

1.0 SECTION I – LIST OF COMMON ANAC-TSO AND ETSO STANDARDS

This section provides a list of common standards per section 2.2.1 (b) of ANNEX A of the Agreement on Civil Aviation Safety between the European Union and Brazil.

TSO	ETSO	SUBJECT	Revision
TSO-C2d	C2d	Airspeed Instruments	Initial
TSO-C3e	C3e	Turn and Slip Instruments	Rev. 2
TSO-C4c	C4c	Bank and Pitch Instruments	Initial
TSO-C5f	C5f	Direction Instrument, Non-Magnetic	Rev. 2
TSO-C6e	C6e	Direction Instrument, Magnetic (Gyroscopically Stabilized)	Initial
TSO-C7d	C7d	Direction Instrument, Magnetic Non-stabilized Type (Magnetic Compass)	Initial
TSO-C8e	C8e	Vertical Velocity Instrument (Rate-of-Climb)	Initial
TSO-C10b	C10b	Aircraft Altimeter, Pressure Actuated, Sensitive Type	Initial
TSO-C13f	C13f	Life preservers	Initial
TSO-C14b	C14b	Aircraft Fabric, Intermediate Grade; External Covering Material	Initial
TSO-C15d	C15d	Aircraft Fabric, Grade A; External Covering Material	Initial
TSO-C16a	C16a	Airspeed Tubes (Electrically Heated)	Initial
TSO-C22g	C22g	Safety Belts	Initial
TSO-C25a	C25a	Aircraft Seats and Berths (Type I Transport 6g Forward Load)	Initial
TSO-C28	C28	Aircraft Skis	Initial
TSO-C30c	C30c	Aircraft Position Lights	Initial
TSO-C39c	C39c	9g Transport Airplane Seats Certified by Static Testing only	Initial
TSO-C43c	C43c	Temperature Instruments	Initial
TSO-C44c	C44c	Fuel Flowmeters	Initial
TSO-C45b	C45b	Manifold Pressure Instruments	Initial
TSO-C47a	C47a	Pressure Instruments – Fuel, Oil and Hydraulic	Initial
TSO-C53a	C53a	Fuel and Engine Oil System Hose Assemblies	Initial
TSO-C55a	C55a	Fuel and Oil Quantity Instruments	Rev 1
TSO-C56b	C56b	Engine-driven Direct Current Generators/Starter-generators	Initial
TSO-C62e	C62e	Aircraft Tyres	Rev 1
TSO-C69c	C69c	Emergency Evacuation Slides, Ramps and Slide/Raft Combinations	Initial
TSO-C70b	C70b	Life Rafts	Rev. 2
TSO-C71	C71	Airborne Static ('DC to DC') Electrical Power Converter (for Air Carrier Aircraft)	Initial
TSO-C72c	C72c	Individual Flotation Devices	Initial
TSO-C73	C73	Static Electrical Power Inverter	Initial
TSO-C76b	C76b	Fuel Drain Valves	Rev. 2
TSO-C79	C79	Fire Detectors (Radiation Sensing Type)	Initial
TSO-C80	C80	Flexible Fuel and Oil Cell Material	Initial
TSO-C88b	C88b	Automatic Pressure Altitude Reporting Code Generating Equipment	Rev. 2
TSO-C89a	C89a	Crew Member Oxygen Regulator, Demand	Rev. 2
TSO-C90c	C90c	Cargo Pallets, Nets and Containers	Initial
TSO-C90d	C90d	Cargo Pallets, Nets and Containers	Rev. 1
TSO-C90d	C90d A1	Cargo Pallets, Nets and Containers	Rev. 2

TSO	ETSO	SUBJECT	Revision
TSO-C92c	C92c	Ground Proximity Warning, Glide Slope Deviation Alerting Equipment	Initial
TSO-C95a	C95a	Mach Meters	Rev. 1
TSO-C96a	C96a	Anticollision Light Systems	Initial
TSO-C99a	C99a	Flight Deck (Sedentary) Crew Member Protective Breathing Equipment	Rev. 2
TSO-C100b	C100b	Child Restraint System (CRS)	Initial
TSO-C100c	C100c	Aviation Child Safety Device (ACSD)	Rev. 2
TSO-C101	C101	Overspeed Warning Instruments	Initial
TSO-C102	C102	Airborne Radar Approach and Beacon Systems for Helicopters	Initial
TSO-C103	C103	Continuous Flow Oxygen Mask Assembly (for Non-transport Category Aircraft)	Initial
TSO-C105	C105	Optional Display Equipment for Weather and Ground Mapping Radar Indicators	Initial
TSO-C109	C109	Airborne Navigation Data Storage System	Initial
TSO-C110a	C110a	Airborne Passive Thunderstorm Detection Systems	Initial
TSO-C112d	C112d	Air Traffic Control Radar Beacon System/Mode Select (ATCRSB/Mode S) Airborne Equipment	Rev. 1
TSO-C112e	C112e	Secondary Surveillance Radar Mode S Transponder	Rev. 2
TSO-C113	C113	Airborne Multipurpose Electronic Displays	Initial
TSO-C113a	C113a	Airborne Multipurpose Electronic Displays	Rev. 2
TSO-C114	C114	Torso Restraint Systems	Initial
TSO-C115c	C115c	Flight Management Systems (FMS) using Multi-Sensor Inputs	Rev. 1
TSO-C116a	C116a	Crewmember Portable Protective Breathing Equipment	Rev. 2
TSO-C117a	C117a	Airborne Windshear Warning and Escape Guidance Systems (Reactive Type) for Transport Aeroplanes	Initial
TSO-C118	C118	TCAS I	Initial
TSO-C119c	C119c	TCAS II	Initial
TSO-C119d	C119d	Airborne Collision Avoidance System II (TCAS II)	Rev. 2
TSO-C121b	C121b	Underwater Locating Device	Rev. 1
TSO-C123b	C123b	Cockpit Voice Recorders Systems	Initial
TSO-C124b	C124b	Flight Recorder	Initial
TSO-C126a	C126a	406MHz Emergency Locator Transmitter	Initial
TSO-C126b	C126b	406MHz and 121.5 MHz Emergency Locator Transmitter	Rev. 2
TSO-C127a	C127a	Rotorcraft, Transport Aeroplane, and Normal and Utility Aeroplane Seating Systems	Initial
TSO-C127b	C127b	Rotorcraft, Transport Aeroplane, and Small Aeroplane Seating Systems	Rev. 2
TSO-C129a	C129a	Airborne Supplemental Navigation Equipment Using Global Positioning System (GPS)	Initial
TSO-C132	C132	Geosynchronous Orbit Aeronautical Mobile Satellite Services Aircraft Earth Station Equipment	Initial
TSO-C135a	C135a	Transport Aeroplane Wheels and Wheel and Brake Assemblies	Initial
TSO-C139	C139	Aircraft Audio Systems and Equipment	Initial
TSO-C139a	C139a	Audio Systems and Equipment	Rev. 2
TSO-C141	C141	Aircraft Fluorescent Lighting Ballast/Fixture Equipment	Initial
TSO-C142a	C142a	Non-rechargeable Lithium Cells and Batteries	Initial

TSO	ETSO	SUBJECT	Revision
TSO-C144a	C144a	Airborne Global Positioning System Antenna	Initial
TSO-C145c	C145c	Airborne Navigation Sensors Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)	Initial
TSO-C146c	C146c	Stand-Alone Airborne Navigation Equipment Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)	Initial
TSO-C147	C147	Traffic Advisory System (TAS) Airborne Equipment	Initial
TSO-C151c	C151c	Terrain Awareness and Warning System (TAWS)	Rev. 2
TSO-C154c	C154c	Universal Access Transceiver (UAT) Automatic Dependent Surveillance - Broadcast (ADS-B) Equipment Operating on the Frequency of 978 MHz	Rev. 1
TSO-C155a	C155a	Recorder Independent Power Supply	Rev. 1
TSO-C157a	C157a	Aircraft Flight Information Services-Broadcast (FIS-B) Data Link Systems and Equipment	Rev. 1
TSO-C158	C158	Aeronautical Mobile High Frequency Data Link (HFDDL) Equipment	Rev. 1
TSO-C159a	C159a	Avionics Supporting Next Generation Satellite Systems (NGSS) = Iridium Phone	Rev. 1
TSO-C159b	C159b	Next Generation Satellite Systems (NGSS) equipment	Rev. 2
TSO-C160a	C160a	VDL Mode 2 Communications Equipment	Rev. 1
TSO-C161a	C161a	Ground Based Augmentation System Positioning and Navigation Equipment	Rev. 1
TSO-C162a	C162a	Ground Based Augmentation System Very High Frequency Data Broadcast Equipment	Rev. 1
TSO-C164	C164	Night Vision Goggles (NVG)	Rev. 1
TSO-C165	C165	Electronic Map Display Equipment for Graphical Depiction of Aircraft Position	Initial
TSO-C166b	C166b	Extended Squitter Automatic Dependent Surveillance - Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz)	Rev. 1
TSO-C166b	C166b A2	Extended Squitter Automatic Dependent Surveillance - Broadcast (ADS-B) and Traffic Information Services-Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz)	Rev. 1
TSO-C170	C170	High Frequency (HF) Radio Communications Transceiver Equipment Operating Within the Radio Frequency 1.5 to 30 Megahertz	Rev. 1
TSO-C172	C172	Cargo Restraint Strap Assemblies	Initial
TSO-C173	C173	Nickel-Cadmium and Lead-Acid Batteries	Initial
TSO-C173a	C173a	Nickel-Cadmium and Lead-Acid Batteries	Rev. 1
TSO-C174	C174	Battery Based Emergency Power Unit (BEPU)	Initial
TSO-C175	C175	Galley Cart, Containers and Associated Components	Initial
TSO-C176	C176	Aircraft Cockpit Image Recorder Systems	Initial
TSO-C177	C177	Data Link Recorder Systems	Initial
TSO-C178	C178	Single Phase 115 VAC, 400 Hz Arc Fault Circuit Breakers	Rev. 1
TSO-C179a	C179a	Rechargeable Lithium Cells and Lithium Batteries	Rev. 1
TSO-C184	C184	Galley Equipment	Rev. 1

TSO	ETSO	SUBJECT	Revision
TSO-C190	C190	Active Airborne Global Navigation Satellite System (GNSS) Antenna	Rev. 1
TSO-C194	C194	Helicopter Terrain Awareness and Warning System (HTAWS)	Rev. 1
TSO-C195a	C195a	Avionics Supporting Automatic Dependent Surveillance - Broadcast (ADS-B) Aircraft Surveillance	Rev. 1
TSO-C196a	C196a	Airborne Supplemental Navigation Sensors for Global Positioning System Equipment Using Aircraft-Based Augmentation	Rev. 1
TSO-C198	C198	Automatic Flight Guidance and Control System (AFGCS) Equipment	Rev. 1
TSO-C201	C201	Attitude and Heading Reference Systems (AHRS)	Rev. 2
2C500a	2C500a	Combined ILS/MLS Airborne Receiving Equipment	Rev. 2
2C501	2C501	Mode S Aircraft Data Link Processor	Rev. 2
2C502	2C502	Helicopter Crew and Passenger Integrated Immersion Suits	Rev. 2
2C503	2C503	Helicopter Crew and Passenger Immersion Suits for Operations to or from Helidesks Located in a Hostile Sea Area	Rev. 2
2C504	2C504	Helicopter Constant-Wear Lifejackets for Operations to or from Helidesks Located in a Hostile Sea Area	Rev. 2
2C505	2C505	Helicopter Liferrafts for Operations to and from Helidecks Located in a Hostile Sea Area	Rev. 2
2C509	2C509	Light Aviation Secondary Surveillance Transponders (LAST)	Rev. 2
2C512	2C512	Portable Gaseous Oxygen Supply (PGOS)	Rev. 2
2C513	2C513	Tow Release	Rev. 2
2C514	2C514	Airborne Systems for Non-Required Telecommunication Services (in Non-Aeronautical Frequency Bands) (ASNRT)	Rev. 2

2.0 SECTION II – AMENDMENTS OF THE LIST OF COMMON TECHNICAL STANDARD ORDERS

1. This list may be amended by mutual consent of the European Aviation Safety Agency (EASA) and National Civil Aviation Agency (ANAC). The amendments will be summarized in a Record of Amendment attached to this List. Such amendments shall be made effective by the signature of the persons responsible for the administration of this List, as identified in Section VII of this document, or their duly authorized representatives.
2. There may be cases where a E/TSO is already adopted, or in the process of being adopted by EASA in CS-ETSO and ANAC in RBAC 21.601 (b) (1) but is not yet on the Common List. If a situation warrants an interim action, EASA and ANAC may agree to recognize and adopt in writing the candidate TSO in advance of the formal inclusion to this List.

3.0 SECTION III — EXPLANATION OF E/TSO REVISION LEVELS

For purposes of granting an initial design approval, the latest revision of a standard applies. As of Revision 1 of the Common List, some E/TSOs will be listed with various revision letters. The earlier E/TSO revisions will be still accepted, but only for appliances and parts already approved and in production.

4.0 SECTION IV — ACCEPTANCE OF NON-TSO FUNCTIONS

Reciprocal acceptance of ETSO or TSO approvals is recognition that the appliance or part meets minimum performance standards that are common to EASA and ANAC. Where a E/TSO appliance or part accepted under this Common List includes non-TSO functions, these functions are accepted on the basis of non-

interference, meaning the non-TSO functions do not interfere with functionality of the appliance and/or its ability to comply with the minimum performance standards specified in the E/TSO.

5.0 SECTION V — AIRWORTHINESS APPROVAL OF E/TSO APPLIANCES OR PARTS

EASA and ANAC recognize that the acceptance of the ETSO or TSO appliance or part does not constitute an approval for installation or operational use of that appliance or part on the aircraft. E/TSO parts and appliances, including any non-TSO functions integrated in the E/TSO part or appliance must have separate approval to show compliance with the Importing Party airworthiness and/or operational requirements for installation in, or use on, an aircraft.

6.0 SECTION VI – RECIPROCAL ACCEPTANCE

When either Competent Authority grants its ETSOA or APAA based on a common TSO the other Competent Authority shall automatically accept that approval as equivalent to having granted and issued its own approval. Based on this reciprocal acceptance of ETSOA or APAA, neither EASA nor ANAC shall accept an application from the other for approval of a E/TSO appliance or part where such approval has already been issued under their authority.

7.0 SECTION VII — AUTHORITY

The Joint Sectorial Committee on Certification approves this List of Common Technical Standard Orders, as indicated by the signatures of its duly authorized representatives.

NATIONAL CIVIL AVIATION AGENCY - BRAZIL

EUROPEAN AVIATION SAFETY AGENCY

Original signed by:

Original signed by:

Roberto Honorato

Trevor Woods

Superintendent, Airworthiness Department

Certification Director

Date: 13 Sept. 2016

Date: 13 Sept. 2016

Appendix

Initial Version dated 23 April 2014

The following standards were part of the initial version of the common list:

C2d, C4c, C6e, C7d, C8e, C10b, C13f, C14b, C15d, C16a, C22g, C25a, C28, C30c, C39c, C43c, C44c, C45b, C47a, C53a, C55a, C56b, C62e, C69c, C71, C72c, C73, C79, C80, C90d, C92c, C95a, C96a, C100b, C101, C102, C103, C105, C109, C110a, C112d, C113, C114, C115c, C117a, C118, C119c, C121b, C123b, C124b, C126a, C127a, C129a, C132, C135a, C139, C141, C142a, C144a, C145c, C146c, C147, C154c, C155a, C157a, C158, C159a, C160a, C161a, C162a, C164, C165, C166b, C170, C172, C173, C174, C175, C176, C177, C178, C179a, C184, C190, C194, C195a, C196a, C198.

Revision 1 dated 13 September 2016

With Revision 1 the following standards were added to the common list:

C3e, C5f, C70b, C76b, C88b, C89a, C90c, C90d A1, C99a, C100c, C112e, C113a, C116a, C119d, C126b, C127b, C139a, C151c, C159b, C166b A2, C167, C173a, C201, 2C500a, 2C501, 2C502, 2C503, 2C504, 2C505, 2C509, 2C512, 2C513, 2C514.

The "Title" column was relabelled "Subject" as there are some differences between the actual Titles of the ETSO and TSO design standards (MPS).

In addition, a new Section VI was added to highlight a principle related to reciprocal acceptance, previous Section VI – Authority was renumbered to Section VII.