



Advisory Circular

Subject: Guidance Regarding Amendment to Subpart 704 of the CARs, Division IV - Aircraft Performance Operating Limitations

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1.0 Introduction

- (1) This Advisory Circular (AC) is provided for information and guidance purposes. It describes an example of an acceptable means, but not the only means, of demonstrating compliance with regulations and standards. This AC on its own does not change, create, amend or permit deviations from regulatory requirements.

1.1 Purpose

- (1) The purpose of this document is to inform the aviation industry of significant changes respecting Subpart 704 of the *Canadian Aviation Regulations* (CARs), Division IV - Aircraft Performance Operating Limitations.

1.2 Applicability

- (1) This AC provides background information and details the changes respecting Subpart 704 of the CARs, Division IV - Aircraft Performance Operating Limitations.
- (2) This AC is applicable to:
 - (a) Canadian air operators holding an Air Operator Certificate (AOC) issued under subpart 704 of the CARs;
 - (b) Pilots, flight dispatchers and other operations personnel employed by the air operators, listed above;
 - (c) Transport Canada Civil Aviation (TCCA) inspectors with certification and safety oversight responsibilities; and
 - (d) Individuals and organizations that exercise privileges granted to them under an External Ministerial Delegation of Authority.
- (3) This information is also provided to the aviation industry at large for information and guidance purposes.

1.3 Description of changes

- (1) Not applicable.

2.0 References and requirements

2.1 Reference documents

- (1) It is intended that the following reference materials be used in conjunction with this document:
 - (a) [Aeronautics Act](#) (R.S.C., 1985, c. A-2)
 - (b) Chapter 523 of the Airworthiness Manual (AWM) — Normal Category Aeroplanes
 - (c) Chapter 525 of the AWM — Transport Category Aeroplanes
 - (d) Subpart 704 of the *Canadian Aviation Regulations* (CARs), Division IV — Aircraft Performance Operating Limitations
 - (e) Advisory Circular (AC) 700-011 — Operations on Runways with Unpaved Surfaces
 - (f) AC 700-016 — Compliance with Regulations and Standards for Engine-Inoperative Obstacle Avoidance

- (g) AC 700-049 — Missed Approaches with Published Climb Gradients: Special Authorization and Guidance
- (h) Title 14, *US Code of Federal Regulations*, Part 25—Airworthiness Standards: Transport Category Airplanes
- (i) Title 14, *US Code of Federal Regulations*, Part 23— Airworthiness Standards: Normal Category Airplanes
- (j) Australian Government, Civil Aviation Authority, Civil Aviation Advisory Publication, CAAP 235-4(0), dated November 2006. Acknowledgement: Copyright Commonwealth of Australia reproduced by permission

2.2 Cancelled documents

- (1) Not applicable.
- (2) By default, it is understood that the publication of a new issue of a document automatically renders any earlier issues of the same document null and void.

2.3 Definitions and abbreviations

- (1) The following **definitions** are used in this document:
 - (a) **Air Operator:** means holder of an air operator certificate.
 - (b) **Certified Engine-Inoperative Climb Performance Information:** In the context of this AC and subpart 704 of the CARs, this term refers to Aircraft Flight Manual (AFM) performance information which satisfies the engine-inoperative take-off performance requirements that are specified in sections 704.47 of the CARs – Net Take-off Flight Path as well as the applicable provisions in the *Commercial Air Service Standard* (CASS) for Take-off Minima Reported RVR 1,200 feet (1/4 mile) and Reported RVR 600 feet. Aeroplanes certified in accordance with any of the following standards have the required AFM performance information to meet the above-noted engine-inoperative take-off performance requirements:
 - (i) Chapter 523 of the Airworthiness Manual (AWM) ; — Normal, Utility, Aerobatic and Commuter Category Aeroplanes;
 - (ii) Chapter 525 of the AWM — Transport Category Aeroplanes;
 - (iii) Federal Aviation Administration (FAA), *Federal Aviation Regulations* (FAR) 23 Commuter Category at amendment 23-34 or later;
 - (iv) FAA Regulation FAR Part 25 — Airworthiness Standards: Transport Category Airplanes; and
 - (v) FAA Special *Federal Aviation Regulations* (SFAR) 41C and the performance requirements of International Civil Aviation Organization (ICAO) Annex 8.

Note 1: Due to the change of the TCCA certification standards to performance-based standards, Chapter 523 of the Airworthiness Manual (AWM) – Normal, Utility, Aerobatic and Commuter Category aeroplanes is now named Chapter 523 or the Airworthiness Manual (AWM) – Normal Category Aeroplanes. The terminology from the superseded prescriptive standards is maintained in this text, as it reflects the current regulatory reference in CAR subpart 704, division 4.

Note 2: Due to the change of the FAA certification standards to performance-based standards, Title 14 CFR part 23 – Commuter Category airplanes is now named part 23 – Normal Category Airplanes. The terminology from the superseded

prescriptive standards is maintained in this text, as it reflects the current regulatory reference in CAR subpart 704, division 4.

Note 3: SFAR 41C is referred to as sFAR 41 in the superseded CAR subpart 704 and section 724 of the CASS quoted in column 2 of the appendix.

- (c) **Commuter Category Aeroplane:** A multi-engine aeroplane that has a seating configuration, excluding pilot seats, of 19 or less, and a maximum certificated take-off weight of 8618 kg (19,000 lbs.) or less, and is certificated in accordance with Chapter 523 of the Airworthiness Manual (AWM) ; — Normal, Utility, Aerobatic and Commuter Category Aeroplanes, or equivalent foreign certification standard.

Note 1: Due to the change of the TCCA certification standards to performance-based standards, Chapter 523 of the Airworthiness Manual (AWM) – Normal, Utility, Aerobatic and Commuter Category aeroplanes is now named Chapter 523 or the Airworthiness Manual (AWM) – Normal Category Aeroplanes. The terminology from the superseded prescriptive standards is maintained in this text, as it reflects the current regulatory reference in CAR subpart 704, division 4.

Note 2: Due to the change of the FAA certification standards to performance-based standards, Title 14 CFR part 23 – Commuter Category airplanes is now named part 23 – Normal Category Airplanes. The terminology from the superseded prescriptive standards is maintained in this text, as it reflects the current regulatory reference in CAR subpart 704, division 4.

- (d) **Gross Flight Path:** The actual vertical flight path the aeroplane is expected to achieve when loaded at a weight to satisfy the required vertical clearances along the Net Take-off Flight Path. The Gross Flight Path is also referred to as the Actual Flight Path.
- (e) **Gravel Runway:** A type of runway with an unpaved surface constructed from a pavement with an unbound granular surface composed of sand, clay, crushed stone or other soil materials.
- (f) **Large Aeroplane:** means an aeroplane with a maximum certificated take-off weight (MCTOW) of more than 5 700 kg (12,566 pounds).
- (g) **Net Take-off Flight Path:** The net take-off flight path is the gross take-off flight path diminished by the required margins (0.8 percent for commuter and transport category two-engine aeroplanes) or the equivalent reduction in acceleration along that part of the take-off flight path at which the aeroplane is accelerated in level flight. The net take-off flight path must clear all obstacles by at least 35 feet vertically, by at least 200 feet horizontally within the aerodrome boundaries, and by at least 300 feet horizontally outside of those boundaries.

Note: Refer to AC 700-016 for the methodology for obstacle assessment within the prescribed area.

- (h) **Non-Scheduled Air Service:** Commercial air service operated on an on-demand basis.
- (i) **Seaplane:** means an aeroplane capable of normal operations on water.
- (j) **Small Aeroplane:** means an aeroplane having a maximum permissible take-off weight of 5 700 kg (12,566 pounds) or less.
- (k) **Special Authorizations/Specific Approvals (SA)** are authorizations issued by the Minister under Subpart 604 or Part VII of the CARs that permit the carrying out of an activity in respect of which the Minister has established requirements. SAs are included as part of the Operations Specifications.
- (l) **Transport Category Aeroplane:** means an aeroplane certified pursuant to Chapter 525 of the *Airworthiness Manual* or an equivalent foreign airworthiness standard.

- (m) **Unprepared Surface:** Any naturally occurring surface used as a runway that has not been altered by man.
- (2) The following **abbreviations** are used in this document:
- (a) **AC:** Advisory Circular
 - (b) **AEO:** All-Engines-Operating
 - (c) **AFM:** Aircraft Flight Manual
 - (d) **ASD:** Accelerate-Stop Distance
 - (e) **ASDA:** Accelerate-Stop Distance Available
 - (f) **AWM:** Airworthiness Manual
 - (g) **CARs:** *Canadian Aviation Regulations*
 - (h) **CASS:** *Commercial Air Service Standard*
 - (i) **CFR:** *Code of Federal Regulations*
 - (j) **COM:** Company Operations Manual
 - (k) **FAA:** Federal Aviation Administration
 - (l) **FAR:** *Federal Aviation Regulation*
 - (m) **PIC:** Pilot-in-Command
 - (n) **POH:** Pilot Operating Handbook
 - (o) **SA:** Special Authorization / Specific Approval
 - (p) **SFAR:** *Special Federal Aviation Regulation*
 - (q) **TC:** Transport Canada
 - (r) **TCCA:** Transport Canada Civil Aviation
 - (s) **TCDS:** Type Certificate Data Sheet
 - (t) **TOD:** Take-off Distance
 - (u) **TODA:** Take-off Distance Available
 - (v) **TOR:** Take-off Run; and
 - (w) **TORA:** Take-off Run Available.
- (3) Additional **definitions** and **abbreviations** can be found in:
- (a) AC 100-001 – Glossary for Pilots and Air Traffic Services Personnel
 - (b) AC 700-016 — Compliance with Regulations and Standards for Engine-Inoperative Obstacle Avoidance
 - (c) AC 700-011 — Operations on Runways with Unpaved Surfaces
 - (d) AC 700-049 — Missed Approaches with Published Climb Gradients: Special Authorization and Guidance
 - (e) Chapter 523 of the Airworthiness Manual (AWM); — Normal Category Aeroplanes
 - (f) Chapter 525 of the AWM; — Transport Category Aeroplanes
 - (g) CAR 700.01, Division I - General

3.0 Background

3.1 General

- (1) On December 20, 2010, U.S. Federal Aviation Administration (FAA) regulations came into force that imposed revised take-off and climb performance requirements for aeroplanes engaged in commercial operations. The FAA imposed minimum type certification requirements applicable to large aeroplanes, turbojet powered aeroplanes and small propeller driven aeroplanes engaged in scheduled operations carrying 10 to 19 passengers. The FAA regulations required more stringent performance requirements to account for an engine failure during take-off (Take-off weight limitations) and climb (Net Take-off Flight Path).
- (2) The latest amendments to Subpart 704 of the CARs, Division IV - Aircraft Performance Operating Limitations were implemented to ensure that Canada maintains a similar standard of safety to that of the United States:
 - (a) Prior to the promulgation of the latest amendment to subpart 704 of the CARs, Canada was not in alignment with FAA take-off performance regulations for similar commuter operations. Scheduled Canadian commuter operations were able to use small or older aeroplanes that lacked Aircraft Flight Manual (AFM) information necessary to compute the allowable take-off weight that assured a safe take-off and obstacle clearance in the event of an engine failure.
 - (b) Until these new regulations came into effect, aeroplanes no longer eligible for U.S. operations could be acquired by Canadian operators for use in CAR 704 scheduled operations, resulting in a lower level of safety.

3.2 Objectives

- (1) The objectives of the amendments to Subpart 704 of the CARs, Division IV - Aircraft Performance Operating Limitations, are to increase safety and improve harmonization with U.S. regulations. These goals are achieved by:
 - (a) **Increasing safety:** The amendments are intended to ensure that an air operator does not operate an aeroplane in the commuter category with 10 to 19 ^{Note 1} passenger seats in a scheduled service for the transport of passengers, without having the required AFM take-off performance information or minimum type certification performance requirements. The amendments are also intended to ensure that all aeroplanes operating on gravel runways are certified for those operations; and
 - (b) **Closer harmonization with U.S. regulations:** The amendments are intended to ensure that CAR 704 is more harmonized with similar FAA performance regulations for commuter operations by introducing similar minimum certification standards as those for the FAA commuter operations. This amendment ensures that Canadian air operators do not import or operate aeroplanes in Canada that do not meet regulatory requirements.

Note 1: Normal category, level 4 certification level, has replaced the commuter category in chapter 523 of the Canadian Airworthiness Manual and in the American 14 CFR Part 23 regulations.

3.3 Description:

- (1) The amendments to Subpart 704 of the CARs, Division IV - Aircraft Performance Operating Limitations, are primarily designed to:
 - (a) Introduce operational requirements which require air operators to comply with minimum type certification standards. Specifically, the aircraft must be certified in accordance with

- Commuter Category or Transport Category Airworthiness Standards, which require engine inoperative take-off and net take-off flight path performance standards;
- (b) Expand the requirement for air operators of small aeroplanes in scheduled operations with 10 to 19 passengers, to limit the weight of an aeroplane to satisfy engine inoperative take-off and net take-off (engine-inoperative) flight path requirements; and
 - (c) Introduce a requirement for all aeroplanes (i.e., both propeller-driven and turbojet powered aeroplanes) conducting take-offs from, and landings on, gravel runways to do so in accordance with the gravel runway information contained in the AFM.
- (2) The amendments to Subpart 704 of the CARs, Division IV - Aircraft Performance Operating Limitations, are also intended to simplify the regulations by transferring provisions relating to aircraft performance operating limitations from the *Commercial Air Service Standards* (CASS) to the CARs. The relocation of these provisions will not have any impact on air operators, since they will not result in any change to the intent or scope of these provisions.

3.4 Application and Structure of this Advisory Circular

- (1) This AC provides guidance applicable to the latest amendment of the regulations promulgated for Subpart 704 of the CARs, Division IV - Aircraft Performance Operating Limitations.
- (2) To accomplish the above stated objectives, this AC is structured in the following sections:
 - (a) **Main Body:** Provides background information and general guidance.
 - (b) **Appendix A:** Provides a matrix which describes:
 - (i) The text of the new provision;
 - (ii) The text of the superseded provision, if applicable; and
 - (iii) An explanation of the change.

4.0 Transport Canada Civil Aviation approval

- (1) The subject regulations and all documentation associated with this AC are subject to TCCA safety oversight as per the applicable provisions in the *Aeronautics Act* and CARs.

5.0 Future Disposition

- (1) TCCA is committed to maintaining a viable civil aviation transportation system, while not compromising safety. This AC will remain in effect for information purposes until further notice.

6.0 Information management

- (1) Not applicable.

7.0 Document history

- (1) Not applicable.

8.0 Contact us

For more information, please contact:

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We invite suggestions for amendment to this document. Submit your comments to:

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Appendix A — Summary of changes

Amendment to Subpart 704 of the CARs, Division IV - Aircraft Performance Operating Limitations

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.43 – Non application</p> <p>This Division does not apply to a seaplane when it takes off from or lands on water.</p>	<p>Not Applicable</p>	<p>CAR 704.43 is a new provision which defines the applicability of this Division, and indicates that this division does not apply to seaplanes as stated.</p>
<p>Not Applicable</p>	<p>704.44 – Exceptions</p> <p>A person may operate an aircraft without complying with the requirements of this Division if the person:</p> <ul style="list-style-type: none"> (a) is authorized to do so in an air operator certificate; and (b) complies with the <i>Commercial Air Service Standards</i>. 	<p>The former CAR 704.44 was the rule of conduct which enabled relief from specific requirements of Division IV, Aircraft Performance Operating Limitations of CAR 704. The granting of relief previously required an authorization in the air operator certificate, and compliance with the applicable <i>Commercial Air Service Standards</i>.</p> <p>The provisions of the Division IV, Aircraft Performance Operating Limitations, <i>Commercial Air Service Standards</i> (CASS) have been integrated into the new CAR 704 regulations. An authorization in the air operator certificate is no longer required.</p>
<p>704.44 – Calculations</p> <p>Any determination made for the purposes of sections 704.45 to 704.51 shall be based on the approved performance information specified in the aircraft flight manual</p>	<p>704.45 – General Requirements</p> <p>Any determination made for the purposes of sections 704.46 to 704.50 shall be based on approved performance data set out in the aircraft flight manual.</p>	<p>No change in intent of the provisions of the superseded CAR 704.45</p> <p>Minor wording changes and modification to provision numbering made.</p>

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.45 (1) – Type Certification Performance Requirements</p> <p>No air operator shall authorize a flight unless the aeroplane has been certified on the basis of the type certification performance requirements set out in</p> <ul style="list-style-type: none"> (a) Subchapter B Flight — General of Chapter 523 — Normal, Utility, Aerobatic and Commuter Category Aeroplanes or Subchapter B Flight — General of Chapter 525 — Transport Category Aeroplanes of the Airworthiness Manual; (b) Part 23 — at amendment 23-34 and later — or Part 25, Title 14 of the <i>Code of Federal Regulations</i> (CFR) of the United States; or (c) <i>Special Federal Aviation Regulation</i> (SFAR) 41C, published by the Government of the United States, which includes the performance requirements set out in Annex 8 to the Convention. 	<p>Not Applicable</p>	<p>This new provision introduces minimum type certification performance requirements (standards) for aeroplanes operating under CAR subpart 704. These are similar to changes to FAA Title 14 CFR part 23 and part 25, type certification performance requirements, which came into force in the U.S. on December 20, 2010.</p> <p>Air operators must ensure that their fleet is compliant with the new type certification performance requirements to be eligible for CAR 704 operations.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Air Operators should consult the AFM and TCDS applicable to an aircraft type to establish the certification basis and type certification performance requirements. 2. The provisions of SFAR 41C, including the performance requirements of ICAO Annex 8, were incorporated into FAA Part 23, at amendments 23-34. These two particular certification standards are considered to be equivalent standards.
<p>704.45 (2)</p> <p>Despite subsection (1), an air operator may authorize the take-off of an aeroplane if the aeroplane has fewer than 10 passengers or is operated in a non-scheduled air service.</p>	<p>Not Applicable</p>	<p>Relief from the certification performance requirements listed under subsection 704.45 (1) is available if the aeroplane is operated with fewer than 10 passengers or the aeroplane is operated in a non-scheduled air service.</p>

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.46 (1) - Take-off and Landing Weight Limitations</p> <p>Subject to section 704.51, no air operator shall authorize a flight — and no person shall conduct a take-off — in an aeroplane unless the following conditions are met:</p> <ul style="list-style-type: none"> (a) the weight of the aeroplane does not exceed the maximum take-off weight specified in the aircraft flight manual for the pressure-altitude and the ambient temperature at the departure aerodrome; and (b) after allowing for planned fuel consumption during the flight to the destination aerodrome or alternate aerodrome, the weight of the aeroplane does not exceed the maximum landing weight specified in the aircraft flight manual for the pressure-altitude and the ambient temperature at the destination aerodrome or alternate aerodrome. 	<p>704.46 (1) - Take-off and Landing Weight Limitations</p> <p>No person shall conduct a take-off in an aircraft if the weight of the aircraft</p> <ul style="list-style-type: none"> (a) exceeds the maximum take-off weight specified in the aircraft flight manual for the pressure-altitude and the ambient temperature at the aerodrome where the take-off is to be made; or (b) after allowing for planned fuel consumption during the flight to the destination aerodrome or alternate aerodrome, exceeds the landing weight specified in the aircraft flight manual for the pressure-altitude and the ambient temperature at the destination aerodrome or alternate aerodrome. 	<p>In addition to being applicable to the pilot, this new provision also applies to the air operator.</p>

<p>704.46 (2)</p> <p>In the determination of the maximum take-off weight referred to in paragraph (1)(a) for a propeller-driven aeroplane having an MCTOW of not more than 5 700 kg (12,566 pounds),</p> <p>(a) the required accelerate-stop distance specified in the aircraft flight manual shall not exceed the accelerate-stop distance available (ASDA) unless</p> <p>(i) the maximum take-off weight is not limited by the accelerate-stop distance requirements set out in the aircraft flight manual, and</p> <p>(ii) the aeroplane has fewer than 10 passengers or is operated in a non-scheduled air service; and</p> <p>(b) the all-engines-operating take-off distance specified in the aircraft flight manual shall not exceed the take-off distance available (TODA).</p>	<p>704.46 (2)</p> <p>In the determination of the maximum take-off weight referred to in subsection (1) for a small aeroplane,</p> <p>(a) subject to subsection (5), the required accelerate-stop distance shall not exceed the accelerate-stop distance available (ASDA); and</p> <p>(b) the all-engines-operating take-off distance shall not exceed the take-off distance available (TODA).</p> <p>724.46 – Take-off Weight Limitations</p> <p>(1) Relief from Accelerate-stop Distance Requirements</p> <p>The standards for conducting a take-off in an aeroplane that is propeller-driven without demonstrating that the Accelerate-Stop Distance Required does not exceed the Accelerate-Stop Distance Available are:</p> <p>(a) the air operator shall comply with all take-off weight limitations set out in the aircraft flight manual; and</p> <p>(b) the air operator meets one or more of the following conditions:</p> <p>(i) prevents more than 9 passenger seats from being occupied,</p> <p>(ii) uses an aeroplane with a MCTOW of 5 700 kg (12,566 lb) or less and is being operated on demand, or</p> <p>(iii) until December 20, 2010, uses an aeroplane with a MCTOW of 5 700 kg (12,566 lb) or less.</p>	<p>No change in intent of the provision:</p> <p>Previous sub-sections CAR 704.46 (2) and 724.46 (1) of the CASS (relief provisions) are combined into the new CAR 704.46(2).</p> <p>The relief provisions of CASS 724.46 (1) for accelerate-stop distance are incorporated into the new CAR 704.46 (2)(a).</p> <p>Clause 704.46 (2) (a) (i) applies if there is a specific performance operating weight limitation included in the AFM applicable to accelerate-stop distance.</p> <p>Notes:</p> <ol style="list-style-type: none"> In the case for a propeller-driven aeroplane having an MCTOW of not more than 5 700 kg (12,566 pounds), there is unlikely to be a performance operating weight limitation applicable to accelerate-stop distance In practical terms, relief may be granted from accelerate-stop distance requirements for the type of aeroplane stated in CAR 704.46 (2) if: <ol style="list-style-type: none"> there are no specific take-off weight limitations applicable to accelerate-stop distance in the AFM; and the aeroplane has fewer than 10 passengers or the aeroplane is operated in a non-scheduled air service.
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<p>704.46 (3)</p> <p>In the determination of the maximum take-off weight referred to in paragraph (1)(a) for a turbo-jet-powered aeroplane or a large aeroplane that is propeller-driven,</p> <ul style="list-style-type: none"> (a) the required accelerate-stop distance specified in the aircraft flight manual shall not exceed the accelerate-stop distance available (ASDA) unless, in the case of a large aeroplane that is propeller-driven, <ul style="list-style-type: none"> (i) the maximum take-off weight is not limited by the accelerate-stop distance requirements set out in the aircraft flight manual, and (ii) the aeroplane has fewer than 10 passengers; (b) the required take-off run specified in the aircraft flight manual shall not exceed the take-off run available (TORA); and (c) the required take-off distance specified in the aircraft flight manual shall not exceed the take-off distance available (TODA) unless, in the case of a large aeroplane that is propeller-driven, <ul style="list-style-type: none"> (i) the maximum take-off weight is not limited by the take-off distance requirements set out in the aircraft flight manual, and (ii) the aeroplane has fewer than 10 passengers. 	<p>704.46 (3)</p> <p>Subject to subsection (5), in the determination of the maximum take-off weight referred to in subsection (1) for a large aeroplane,</p> <ul style="list-style-type: none"> (a) the required accelerate-stop distance shall not exceed the accelerate-stop distance available (ASDA); (b) the required take-off run shall not exceed the takeoff run available (TORA); and (c) the required take-off distance shall not exceed the take-off distance available (TODA). <p>724.46 – Take-off Weight Limitations</p> <p>(1) Relief from Accelerate-stop Distance Requirements</p> <p>The standards for conducting a take-off in an aeroplane that is propeller-driven without demonstrating that the Accelerate-Stop Distance Required does not exceed the Accelerate-Stop Distance Available are:</p> <ul style="list-style-type: none"> (a) the air operator shall comply with all take-off weight limitations set out in the aircraft flight manual; and (b) the air operator meets one or more of the following conditions: <ul style="list-style-type: none"> (i) prevents more than 9 passenger seats from being occupied, 	<p>No change to the intent of the provision:</p> <p>The contents of previous sub-sections, CAR 704.46 (3) and CASS 724.46 (1) (relief provisions) are combined into the new CAR 704.46(3).</p> <p>The relief provisions of CASS 724.46 (1) are incorporated into the new CARs 704.46 (3)(a) and 704.46 (3)(c)(i).</p> <p>Clause 704.46 (3)(a)(i) applies if there is a specific performance operating weight limitation included in the AFM applicable to accelerate-stop distance.</p> <p>Clause 704.46 (3)(c)(i) applies if there is a specific performance operating weight limitation included in the AFM applicable to take-off Distance.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. In the case of a large aeroplane that is propeller-driven, there is likely to be a performance operating weight limitation applicable to accelerate-stop distance, unless it does not meet the requirements of CAR 704.45(1). 2. In practical terms, large propeller driven aeroplanes meeting CAR 704.45(1) will have performance operating limitations applicable to accelerate-stop distance, and will not be eligible for this relief provision.
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New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
	<p>(ii) uses an aeroplane with a MCTOW of 5 700 kg (12,566 lb) or less and is being operated on demand, or</p> <p>(iii) until December 20, 2010, uses an aeroplane with a MCTOW of 5 700 kg (12,566 lb) or less.</p> <p>(2) Relief from Engine-out Take-off Distance Requirements</p> <p>The standard for operating a large propeller-driven aeroplane where the Take-off Distance Required in the event of an engine failure on take-off exceeds the Take-off Distance Available is as follows:</p> <p>(i) the air operator shall comply with all takeoff weight limitations set out in the approved flight manual for the aeroplane; and</p> <p>(ii) the air operator shall prevent more than 9 passenger seats from being occupied</p>	

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.46 (4)</p> <p>In the determination of the maximum take-off weights referred to in subsections (2) and (3), the following factors shall be taken into account:</p> <ul style="list-style-type: none"> (a) the pressure-altitude at the aerodrome; (b) the ambient temperature at the aerodrome; (c) the runway slope in the direction of take-off; and (d) a wind component that is not more than 50 % of the reported headwind or not less than 150 % of the reported tailwind. 	<p>704.46 (4)</p> <p>For the purposes of subsections (2) and (3), the following factors shall be taken into account:</p> <ul style="list-style-type: none"> (a) the pressure-altitude at the aerodrome; (b) the ambient temperature at the aerodrome; (c) the runway slope in the direction of take-off; and (d) not more than 50 per cent of the reported headwind component or not less than 150 per cent of the reported tailwind component. 	<p>No change to the intent of the provision, with the exception of minor wording changes for clarification.</p>
<p>Not Applicable</p>	<p>704.46 (5)</p> <p>A person may conduct a take-off without meeting the requirements of paragraph (2)(a) or subsection (3) if the person</p> <ul style="list-style-type: none"> (a) is authorized to do so in an air operator certificate; and (b) complies with the <i>Commercial Air Service Standards</i>. 	<p>The relief provisions of the former CAR 704.46(5) no longer apply because these relief provisions are now integrated into the revised CAR 704.46.</p>

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.46 (5)</p> <p>In the case of a take-off or a landing on a gravel runway, the maximum weights referred to in paragraphs (1)(a) and (b) shall be determined in accordance with the gravel runway information contained in the aircraft flight manual.</p>	<p>Not Applicable</p>	<p>CAR 704.46(5) is a new provision that is incorporated into CAR 704.46 – Take-off and Landing Weight Limitations.</p> <p>CAR 704.46(5) adds the requirement to include gravel runway information contained in the aircraft flight manual into the calculations of maximum weights for take-off and landing on gravel runways.</p>

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.46 (6)</p> <p>In the absence of the information referred to in subsection (5) for a propeller-driven aeroplane, the maximum weights referred to in paragraphs (1)(a) and (b) shall be determined on the basis of the information specified in the aircraft flight manual for a dry, paved hard surface runway that does not exceed 1 524 m (5,000 feet) in length, except that</p> <ul style="list-style-type: none"> (a) no credit shall be allowed for reverse thrust; (b) in the determination of the maximum take-off weight, no credit shall be allowed for any clearway; and (c) the corresponding length of dry, paved hard surface runway used to determine the take-off distance required (TODR), and the accelerate-stop distance required (ASDR) and the landing distance required (LDR) shall be obtained by dividing the length of the gravel runway by a factor of <ul style="list-style-type: none"> (i) 1.10, in the case of an aeroplane with an MCTOW of not more than 5 700 kg (12,566 pounds), or (ii) 1.15, in the case of a large aeroplane. 	<p>724.44</p> <p>(3) Operations from or to Gravel Runways (Propeller-Driven Aeroplanes)</p> <ul style="list-style-type: none"> (c) For aeroplanes with a Maximum Certified Take-Off Weight (MCTOW) greater than 5 700 kg (12,566 lb) a factor of 15% will be added to the dry hard surface performance data for determination of Take-Off Distance Required (TODR), Accelerate-Stop Distance Required (ASDR) and Landing Distance Required (LDR). No credit for reverse thrust may be used in the calculation of ASDR and LDR. Up to 5000 feet of dry hard surface runway data may be used in calculating the factor, and no credit may be applied for clearway. (d) For aeroplanes with a MCTOW equal to or less than 5 700 kg (12,566 lb) a factor of 10% will be added to the dry hard surface performance data for determination of TODR, ASDR and LDR. No credit for reverse thrust may be used in the calculation of ASDR and LDR. Up to 5000 feet of dry hard surface runway data may be used in calculating the factor, and no credit may be applied for clearway. 	<p>No change to the intent of the provisions of CASS 724.44(3).</p> <p>The requirements of CASS 724.44(3) have been incorporated into CAR 704.46(6). Minor changes have been made to the performance terminology.</p>

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.47 (1) – Net Take-off Flight Path</p> <p>Subject to subsection (3), no air operator shall authorize a flight — and no person shall conduct a take-off — in a turbo-jet-powered aeroplane, a large aeroplane that is propeller-driven, or a propeller-driven aeroplane that has a passenger seating configuration of 10 or more, if the weight of the aeroplane exceeds the weight specified in the aircraft flight manual as allowing a net take-off flight path that clears all obstacles by at least 10.7 m (35 feet) vertically or at least 60 m (200 feet) horizontally within the aerodrome boundaries, and by at least 91.5 m (300 feet) horizontally outside those boundaries</p>	<p>704.47 (1)</p> <p>No person shall conduct a take-off in a large aeroplane if the weight of the aeroplane is greater than the weight specified in the aircraft flight manual as allowing a net take-off flight path that clears all obstacles by at least 10.7 m (35 feet) vertically or at least 60 m (200 feet) horizontally within the aerodrome boundaries, and by at least 91.5 m (300 feet) horizontally outside those boundaries, unless</p> <p>(a) the take-off is authorized in an air operator certificate; and</p> <p>(b) the person complies with the <i>Commercial Air Service Standards</i>.</p>	<p>The applicability of CAR 704.47 has been broadened to apply to:</p> <ul style="list-style-type: none"> • turbo-jet-powered aeroplane; • a large aeroplane that is propeller-driven; or • a propeller-driven aeroplane that has a passenger seating configuration of 10 or more. <p>This change has been made for consistency with the new CAR 704.45(1) requirements.</p> <p>The aeroplanes to which CAR 704.47(1) applies must meet the Type Certification Performance Requirements of CAR 704.45(1).</p> <p>The relief provisions of the former CAR 704.47(1) (a) and (b) no longer apply because these relief provisions are now integrated into the revised CAR 704.46.</p>

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.47 (2)</p> <p>In the determination of the maximum weight, minimum distances and flight path referred to in subsection (1),</p> <p>(a) corrections shall be made for</p> <ul style="list-style-type: none"> (i) the runway to be used, (ii) the runway slope in the direction of take-off (iii) the pressure-altitude at the aerodrome, (iv) the ambient temperature at the aerodrome, and (v) the wind component and the time of take-off, that is not more than 50% of the reported headwind or not less than 150% of the reported tailwind; 	<p>704.47 (2)</p> <p>In the determination of the maximum weight, minimum distances and flight path referred to in subsection (1),</p> <p>(a) corrections shall be made for</p> <ul style="list-style-type: none"> (i) the runway to be used, (ii) the runway slope in the direction of take-off (iii) the pressure-altitude at the aerodrome, (iv) the ambient temperature at the aerodrome, and (v) the wind component and the time of take-off, that is not more than 50% of the reported headwind or not less than 150% of the reported tailwind; 	<p>No change to this provision.</p>

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>(b) calculations shall be based on the pilot</p> <ul style="list-style-type: none"> (i) not banking the aeroplane before reaching an altitude of 15 m (50 feet) (ii) subject to paragraph (c), using no more than 15 degrees of bank at altitudes between 15 m (50 feet) and 122m (400 feet) (iii) using no more than 25 degrees of bank at altitudes above 122 m (400 feet), aeroplane speed and configuration permitting; and <p>(c) a bank angle greater than the angle referred to in subparagraph (b)(ii) may be used if it is authorized in an air operator certificate.</p>	<p>(b) calculations shall be based on the pilot</p> <ul style="list-style-type: none"> (i) not banking the aeroplane before reaching an altitude of 15 m (50 feet) (ii) subject to paragraph (c), using no more than 15 degrees of bank at altitudes between 15 m (50 feet) and 122m (400 feet) (iii) using no more than 25 degrees of bank at altitudes above 122 m (400 feet), aeroplane speed and configuration permitting; and <p>704.47 (3)</p> <p>A bank angle greater than the angle referred to in subparagraph (b)(ii) may be used if it is authorized in an air operator certificate.</p>	<p>No change to the intent of the provisions of CAR 704.47(2)(b)</p> <p>CAR 704.47(3) becomes CAR 704.47(2)(c)</p>

<p>704.47 (3)</p> <p>An air operator may authorize a flight — and a pilot-in-command may conduct a take-off — in an aeroplane referred to in subsection (1) that does not meet the requirements of that subsection if</p> <ul style="list-style-type: none"> (a) in the case of a large aeroplane that is propeller-driven and uses visual obstacle clearance procedures during take-off and climb, <ul style="list-style-type: none"> (i) the aeroplane has fewer than 10 passengers, (ii) the air operator has conducted an obstacle assessment to identify fixed and transient obstacles along the take-off flight path, (iii) the air operator has set out, in the company operations manual, a one-engine-inoperative departure plan that allows the pilot-in-command, by relying on visual guidance, to manoeuvre the aeroplane in a manner that will allow the net take-off flight path to clear all obstacles by at least 10.7 m (35 feet) vertically or at least 60 m (200 feet) horizontally within the aerodrome boundaries, and by at least 91.5 m (300 feet) horizontally outside those boundaries, until the aeroplane has reached the end of the take-off flight path, (iv) the one engine inoperative departure plan includes 	<p>724.47 - Net Take-off Flight Path</p> <p>(3) Propeller-Driven Large Aeroplanes - General Conditions</p> <ul style="list-style-type: none"> (a) The standard for operating a large propeller-driven aeroplane when obstacle avoidance is not assured in the event of an engine failure during take-off is as follows: <ul style="list-style-type: none"> (i) the air operator shall prevent more than 9 passenger seats from being occupied; and (b) The standard for determining Net Take-off Flight Path when visual obstacle avoidance is possible is as follows: <ul style="list-style-type: none"> (i) Obstacle Assessment <ul style="list-style-type: none"> (A) The air operator shall obtain the best available data concerning obstacles in the proposed take-off path. Transient obstacles (Such as construction equipment or moored watercraft, etc.) shall be considered when they are estimated to lie within 300 feet of the proposed take-off path; and (B) Where the precise height, bearing and distance of an object is not known (such as objects depicted on a topographical map), the air operator shall use a reasonable estimate for performance calculations. Calculations shall clearly indicate where estimated information is used; 	<p>The relief provisions for visual obstacle clearance formerly under CASS 724.47(3) are now under CAR 704.47(3)(a).</p> <p>The intent of the provisions have not been changed, but the wording has been revised to improve clarity.</p>
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New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>(A) an obstacle assessment to identify fixed and transient obstacles along the take-off flight path,</p> <p>(B) the aeroplane's approved performance information specified in the aircraft flight manual, and</p> <p>(C) the visual reference points to be used along the take-off flight path, and</p> <p>(v) existing meteorological conditions allow the visual clearance of all obstacles and terrain by the margins specified in subparagraph (iii); or</p>	<p>(ii) Departure Planning</p> <p>(A) The Operations Manager or his/her delegate shall establish a company engine-out departure plan using procedures set out in the Company Operations Manual, but including at least the following:</p> <p>(I) obstacle assessment;</p> <p>(II) aeroplane performance, including turn radii; and</p> <p>(III) visual reference points to be used during the departure route; and</p> <p>Note: In all cases the operator shall retain the departure plan for audit purposes.</p> <p>(B) Prior to commencing a take-off, the pilot-in-command shall, in consideration of the current winds, density altitude, and aeroplane weight, satisfy himself or herself that the departure plan to be followed in the event of an engine failure on take-off avoids all obstacles in the departure path by either 35 feet vertically or 300 feet horizontally</p>	

<p>704.47 (3)</p> <p>(b) in the case of an aeroplane operated in a non-scheduled air service,</p> <p>(i) the take-off weight of the aeroplane is not limited by any take-off weight limitations specified in the aircraft flight manual,</p> <p>(ii) the aerodrome elevation is at or below 1 220 m (4,000 feet) ASL, and</p> <p>(iii) the ceiling and visibility are at or above the landing and approach minima for the departure aerodrome.</p>	<p>724.47 - Net Take-off Flight Path</p> <p>(1) Turbo-jet on Demand Operations</p> <p>The standard for conducting a takeoff in a turbo-jet-powered aeroplane without demonstrating that the Net Take-off Flight Path provides obstacle clearance is as follows:</p> <p>(a) the air operator shall comply with all take-off weight limitations set out in the aircraft flight manual;</p> <p>(b) the airport elevation shall not exceed 4000 feet ASL;</p> <p>(c) the Take-off Run Available (TORA) shall be greater than or equal to 1.5 times the Take-off Distance Required in accordance with section 704.46 of the <i>Canadian Aviation Regulations</i>; and</p> <p>(d) ceiling and visibility shall be at or above the landing minima for the runway in use.</p> <p>(2) Aeroplanes Certified to SFAR 41 - Special Conditions</p> <p>The standard for conducting a takeoff using a large propeller-driven aeroplane without demonstrating that the Net Take-off Flight Path provides obstacle clearance is as follows:</p> <p>(a) the aeroplane is certified in accordance with sFAR 41 and is being used in an on demand operation; or</p> <p>(b) until December 20, 2010, is certified in accordance with sFAR 41.</p>	<p>Provision changes:</p> <p>The provisions of CASS 724.47(1) and (2) are now combined into CAR 704.47(3).</p> <p>The new CAR 704.47(3) relief provision is no longer limited to turbojet aeroplanes, in order to be consistent with the types of aeroplanes and operations listed in CAR 704.47(1).</p> <p>The relief provisions of CASS 724.47(2) (SFAR 41C) have been incorporated into the revised criteria of CAR 704.47(3), which applies to SFAR 41C certified aeroplanes.</p> <p>Clause 704.47(3)(b)(i) applies if there is a specific performance operating weight limitation included in the AFM applicable to net take-off flight path and/or obstacle clearance.</p> <p>Notes:</p> <ol style="list-style-type: none"> Not all AFMs include performance operating weight limitations applicable to net take-off flight path and/or obstacle clearance. The AFM should be carefully reviewed to establish if there are such performance operating limitations in the AFM. Operators of a particular aeroplane type will only be eligible for this relief provision, in the absence of such limitations. <p>The provisions of CASS 724.47(1)(c) have not been incorporated into CAR 704.47(3)(b) for technical reasons. The requirement for increased flap setting to achieve the requirements of CASS 724.47(1)(c) could result in reduced climb gradients for obstacle avoidance.</p>
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New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.49 (1) – Dispatch Limitations: Landing at Destination and Alternate Aerodromes</p> <p>Subject to subsection (3), no person shall dispatch or conduct a take-off in an aeroplane unless</p> <p>(a) in the case of a turbo-jet-powered aeroplane, the weight of the aeroplane on landing at the destination aerodrome and at the alternate aerodrome will allow a full-stop landing within 60 per cent of the landing distance available (LDA);</p>	<p>704.49 (1) – Dispatch Limitations: Landing at Destination and Alternate Aerodromes</p> <p>Subject to subsection (3), no person shall dispatch or conduct a take-off in an aeroplane unless</p> <p>(a) The weight of the aeroplane on landing at the destination aerodrome will allow a full-stop landing</p> <p>(i) in the case of a turbo-jet-powered aeroplane, within 60 per cent of the landing distance available (LDA)</p> <p>(ii) in the case of a propeller-driven aeroplane, within 70 per cent of the landing distance available (LDA)</p>	<p>No change to the intent of this provision:</p> <p>CAR 704.49(1)(a) has been reorganized as follows:</p> <ul style="list-style-type: none"> • The requirements for turbo-jet powered aeroplanes are now captured exclusively under CAR 704.49(1)(a); and • The requirements for destination aerodromes and alternate aerodromes are now combined under CAR 704.49(1)(a).
<p>704.49 (1)</p> <p>(b) in the case of a large aeroplane that is propeller-driven, the weight of the aeroplane on landing at the destination aerodrome and at the alternate aerodrome will allow a full-stop landing within 70 per cent of the landing distance available (LDA); or</p>	<p>704.49 (1)</p> <p>(b) the weight of the aeroplane on landing at the alternate aerodrome will allow a full-stop landing</p> <p>(i) in the case of a turbo-jet-powered aeroplane, within 60 per cent of the landing distance available (LDA)</p> <p>(ii) in the case of a propeller-driven aeroplane, within 70 per cent of the landing distance available (LDA).</p>	<p>No change to the intent of this provision:</p> <p>CAR 704.49(1)(b) has been reorganized as follows:</p> <ul style="list-style-type: none"> • The requirements for large aeroplanes that are propeller-driven are now captured exclusively under 704.49(1)(b); and • The requirements for destination aerodromes and alternate aerodromes are now combined under CAR 704.49(1)(b).

<p>704.49 (1)</p> <p>(c) in the case of a large aeroplane that is propeller-driven and equipped with reverse thrust, the weight of the aeroplane on landing at the destination aerodrome and at the alternate aerodrome will allow a full-stop landing within 80 per cent of the landing distance available (LDA) if</p> <ul style="list-style-type: none"> (i) the approach speed does not exceed an indicated airspeed of 100 knots, taking into account the estimated weight of the aeroplane, the flap setting and the ambient conditions expected on arrival, (ii) the reverse thrust is operative and the runway surface conditions permit the use of full-rated reverse thrust, (iii) the aeroplane is operated on a paved, hard surface runway, (iv) the runway surface is forecast to be dry at the estimated time of arrival, (v) each flight crew member has completed specific training on short-field landing techniques on that type of aeroplane within the 12 months preceding the flight, and (vi) the glide path angle specified in the Canada Air Pilot or the Restricted Canada Air Pilot is not greater than 3 degrees and the runway threshold crossing height is not greater than 15 m (50 feet). 	<p>724.44</p> <p>(2) Dispatch Limitations</p> <p>Landing at Destination and Alternate Aerodromes (Propeller-Driven Aeroplanes)</p> <p>(a) Destination Aerodrome Runway Factors</p> <p>Propeller-Driven Aeroplanes Using Reverse Thrust</p> <p>The standard for dispatching a propeller-driven aeroplane equipped with reverse thrust when its landing weight at destination will allow a full-stop landing within 80 percent of the Landing Distance Available (LDA) is:</p> <ul style="list-style-type: none"> (i) approach speed for the estimated weight, flap setting and ambient conditions expected on arrival shall not exceed 100 KIAS; (ii) reverse thrust shall be serviceable and the runway surface conditions shall permit the use of full rated reverse thrust (i.e. no FOD risk); (iii) the runway surface is forecast to be bare and dry at the time of arrival; (iv) the flight crew shall have completed specific training on short-field landing techniques on that particular type of aeroplane within the 12 months preceding the flight; and (v) obstacle clearance shall not require an approach angle steeper than 3 degrees or threshold crossing height greater than 50 feet. 	<p>No change to the intent of provisions of CASS 724.44(2):</p> <p>CASS 724.44(2)(a) (Destination Aerodrome) and 724.44(2)(b) (Alternate Aerodrome) are combined into a single new provision, as CAR 704.49(1)(c) for both Destination and Alternate Aerodromes;</p> <p>Minor word changes have been made to CAR 704.49(1) to improve clarity. The criteria for runway conditions in CASS 724.44(2)(a)(ii) and CASS 724.44(2)(iii) are incorporated into CAR 704.49(1)(c)(iii) and CAR 704.49(1)(c)(iv).</p>
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	<p>Note: This is an obstacle clearance requirement and is not intended to affect the operation of the aircraft.</p> <p>(b) Alternate Aerodrome Runway Factors</p> <p>Propeller-Driven Aeroplanes Using Reverse Thrust</p> <p>The standard for dispatching a propeller-driven aeroplane equipped with reverse thrust when its landing weight at the alternate will allow a full-stop landing within 80 percent of the Landing Distance Available (LDA) is:</p> <ul style="list-style-type: none"> (i) approach speed for the estimated weight, flap setting and ambient conditions expected on arrival shall not exceed 100 KIAS; (ii) reverse thrust shall be serviceable and the runway surface conditions shall permit the use of full rated reverse thrust (i.e. no FOD risk); (iii) the runway surface is forecast to be bare and dry at the time of arrival; (iv) the flight crew shall have completed specific training on short-field landing techniques on that particular type of aeroplane within the 12 months preceding the flight; and (v) obstacle clearance shall not require an approach angle steeper than 3 degrees or threshold crossing height greater than 50 feet. <p>Note: This is an obstacle clearance requirement and is not intended to affect the operation of the aircraft.</p>	
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New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.49 (2)</p> <p>In determining whether an aeroplane may be dispatched or a take-off may be conducted under subsection (1), the following shall be taken into account:</p> <ul style="list-style-type: none"> (a) the pressure-altitude at the destination aerodrome and at the alternate aerodrome; (b) a wind component that is not more than 50 per cent of the reported headwind or not less than 150 per cent of the reported tailwind at the destination aerodrome and at the alternate aerodrome; and (c) the suitability of the runway with respect to the wind speed and direction, the ground handling characteristics of the aeroplane, the landing aids and the terrain. 	<p>704.49 (2)</p> <p>In determining whether an aeroplane can be dispatched or a take-off can be conducted in accordance with subsection (1), the following shall be taken into account:</p> <ul style="list-style-type: none"> (a) the pressure-altitude at the destination aerodrome and at the alternate aerodrome; (b) not more than 50 per cent of the reported headwind component or not less than 150 per cent of the reported tailwind component; and (c) that the aeroplane must be landed on a suitable runway, considering the wind speed and direction, the ground handling characteristics of the aeroplane, and other conditions such as landing aids and terrain. 	<p>No change to intent of the provisions of CASS 704.49(2):</p> <p>Minor wording changes have been made to CAR 704.49(2)(c) to improve clarity.</p>
<p>704.49 (3)</p> <p>If conditions at the destination aerodrome at the time of take-off do not permit compliance with the requirement set out in paragraph (2)(c), an aeroplane may be dispatched and a take-off may be conducted if conditions at the alternate aerodrome designated in the operational flight plan permit, at the time of take-off, compliance with the requirements set out in paragraph (1)(a) or (b) and subsection (2).</p>	<p>704.49 (3)</p> <p>Where conditions at the destination aerodrome at the time of take-off do not permit compliance with paragraph (2)(c), an aeroplane may be dispatched and a takeoff conducted if the alternate aerodrome designated in the operational flight plan permits, at the time of takeoff, compliance with paragraph (1)(b) and subsection (2).</p>	<p>No change to intent of the provisions of CAR 704.49(3):</p> <p>Minor wording changes have been made to CAR 704.49(3) to improve clarity.</p>

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.51 (1) – Take-off or Landing on Gravel Runways</p> <p>No air operator shall authorize a flight in an aeroplane from or to a gravel runway unless the company operations manual sets out procedures for take-offs and landings on gravel runways.</p>	<p>724.44</p> <p>(3) Operations from or to Gravel Runways (Propeller-Driven Aeroplanes)</p> <p>The standard for operating a propeller-driven aeroplane from or to a gravel runway, when such operations are not specifically addressed in the Aeroplane Flight Manual, a Supplement to the Aeroplane Flight Manual, or in data from another source that is acceptable to the Minister, is set out in this standard.</p> <p>(a) The air operator’s Company Operations Manual shall set out the program for operations from or to gravel runways. This program shall include:</p> <ul style="list-style-type: none"> (i) procedures for company operational approval for gravel runway operations; and (ii) procedures for operation from or to gravel runways. 	<p>CASS 724.44(3)(a) becomes a rule of conduct under the new CAR 704.51(1).</p> <p>Note:</p> <p>The performance criteria of CASS 724.44(3)(c) and (d) now reside in 704.46(5) and 704.46(6).</p>

New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>704.51 (2) No person shall conduct a take-off or landing in an aeroplane on a gravel runway unless the person has</p> <ul style="list-style-type: none"> (a) received ground training that includes the characteristics of take-off and landing surfaces, the conduct of obstacle assessments, and the air operator’s procedures for take-offs and landings on gravel runways; (b) conducted, within the previous two years, at least one take-off and one landing on a gravel runway in an aeroplane of the same type as the one to be operated; and (c) been certified by the chief pilot as being competent to conduct take-offs and landings on gravel runways. 	<p>724.44</p> <p>(3) Operations from or to Gravel Runways (Propeller-Driven Aeroplanes)</p> <ul style="list-style-type: none"> (b) Prior to serving as pilot-in-command for operations from and to gravel runways a pilot shall have: <ul style="list-style-type: none"> (i) received ground training to include the characteristics of the take-off and landing surfaces, obstacle assessment, and proficiency in company procedures; (ii) conducted, within the previous two years, a minimum of one take-off and landing on gravel runways, in the type of aeroplane to be operated; and (iii) been certified by the Chief Pilot as being competent to conduct operations from and to gravel runways. 	<p>No change to intent of the provisions of CASS 724.44(3)(b):</p> <p>The operational criteria of CASS 724.44(3)(b) becomes a rule of conduct under the new CAR 704.51(2).</p>

<p>704.52 – Take-off or Landing on Unprepared Surfaces</p> <p>704.52 No person shall conduct a take-off or a landing on an unprepared surface in an aeroplane for which the aircraft flight manual does not set out any information relating to unprepared surface operations, unless</p> <ul style="list-style-type: none"> (a) the aeroplane is propeller-driven; (b) the air operator has set out, in the company operations manual, procedures for take-offs and landings on unprepared surfaces, including <ul style="list-style-type: none"> (i) procedures for obtaining the air operator’s approval for unprepared surface operations, and (ii) procedures for assessing unprepared surfaces and unfamiliar approach and departure paths; and (c) prior to acting as pilot-in-command during a takeoff or a landing on an unprepared surface, the person has <ul style="list-style-type: none"> (i) acquired at least 100 hours of flight time on an aeroplane of the same type as the one to be operated, (ii) received ground and flight training that includes the characteristics of take-off and landing surfaces, the conduct of obstacle assessments and the interpretation of the applicable aeroplane performance information specified in the aircraft flight manual, 	<p>724.44</p> <p>(1) Operations from or to Unprepared Surfaces (Propeller-Driven Aeroplanes)</p> <p>The standard for operating a propeller-driven aeroplane to or from an unprepared surface, when such operations are not specifically addressed in the Aeroplane Flight Manual is set out in this standard.</p> <p>The air operator’s Company Operations Manual shall set out the program for operations involving unprepared surfaces. This program shall include:</p> <ul style="list-style-type: none"> (a) prior to serving as the pilot-in-command during operations from unprepared strips a pilot shall have: <ul style="list-style-type: none"> (i) at least 100 hours on type; (ii) completed a course of ground and flight training covering topics such as take-off and landing surface characteristics, obstacle assessment and interpretation of pertinent aeroplane data; (iii) completed at least 25 hours of line indoctrination involving unprepared strip operations; and (iv) been certified by the Chief Pilot or his/her delegate as qualified for operations involving unprepared strips. A copy of this certification shall be placed on the pilot’s training file; 	<p>No change to intent of the provisions of CASS 724.44(1):</p> <p>The operational criteria of CASS 724.44(1) becomes a rule of conduct under the new CAR 704.52.</p>
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New regulation	Superseded regulation(s)	Summary comment: Significance to air operator
<p>(iii) acquired at least 25 hours of line indoctrination that includes unprepared surface operations, and</p> <p>(iv) been certified by the chief pilot or his or her delegate as being competent to conduct take-offs and landings on unprepared surfaces.</p>	<p>(b) procedures for company operational approval for unprepared strip operations; and</p> <p>(c) procedures for assessing and operating from/to unprepared surfaces and unfamiliar approach and departure routes.</p>	