Canadian Transportation Agency

Office des transports du Canada

Aircraft Accessibility for Persons with Disabilities

Code of Practice

For fixed-wing aircraft with 30 or more passenger seats

available in multiple formats

Canada

This document and other Canadian Transportation Agency publications are available on our website at **www.cta.gc.ca**.

For more information about the Agency, please contact:

Canadian Transportation Agency
Accessible Transportation Directorate
Ottawa, Ontario K1A 0N9
Telephone: 1-888-222-2592
TTY: 1-800-669-5575
Facsimile: 819-997-6727
Email: info@otc-cta.gc.ca
Website: www.cta.gc.ca

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Purpose of the Code of Practice

This Code of Practice (Code) contains accessibility standards developed to enhance the level of accessibility for persons with disabilities when travelling by air, and sets out what the Canadian Transportation Agency expects of aircraft operators.

In addition to this Code, the Agency administers two sets of regulations pertaining to accessible transportation:

1. The *Air Transportation Regulations* (ATR), Part VII, Terms and Conditions of Carriage of Persons [with Disabilities], ensure that air carriers provide uniform services to passengers with disabilities, travelling in Canada on aircraft with 30 or more passenger seats.
2. The *Personnel Training for the Assistance of Persons with Disabilities Regulations* ensure that personnel working in the air transportation network have the knowledge, skills and attitudes necessary to assist passengers with disabilities in an effective and sensitive fashion.

In this Code, the Agency addresses the physical accessibility of equipment used in air transportation. Where possible, it avoids precise measurements and rigid descriptions of exact procedures to be followed. Instead, it offers practical, functional, operations-oriented solutions to problems faced by persons with disabilities who travel by air.

While this Code focuses on the needs of persons with disabilities while they travel, the provisions contained in the Code will benefit most travellers.

The Agency emphasizes that this Code presents minimum standards that those subject to it are expected to meet and urged to exceed wherever possible. The Agency also encourages aircraft operators subject to the Code to consult with persons with disabilities or disability associations when developing and testing new designs and services.

Scope

The Code covers three main aspects of accessibility for fixed-wing aircraft with 30 or more passenger seats:

1. Aircraft Accessibility
2. Maintenance
3. Communication

Provisions related to air terminals that are part of the National Airports System[1] can be found in the Agency's Code of Practice: Passenger Terminal Accessibility. Provisions for smaller air terminals that fall outside the scope of the National Airports System can be found in the Agency's Code of Practice: Accessibility of Non-National Airports System Air Terminals.

Who is covered by this Code

The Agency expects all Canadian air carriers (as defined in the *Canada Transportation Act*) that provide passenger service to follow the Air Code, in respect of operations using fixed-wing aircraft with 30 or more passenger seats, and only with respect to those areas of an aircraft that may be used by the general public.

There are a few instances, however, where the provisions in this Code apply only to large aircraft. Also, air carriers that lease a foreign-registered aircraft for longer than 90 days for operational requirements or to replace an aircraft undergoing maintenance or servicing are urged to ensure that the aircraft satisfies the criteria in this Code.

Note: In determining whether an aircraft is subject to this Code, an air carrier should consider a passenger seat to be a seat on board an aircraft that is ordinarily occupied by a passenger.

Technical specifications for accessibility

The Agency recognizes the expertise of the Canadian Standards Association (CSA) in establishing appropriate dimensions and design features for buildings and other facilities which are meant to ensure access and use by persons with disabilities.

The CSA's CAN/CSA-B651, *Accessible Design for the Built Environment* (CSA design standard) is a national, technical standard covering a broad range of building and environmental facilities that can be referenced in whole or in part by adopting authorities.

Although it is recognized that the CSA's CAN/CSA-B651 was developed as a standard for buildings, it contains many criteria that are just as applicable to accessibility features on aircraft, such as accessible controls and operating mechanisms, handrails, signage and grab bars. Therefore, air carriers are encouraged to refer to this standard and, where it is appropriate to do so, to adopt the technical specifications it contains for the

[1] National Airports System is comprised of a number of Canadian airports as determined by Transport Canada and amended from time to time, and includes airports serving the national, provincial and territorial capitals. Refer to Transport Canada's National Airports Policy for more details.

design and construction of a new aircraft or when planning a major retrofit or the replacement of equipment.

The Agency emphasizes that the CSA design standard presents minimum standards, which air carriers are encouraged to exceed.

Section 1: Aircraft accessibility

1.0 Signage

Signage provided on an aircraft to aid passengers should satisfy the criteria set out below. (As safety and crew signage are regulated by Transport Canada, they are not covered by these specifications).

Note: Additional information on signage can be found in the Agency's Code of Practice: *Removing Communication Barriers for Passengers with Disabilities*.

1.0.1 Signage should be positioned to avoid shadow areas and glare.

1.0.2 Signage should be positioned at key decision-making points, such as washrooms, emergency exits, doors, and boarding stairs, where there is no impediment.

1.0.3 Where an impediment is present, signage is to be placed in the nearest logical alternative place.

1.0.4 Letters, numbers, symbols and pictographs should be glare-free and presented in high contrasting colours (e.g., a light colour on a dark background or a dark colour on a light background, with light on dark being preferable for signage). Colour combinations that should be avoided include yellow/grey, yellow/white, blue/green, red/green, black/violet and red/black.

1.0.5 Letters and numbers should be in the sans serif font, and numbers should be Arabic. Letters and numbers should have at least a width-to-height ratio between 3:5 and 1:1 and a stroke-width-to-height ratio between 1:5 and 1:10. Fonts that use bold, rounded, very thick, very thin or condensed styles should be avoided. Upper- and lower-case lettering is encouraged and the use of all caps (except when tactile signs are used) should also be avoided.

1.0.6 When tactile signage or markers are used, letters, numbers, symbols and pictographs should be raised at least 0.08 cm (0.8 mm) and should be between 1.6 cm (16 mm) and 5.0 cm (50 mm) high.

1.0.7 If signage is supplemented with braille, it should be located at the bottom of the sign and presented in Grade One Braille that meets the standards of the Braille Literacy Canada in English and in *Braille intégral* that meets the standards of the

Code braille français uniformisé pour la transcription des textes imprimés (CBFU) in French.

1.0.8 If electronic signage is used, letters, numbers, symbols and pictographs should be slowly scrolled across the screen. Red letters on a black background should not be used.

1.1 Lighting

1.1.1 Lighting on an aircraft, except reading and other lighting under the control of a passenger, should be directed and controlled so as to minimize glare and shadows.

1.1.2 Lighting should not result in any sharp contrasts in intensity throughout the passenger cabin.

1.2 Integrated boarding stairs

1.2.1 Integrated boarding stairs on an aircraft should have uniform riser heights and uniform tread depths. The height of the first step on and last step off should not exceed the uniform riser height.

1.2.2 Tactile warning surfaces should extend the full width of the stairs, commencing one tread depth from the edge of the stair.

1.2.3 The tread surfaces of the stairs should be firm and non-slippery and should not create glare.

1.2.4 The top outer edge of each step should be marked by a contrasting colour strip 50 ± 10 cm (500 ± 100 mm) deep that runs the full width of the step and is readily apparent from both directions of travel.

1.2.5 Integrated boarding stairs should have handrails on both sides.

1.2.6 If structural limitations of an aircraft prevent any of the above criteria from being satisfied, an air carrier should provide assistance, if requested, to a person with a disability in ascending and descending the stairs.

Note: If there are no structural limitations, this in no way reduces an air carrier's responsibility to provide requested assistance in boarding and deplaning, as required by the terms and conditions of carriage provisions contained in Part VII of the *Air Transportation Regulations*.

1.3 Handrails

1.3.1 Handrails on integrated boarding stairs and throughout the aircraft should be sturdy, rounded, smooth and slip-resistant. They should also be of a height and length that permit use by all passengers.

1.3.2 Handrails should have a diameter of not more than 4 cm (40 mm), so that the thumb and fingers can lock around the handrail. They should not have any obstructions that could break a handhold.

1.3.3 Handrails should be colour contrasted from their surrounding areas or marked with a contrasting colour strip that runs the full length of the handrail.

1.3.4 Handrails should also return to the wall, floor or post in a smooth curve or have a tactile cue at the end.

1.3.5 If structural limitations of an aircraft prevent the above criteria from being satisfied, air carriers should provide assistance, if requested, to a person with a disability in ascending and descending the stairs.

Note: If there are no structural limitations, this in no way reduces an air carrier's responsibility to provide requested assistance in boarding and deplaning as required by the terms and conditions of carriage provisions contained in Part VII of the *Air Transportation Regulations*.

1.4 Floor surfaces

1.4.1 Floor surfaces on an aircraft should be glare-free, slip-resistant, and not be heavily patterned.

1.5 Seats with floor space to accommodate a service animal

1.5.1 Each class section of the passenger cabin of an aircraft, e.g., first class, business class, and economy class, should have a number of passenger seats, other than exit row seats, that provide enough floor space for a service animal[2] to lie down comfortably. The handler should also have sufficient leg and foot room for safety and comfort.

1.5.2 This section should be read in conjunction with the *Implementation Guide Regarding Space for Service Dogs Onboard Large Aircraft*.

[2] "Service animal" means an animal that is required by a person with a disability for assistance and is certified, in writing, as having been trained to assist a person with a disability by a professional service animal institution.

Note: The Agency has published a resource tool for carriers and persons with disabilities about travelling with animals that provide disability-related assistance.

1.6 Tactile row markers

1.6.1 Tactile markers to indicate row numbers should be placed on overhead bins or on passenger aisle seats.

1.6.2 Tactile markers should be placed within reach of passengers.

1.6.3 This section should be read in conjunction with the *Implementation Guide Regarding Tactile Row Markers Onboard Large Aircraft*.

1.7 Storage space for passenger-owned wheelchairs

1.7.1 Aircraft with 100 or more passengers seats should have a priority space in the passenger cabin designated for stowage of at least one manually-operated folding or collapsible wheelchair owned by a passenger.

Note: The determination of the storage location should be at the discretion of the carrier in order to ensure compliance with cabin safety obligations and to permit the carrier to identify and determine the most appropriate location based on the aircraft's configuration.

1.8 Armrests

1.8.1 At least 50 per cent of the aisle armrests on the passenger aisle seats in aircraft purchased or leased after January 1999 should be movable. If possible, the passenger seats with movable aisle armrests should be evenly distributed throughout the aircraft.

1.8.2 For existing passenger seats in aircraft that are being replaced with newly manufactured passenger seats, the aisle armrests on the newly manufactured passenger seats should be movable. This practice should continue until such time as the above criteria in Section 1.8.1 concerning 50 per cent movable armrests and even distribution are satisfied.

1.8.3 Where the space around a passenger seat in first or business class permits the transfer of a passenger to and from an on-board wheelchair without the requirement to lift the passenger over the armrest, that seat can be considered as one with a movable armrest for the purpose of satisfying the criteria set out in Section 1.8.1.

1.8.4 With respect to passenger seats in first or business class that do not have enough space for such a transfer and whose current design does not permit the armrest to be movable, air carriers are encouraged to explore new designs and

technology that would result in a passenger in an on-board wheelchair being able to transfer with ease to and from these seats.

1.9 Washrooms

The level of accessibility expected for washrooms depends on the number of aisles in the aircraft.

1.9.1 Washrooms on aircraft with more than one aisle

Aircraft with more than one aisle have more space. At least one washroom should be accessible to persons with disabilities, including persons using an on-board wheelchair. The washroom should satisfy the criteria for washrooms.

Air carriers are expected to have these aircraft designed or retrofitted to include a wheelchair-accessible washroom. Carriers are also encouraged to be innovative and to pursue the possibility of having a washroom that is large enough to accommodate a person in an on-board wheelchair and their attendant. For example, carriers may use a retractable curtain that can be drawn around the area outside the washroom to provide additional space and privacy. Another design which accommodates a person using a wheelchair and their attendant is one which permits the joining of two adjacent washrooms through expandable and/or retractable walls.

1.9.2 Washrooms on aircraft with one aisle

For aircraft with one aisle, at least one washroom should be accessible to persons with disabilities, with the exception of persons using an on-board wheelchair. The washroom should satisfy the criteria for washrooms.

Aircraft with only one aisle have space limitations that, in most cases, prevent a washroom from having enough room to accommodate a person in an on-board wheelchair. For this reason, air carriers are not expected to have these aircraft designed or retrofitted to include a wheelchair-accessible washroom, although they are encouraged to be innovative and to pursue possibilities of devising means to accommodate a person in an on-board wheelchair in a washroom on these aircraft.

1.10 On-board wheelchairs provided by air carriers

1.10.1 On an aircraft with a washroom able to accommodate a person in an on-board wheelchair, there should be, at all times, at least one on-board wheelchair.

1.10.2 The on-board wheelchair should have a design that permits easy transfer of an occupant and easy manoeuvering of the chair, with assistance, in the aircraft.

It should have footrests, armrests that are movable or removable, an occupant restraint device and wheel locks.

1.10.3 In some instances, a person may be able to use a washroom that cannot accommodate an on-board wheelchair but is not able to reach the washroom from a passenger seat without the use of an on-board wheelchair. In such cases, and when the passenger makes a request for an on-board wheelchair in advance of their flight, and where the design of the aircraft permits, the air carrier should ensure that there is space allocated within the passenger cabin to carry an on-board wheelchair.

Section 2: Maintenance

2.0.1 An air operator should have procedures in place to ensure that all aircraft accessibility features are maintained in good working order.

Section 3: Communication

3.0 Announcements

3.0.1 Air carriers should have the means within the aircraft of providing announcements, such as those concerning stops, delays, connections and onboard services, visually and verbally to persons with disabilities.

3.1 Supplemental passenger briefing cards

3.1.1 Air carriers should provide large print and Braille supplemental passenger briefing cards on aircraft. Briefing cards should advise persons with disabilities that they may request a personal individual briefing, should they require one.

3.1.2 A sufficient number of these cards (at least two is recommended) should be made available in: 14 point or larger sans serif type; use dark characters on a light background; and in Grade Two Braille that meets the standards of Braille Literacy Canada in English and in *Braille intégral* that meets the standards of the *Code braille français uniformisé pour la transcription des textes imprimés* (CBFU) in French.

Additional references

- Accessibility of washrooms
- Standards and guidelines
- Communications
- Assistive devices and technical aids
- Facility accessibility
- Contacts

Implementation guides

- Space for service dogs
- Tactile row markers

Other standards that apply to aircraft

- *Personnel Training for the Assistance of Persons with Disabilities Regulations*
- Removing Communication Barriers for Travellers with Disabilities (Communication Code)

About the Agency

Our role in accessible transportation

The Agency is responsible for ensuring that undue obstacles to the mobility of persons with disabilities are removed from federally-regulated air, rail, ferry and bus services and facilities. It seeks to remove these obstacles by:

- administering regulations and codes of practice;
- educating the transportation industry and the community of persons with disabilities about their rights and responsibilities;
- ruling on accessibility-related disputes and by ordering corrective measures as required.

Note: The Agency has developed a resource tool that provides information on how to file a complaint regarding a problem encountered by a person with a disability and that also explains the approaches the Agency uses in resolving accessible transportation complaints.

The Agency has also developed a resource tool for transportation service providers, that provides information on how to resolve a complaint from a person with a disability who believes they have encountered an undue obstacle.

How we monitor compliance

The Agency will monitor compliance with this Code using a variety of means. For example, the Agency may monitor via site visits, discussions with aircraft operators, information available on the operator's website, or other methods deemed appropriate to obtain information. In addition, the Agency will undertake periodic reviews of the Code. Any problems identified will be addressed by the Agency.

It should be kept in mind that safety on board an aircraft is not the responsibility of the Agency. Aircraft operators must continue to comply with the provisions of any safety regulation included in or made under the *Aeronautics Act* and any applicable Transport Canada or international safety regulation as well as any applicable Health Canada directive.

How this Code of Practice was developed

Consultations

This Code and its supporting material has been developed and updated in consultation with representatives of the Agency's Accessibility Advisory Committee, including aircraft operators and associations representing persons with disabilities.

Additional resources

Accessible Transportation Complaints: A Resource Tool for Persons with Disabilities

This resource tool provides information on how to file a complaint regarding an "undue obstacle" encountered by a person with a disability in the federal transportation system.

Accessible Transportation Complaints: A Resource Tool for Service Providers

This resource tool provides information on how to resolve a complaint from a person with a disability who believes they have encountered an undue obstacle with respect to transportation-related services in the federal transportation system.

Carriage of Mobility Aids On Board Planes, Trains and Ferries

This resource tool will assist passengers and ferry operators in the planning of and preparation for travel involving mobility aids, and includes a new reservation checklist that can facilitate the planning of carriage of mobility aids.

Travelling with an Attendant in the Federal Transportation System: A Resource Tool for Persons with Disabilities and Carriers

This resource tool provides information to assist passengers with disabilities who either wish to or are required travel with an attendant, to do so while understanding their rights and responsibilities.

This resource tool also provides information to help aircraft operators facilitate travel for their passengers with disabilities when this may entail travel with an attendant.

Travelling with Animals that Provide Disability-Related Assistance: A Resource Tool for Persons with Disabilities, Carriers and Terminal Operators

This resource tool contains information about:

- Canadian standards for the carriage of assistance animals;
- How assistance animals help persons with disabilities;
- Factors for carriers to consider when determining under what conditions assistance animals may be accepted for carriage;
- How persons with disabilities should plan their travel with an assistance animal; and
- Relieving areas for assistance animals at terminal facilities.

Universal design

Barrier-free design generally refers to design that incorporates specific elements to make environments more accessible, focussing on disability and accommodating persons with disabilities in the environment.

In contrast, universal design results in design that is useable by the widest range of users, not just an “average” user. This means that a design is intended for use by all users, not just persons with disabilities. For example, onboard washroom doors that can be operable with one hand and that do not involve fine finger control, tight grasping, pinching or twisting of the wrist is a design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

For example, airlines could offer functional elements using universal design principles to accommodate passengers with diverse usability needs, such as easy to understand characters for signs, symbols that can be understood at a glance (pictograms), or easy

to push buttons for operating various seat features. These features are beneficial to all passengers.

Universal design benefits all travellers, including persons with disabilities, persons who are elderly, persons travelling with luggage, and persons travelling with young children. This may result in an increased use of public transportation as transportation becomes more accessible for all.

Consideration should be given to these design principles whenever an aircraft operator is involved in the procurement of an aircraft or when planning a major retrofit.

Additional information can be found on the Centre for Excellence in Universal Design website, which includes a list of the Principles of Universal Design and examples of their implementation.