be released by using 2 distinct and separate physical actions to initiate release of the load from the winch hook.
- (8) The helicopter external personnel lifting device must comply with the requirements mentioned in § 29.865 of the FARs, headed *External loads*.
- (9) The helicopter external personnel lifting device must be designed to minimise the possibility of unintentional disengagement during all modes of operation.

4 Minimum performance standard—technical data

The technical data mentioned in paragraph 21.605 (2) (b) of CASR must include the following:

- (a) a complete technical description of the helicopter external personnel lifting device, including detail drawings, manufacturing procedures, material identification and specifications;
- (b) an explanation of how the device meets the minimum performance standards for the device mentioned in clause 3 of this Schedule;
- (c) conformity inspection reports for the tested components of the device;
- (d) the operating instructions and limitations for the device, including any quick-release device;
- (e) maintenance instructions for the device, including the following:
 - (i) procedures to address issues, including cleaning off contaminants that are unique to the operating environment for the device (such as salt water, hydraulic and engine oil);
 - (ii) retirement criteria for the device based on the component condition;
 - (iii) a schedule of periodic inspections to ensure the continued safety of the device throughout its operational life;
- (f) the installation instructions and limitations for the device;
- (g) qualification and approval test reports for the device;
- (h) a quality control functional test specification for each device to ensure compliance with this Schedule.

5 Minimum performance standard—supply of device

If the article manufacturer supplies 1 or more helicopter external personnel lifting devices to a person, the manufacturer must give the person:

- (a) for each device—a document containing the following statement:

“The conditions and tests required for ATSO approval of this article are minimum performance standards. It is the responsibility of those desiring to install the article either on or within a specific type or class of aircraft to determine that the aircraft’s installation conditions are within ATSO standards. The article may be installed only if further evaluation by the applicant (user/installer) substantiates an acceptable installation and the installation is approved by CASA”; and
- (b) the installation instructions and limitations for the device; and
- (c) the operating instructions and limitations for the device, including any quick-release device; and
- (d) maintenance instructions for the device, including the following:
 - (i) procedures to address issues, including cleaning off contaminants that are unique to the operating environment for the device (such as salt water, hydraulic and engine oil);
 - (ii) retirement criteria for the device based on the component condition;
 - (iii) a schedule of periodic inspections to ensure the continued safety of the device throughout its operational life.

Schedule 27 ATSO-C1006 - Restraint system automated release device

(section 13.2, table, item 7)

1 Application

This Schedule applies to an article manufacturer in relation to a restraint system automated release device.

2 Definitions

In this Schedule:

restraint means a tether, strop, cargo tie-down, seat belt or similar device, which includes its own manual release system.

restraint system automated release device or **RSARD** means a device that:

- (a) is an add-on dual-purpose restraint-release device used in conjunction with a restraint and an anchor point in an aircraft; and
- (b) keeps a person or an item restrained inside the aircraft during flight; and
- (c) automatically activates to release the person or restrained item from the anchor point if the aircraft ditches or crashes into water; and
- (d) is not aircraft type specific.

RTCA/DO-160G means the RTCA Document RTCA/DO-160G called “Environmental Test Conditions and Test Procedures for Airborne Equipment”, or a later version of RTCA Document No. DO-160, as in force from time to time.

3 Minimum performance standard—compliance with RTCA/DO-160G

The RSARD must comply with the standards in the provision of RTCA/DO-160G mentioned in column 2 of an item of the following table in relation to the environmental conditions mentioned in column 1 of the item.

Compliance with RTCA/DO-160G		
Item	Column 1 Environmental conditions	Column 2 Provision of RTCA/DO-160G
1	Temperature and altitude	Section 4, Category A2
2	Temperature variation	Section 5, Category B
3	Humidity	Section 6, Category B
4	Operational shocks and crash safety	Section 7, Category A
5	Vibration	Section 8, Category U, fuselage zone, unknown helicopter frequency
6	Waterproofness	Section 10, Category W
7	Sand and dust	Section 12, Category S
8	Salt fog	Section 14, Category T
9	Radio frequency susceptibility	Section 20, Category R modified with an upper frequency limit of 12 GHz
10	Fire, flammability	Section 26, Category C

4 Minimum performance standard— RSARD in restraint mode

- (1) The RSARD must, in restraint mode:
 - (a) be statically tested to its ultimate rated strength; and
 - (b) for the load rating test—be attached to an anchor point and restraint, using a method that replicates that likely to be found in service; and
 - (c) if the RSARD is designed to attach to occupant restraints:
 - (i) have a load rating of at least 15 kN; and
 - (ii) be designed to interface with the restraint without modification of the restraint or RSARD; and
 - (d) not interfere with, or modify, the attaching restraint system's normal attaching method or restraint function; and
 - (e) be designed so as to protect against unintentional disengagement; and
 - (f) not restrict the attaching restraint system's range of movement.
- (2) If the RSARD can be easily removed from an anchor point with 1 hand, the release mechanism of the RSARD must be designed to release with 2 independent actions.
- (3) If the RSARD will be attached to a restraint, the RSARD must be designed to avoid minimise dynamic rollout.

5 Minimum performance standard— RSARD in release mode

- (1) The RSARD must, in release mode:
 - (a) release independently and without any further operator action required; and
 - (b) not interfere with, or modify, the attaching restraint system's normal manual release method; and
 - (c) if the RSARD is designed to release only in salt water— be demonstrated to trigger the release in potassium chloride/water solutions down to a minimum water salinity of 31.0 parts per thousand; and
 - (d) have defences against inadvertent activation by salt spray, rain or fluid spillage; and
 - (e) release between 1.5 seconds and 5.5 seconds after it is immersed in water; and
 - (f) be demonstrated to:
 - (i) activate in water temperatures from 1° to 30° Celsius; and
 - (ii) not have its activation time delayed by contact with water at low temperatures; and
 - (iii) not be otherwise affected by contact with water at low temperatures.
- (2) On release, any component of the RSARD that may remain attached to the restraint it is releasing must be of a profile that is not prone to snagging.
- (3) Once released, the RSARD must not be capable of being refitted and made ready for immediate reuse.

6 Minimum performance standard—electrical circuitry

Any electrical circuitry for the RSARD must be capable of self-diagnosing internal faults and clearly indicating to the end user the presence of the faults.

7 Minimum performance standard—marking

The RSARD must:

- (a) be marked with its rated strength; and
- (b) if it is designed only to release in salt water—be marked accordingly.

8 Minimum performance standard—technical data

The technical data mentioned in paragraph 21.605 (2) (b) of CASR must include the following:

- (a) a complete technical description of the RSARD, including detail drawings, manufacturing procedures, material identification and specifications;
- (b) operating instructions and limitations for the RSARD;
- (c) a completed compliance summary in relation to the applicable performance standards mentioned in this Schedule;
- (d) conformity inspection reports for the tested components;
- (e) a component maintenance manual containing information about the periodic maintenance, calibration and repair for the continued airworthiness of the RSARD, including recommended inspection intervals and service life for the RSARD;
- (f) qualification and approval test reports in relation to the compliance of the RSARD with the applicable functional performance standards mentioned in this Schedule.

9 Minimum performance standard—supply of RSARD

If the manufacturer for the RSARD supplies 1 or more RSARDs to a person, the manufacturer must give the person the operating instructions and limitations and the component maintenance manual for the RSARD.

Schedule 28 ATSO-C1007b - flight data recorder interface unit

(section 13.2, table, item 8)

1 Application

This Schedule applies to an article manufacturer in relation to a flight data recorder interface unit that will be mounted on an airframe of an aircraft and function as the interface between analogue aircraft systems and digital flight recorders.

2 Definitions

In this Schedule:

ARINC 717-15 means the Aeronautical Radio Inc. ARINC Characteristic 717-15 *Flight Data Acquisition and Recording System* as in force from time to time.

FDRIU means flight data recorder interface unit.

RTCA/DO-160F means RTCA Document RTCA/DO-160F called *Environmental Conditions and Test Procedures for Airborne Equipment*, or a later version of RTCA Document DO-160, as in force from time to time.

RTCA/DO-178C means RTCA Document RTCA/DO-178C - *Software Considerations in Airborne Systems and Equipment Certification* as in force from time to time.

RTCA/DO-254 means RTCA Document RTCA/DO-254 - *Design Assurance Guidance for Airborne Electronic Hardware* as in force from time to time.

3 Minimum performance standard— system requirements

- (1) An FDRIU must process the parameters mentioned in column 1 of items 1 to 6 of the following table.
- (2) An FDRIU may also process the parameters mentioned in column 1 of items 7 to 20 of the table.
- (3) Each parameter that is processed by the FDRIU must meet the following requirements:
 - (a) the range over which the parameter is to be recorded mentioned in column 2 of the table;
 - (b) the accuracy of recording for the parameter mentioned in column 3 of the table;
 - (c) the maximum interval in seconds between recorded readings of the parameter mentioned in column 4 of the table.

FDRIU — parameters, ranges, accuracy and recording intervals

	Column 1	Column 2	Column 3	Column 4
			Accuracy	Maximum
			(minimum	recording
			recorder and	intervals
Item	Parameter	Range	readout)	(seconds)
1	Time	See Note	±0.125% per hour	60

FDRIU — parameters, ranges, accuracy and recording intervals				
	Column 1	Column 2	Column 3	Column 4
			Accuracy (minimum recorder and readout)	Maximum recording intervals (seconds)
Item	Parameter	Range		
2	Altitude	— 1 000 ft to max. certificated altitude of aircraft	± 100 to ± 700 ft	1
3	Airspeed	100 kn IAS to the greater of: (a) 450 kn IAS; or (b) 1.0V _D	±10 kn at room temperature ±12 kn at low temperature	1
4	Vertical acceleration	-3g to +6g	±0.2g stabilised ±10% transient	0.125
5	Heading	360°	±2°	1
6	Press to transmit for each transceiver	On/Off	—	1
7	Pitch attitude	±75°	±2°	1
8	Roll attitude	±180°	±2°	1
9	Thrust of each engine	Full range	±2%	4
10	Flap position	Full range	±3°	2
11	Longitudinal acceleration	±1.0g	+0.02g	0.5
12	Undercarriage squat or tilt switch	On/Off	—	0.5
13	Thrust reverser stowed/deployed (each engine)	On/Off	—	4
14	Leading edge devices stowed/deployed	On/Off	—	2
15	Angle of attack (if sensor fitted)	-20° to +40°	±1°	0.5
16	Lateral acceleration	±1.0g	±0.05g stabilised ±10% transient	0.25
17	Pitch trim	Full range	The greater of ±1° or ±5%	2
18	Control column or pitch control surface position	Full range	±2°	1

FDRIU — parameters, ranges, accuracy and recording intervals				
	Column 1	Column 2	Column 3	Column 4
			Accuracy (minimum recorder and readout)	Maximum recording intervals (seconds)
Item	Parameter	Range		
19	Control wheel or roll control surface position	Full range	±2°	1
20	Rudder pedal or yaw control surface position	Full range	±2°	0.5

Note Sufficient time data is required to permit determination of the relationship between recorded information and Universal Coordinated Time.

4 Minimum performance standard—signal characteristic

All parameters of the FDRIU must be sampled, conditioned, and digitised or reformatted in such a manner as to meet ARINC 717-15 standard signal characteristic.

5 Minimum performance standard—failure condition classification minor

The FDRIU must have a design assurance level commensurate with the failure condition classification of ‘minor’.

6 Minimum performance standard—environmental test

The FDRIU must be tested in accordance with the test conditions mentioned in RTCA/DO-160F.

7 Minimum performance standard—software

Software for the FDRIU must be developed in accordance with RTCA/DO-178C to Level D as defined in section 2.3.3 of RTCA/DO-178C.

8 Minimum performance standard—electronic hardware qualification

The electronic hardware for the FDRIU that is complex as described in section 1.6 of RTCA/DO-254 must be developed in accordance with RTCA/DO-254 to Level D as defined in Table 2-1 of RTCA/DO-254.

9 Minimum performance standard—fire protection

The materials used in the manufacture of the FDRIU, other than small parts that would not contribute significantly to the propagation of fire, must be self-extinguishing in the event of fire and meet the requirements of Category C of section 26 RTCA/DO-160F.

10 Minimum performance standard—marking

Each component of the FDRIU must be permanently and legibly marked with the name of the manufacturer and the number “ATSO-C1007b”.

11 Minimum performance standard—supply of unit

If the article manufacturer of the FDRIU supplies 1 or more FDRIUs to a person, the manufacturer must give the person:

- (a) at least 1 copy of the technical data mentioned in paragraphs 12 (a) to (f); and
- (b) any other data or information necessary for the proper installation, use and continued airworthiness of the FDRIU.

12 Minimum performance standard—technical data

The technical data mentioned in paragraph 21.605 (2) (b) of CASR must include the following:

- (a) the operating instructions and equipment limitations for the FDRIU, including full descriptions of the following:
 - (i) the operational capability of the equipment;
 - (ii) if the applicant requests approval of a deviation from any performance standard mentioned in this Schedule—the operational or installation limitations that would result from that deviation;
- (b) the installation procedures for the FDRIU and limitations, including the following:
 - (i) descriptions of the extent to which the FDRIU, when installed according to the installation procedures, will continue to meet the requirements of this Schedule;
 - (ii) descriptions of any unique aspects of the installation;
 - (iii) as an integral part of the procedures — the following Manufacturer’s Statement:

“The conditions and tests required for ATSO authorisation of this article are minimum performance standards. It is the responsibility of the person installing this article on or within a specific type or class of aircraft to determine that the aircraft installation conditions are within the standards set out in ATSO-C1007b. ATSO articles must have separate authorisation for installation on or within an aircraft.”
- (c) schematic drawings for the installation procedures;
- (d) wiring diagrams for the installation procedures;
- (e) equipment specifications;
- (f) a list of the components that make up the FDRIU and comply with the standards set out in this Schedule, including:
 - (i) part numbers referenced to the relevant part; and
 - (ii) if applicable — vendor part number cross-references;
- (g) an Installation Manual (**IM**), a Component Maintenance Manual (**CMM**) or both an IM and a CMM for the FDRIU that include the following:
 - (i) information about the periodic maintenance, calibration and repair of the installed equipment for its continued airworthiness;
 - (ii) recommended inspection intervals and service life of the installed FDRIU;
 - (iii) details of any CASA approval to deviate from any performance standard in this Schedule;

- (h) technical data for material identification and specifications;
- (i) the functional test specifications to be used to test each FDRIU to ensure its compliance with this ATSO;
- (j) analysis and test results in relation to the FDRIU to substantiate compliance with this ATSO;
- (k) nameplate drawings showing how the FDRIU will be marked in accordance with the requirements mentioned in paragraph 21.607 (1) (c) of CASR and clause 10;
- (l) a list of the drawings and processes, including revision level, necessary to define the design of the FDRIU and its components;
- (m) an Environmental Qualification Form, as mentioned in RTCA/DO-160F, for each component of the FDRIU;
- (n) details of the computer software used in the FDRIU, including the following:
 - (i) if the FDRIU includes a digital computer — a statement of assurance and accompanying evidence that the software has been developed in accordance with RTCA/DO-178C;
 - (ii) a Plan for Software Aspects of Certification mentioned in RTCA/DO-178C;
 - (iii) a Software Configuration Index mentioned in RTCA/DO-178C;
 - (iv) a Software Accomplishment Summary mentioned in RTCA/DO-178C;
- (o) if the FDRIU includes a complex custom micro-coded component:
 - (i) a Plan for Hardware Aspects of Certification mentioned in RTCA/DO-254; and
 - (ii) a hardware verification plan mentioned in RTCA/DO-254; and
 - (iii) a top-level drawing and Hardware Accomplishment Summary mentioned in RTCA/DO-254.

Schedule 2 Repeal of instruments

1 Repeal of Australian Technical Standard Orders

Repeal the following instruments:

- (a) Australian Technical Standard Order C1004a with unique identifier F2009L04607;
- (b) Australian Technical Standard Order C1005a with unique identifier F2009L04631;
- (c) Australian Technical Standard Order C1006 with unique identifier F2012L00641;
- (d) *Australian Technical Standard Order C1007 Instrument 2013* with unique identifier F2013L00983;
- (e) *Australian Technical Standard Order C1007a Instrument 2013* with unique identifier F2013L01941;
- (f) *Australian Technical Standard Order C1007b Instrument 2014* with unique identifier F2014L01625.

Schedule 3 Amendments

***CASA 61/14 – Direction — use of ADS-B in foreign aircraft engaged in private operations* [F2014L00586]**

1 Schedule 1, clause 1 (definition of ATSO)

Repeal the definition.

2 Schedule 2, Part B, paragraph 2 (a)

Repeal the paragraph, substitute:

- (a) is authorised by the FAA in accordance with TSO-C166 as in force on 20 September 2004, or a later version as in force from time to time; or

Civil Aviation Order 20.18

3 Paragraph 9B.2 (definition of ATSO)

Repeal the definition.

4 Appendix XI, Part B, paragraph 2 (a)

Repeal the paragraph, substitute:

- (a) is authorised in accordance with (E)TSO-C166, or a later version as in force from time to time; or

Civil Aviation Order 82.1

5 Appendix 3, clause 1 (definition of ATSO)

Repeal the definition.

6 Appendix 4, Part B, paragraph 2 (a)

Repeal the paragraph, substitute:

- (a) is authorised by the FAA in accordance with TSO-C166 as in force on 20 September 2004, or a later version as in force from time to time; or

Civil Aviation Order 82.3

7 Appendix 6, clause 1 (definition of ATSO)

Repeal the definition.

8 Appendix 7, Part B, paragraph 2 (a)

Repeal the paragraph, substitute:

- (a) is authorised by the FAA in accordance with TSO-C166 as in force on 20 September 2004, or a later version as in force from time to time; or

Civil Aviation Order 82.5

9 Appendix 4, clause 1 (definition of ATSO)

Repeal the definition.

10 Appendix 5, Part B, paragraph 2 (a)

Repeal the paragraph, substitute:

- (a) is authorised by the FAA in accordance with TSO-C166 as in force on 20 September 2004, or a later version as in force from time to time; or