



Advisory Circular

Subject: Land and Hold Short Operations (LAHSO):
Special Authorization and Guidance

Issuing Office:	Civil Aviation, Standards	Document No.:	AC 700-050
File Classification No.:	Z 5000-34	Issue No.:	01
RDIMS No.:	13642457 V25	Effective Date:	2019-02-15

TABLE OF CONTENTS

1.0	INTRODUCTION	2
1.1	Purpose.....	2
1.2	Applicability.....	2
1.3	Description of Changes	2
2.0	REFERENCES AND REQUIREMENTS	3
2.1	Reference Documents.....	3
2.2	Cancelled Documents.....	3
2.3	Definitions and Abbreviations	4
3.0	BACKGROUND	4
3.1	General	4
3.2	Application and Structure of this Advisory Circular	5
4.0	TRANSPORT CANADA CIVIL AVIATION APPROVAL	5
5.0	FUTURE DISPOSITION	5
6.0	INFORMATION MANAGEMENT	5
7.0	DOCUMENT HISTORY	5
8.0	CONTACT OFFICE	6
APPENDIX A — CONDITIONS FOR SPECIAL AUTHORIZATION LAND AND HOLD SHORT OPERATIONS (LAHSO)		7
APPENDIX B — SPECIFIC GUIDANCE RESPECTING THE CONDITIONS OF THE SPECIAL AUTHORIZATION LAND AND HOLD SHORT OPERATIONS (LAHSO)		9
APPENDIX C — COMPLIANCE CHECKLIST		12
APPENDIX D – APPLICABLE REGULATIONS		14
APPENDIX E – UNITED STATES FEDERAL AVIATION ADMINISTRATION (FAA) REQUIREMENTS AND ASSOCIATED GUIDANCE		16

1.0 INTRODUCTION

- (1) Subject to paragraph (3), 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, nor does it establish minimum standards.
- (2) Operators are expected to follow the means of compliance described in this AC in all respects, unless the Minister approves an acceptable alternate means of compliance.
- (3) The conditions of the associated special authorization (SA) appear in Appendix A of this AC. For air operators, the conditions published in Appendix A constitute part of the air operator certificate (AOC). As such, compliance with these conditions is mandatory.

1.1 Purpose

- (1) The purpose of this AC is to provide Canadian air operators with information pertaining to the Special Authorization for Land and Hold Short Operations (LAHSO). This authorization is issued by Transport Canada Civil Aviation (TCCA) to Canadian air operators holding an Air Operator Certificate (AOC) issued under subparts 705 and 704 of the *Canadian Aviation Regulations* (CARs). It serves as the basis for these air operators to obtain a LAHSO authorization from a foreign civil aviation authority, such as the United States Federal Aviation Administration (FAA).

1.2 Applicability

- (1) This AC is applicable to:
 - (a) Canadian air operators holding an Air Operator Certificate (AOC) issued under subparts 705 and 704 of the CARs;
 - (b) Pilots, flight dispatchers and other operations personnel employed by the air operators listed above;
 - (c) 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.
- (2) All flight operations personnel should be aware of the LAHSO requirements and should understand how these requirements compare with their aeroplane's landing performance capability. Operators are encouraged to utilize this AC to assist them in reviewing this topic and to determine the applicability of its contents to their specific aircraft types and operating conditions.
- (3) This information is also provided to the aviation industry at large for information and guidance purposes.

1.3 Description of Changes

- (1) The conditions of the **Special Authorization (SA): *Land and Hold Short Operations (LAHSO)*** appear in Appendix A of this AC.
- (2) Several changes have been made with respect to the conditions of the SA for LAHSO. In general these conditions have been simplified for harmonization with the corresponding foreign authorization, which is issued by the civil aviation authority of the foreign state where LAHSO is to be conducted. Specifically, these changes result in better alignment with the *Operations Specification* (Ops Spec) for LAHSO issued by the United States FAA.

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., 1985, c. A-2);
 - (b) Chapter 523 of the Airworthiness Manual (AWM) — *Commuter Category Aeroplanes*;
 - (c) Chapter 525 of the AWM — *Transport Category Aeroplanes*;
 - (d) Part VII, Subpart 04 of the CARs, Division IV — *Aircraft Performance Operating Limitations*;
 - (e) Part VII, Subpart 05 of the CARs; Division IV — *Aircraft Performance Operating Limitations*;
 - (f) Transport Canada Publication (TP) 12772, dated September 1996—*Aeroplane Performance*;
 - (g) TP 14371, effective 2017-10-12 to 2018-03-29 — *Aeronautical Information Manual*;
 - (h) Federal Aviation Administration (FAA) Regulation Federal Aviation Regulation (FAR) Part 25—*Airworthiness Standards: Transport Category Airplanes*;
 - (i) FAA Regulation FAR Part 23—*Airworthiness Standards: Commuter Category Airplanes*;
 - (j) Aeronautical Information Manual (TC AIM) TP 14371, 2009-10-22, RAC-Rules of the Air and Air Traffic Services, 4.4.9 Operations on Intersecting Runways;
 - (k) FAA Order 7110.118, Subject: Land and Hold Short Operations;
 - (l) FAA Order 8900.1, Volume 4, Chapter 3, Section 5, Paragraph 4-600 *Land and Hold Short Operations (LAHSO)*;
 - (m) FAA Order 8900.1, Volume 12, Chapter 2, Section 3, OPSPEC A027-LAND AND HOLD SHORT OPERATIONS (OPTIONAL); and
 - (n) FAA Operations Specification (Ops Spec) A-027 Land and Hold Short Operations (LAHSO).
- (2) The table below lists the regulatory authorities under which the SA for LAHSO is issued to air operators.

For operations conducted under the following Subparts of the CARs:	The SA is pursuant to the following provisions:
705	Subparagraphs 705.08(g)(i) and 705.08(g)(xi) of the CARs
704	Subparagraphs 704.08(g)(i) and 704.08(g)(xi) of the CARs

2.2 Cancelled Documents

- (1) As of the effective date of this document, the following document is cancelled:
- (a) Advisory Circular 705-006, Issue 01, 2010-01-01 — *Land and Hold Short Operations (LAHSO) Operations Specification 617*.

- (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) **Land and Hold Short Operations:** These operations include landing and holding short of an intersecting runway, taxiway, predetermined point, or approach/departure flight path.
 - (b) **Special Authorizations (SA)** are authorizations issued by the Minister under Part VII of the CARs that permit the carrying out of an activity in respect of which the Minister has established requirements. Special Authorizations are included as part of the Operations Specifications.
- (2) The following **abbreviations** are used in this document:
- (a) **AFM:** Aircraft Flight Manual;
 - (b) **AOC:** Air Operator Certificate;
 - (c) **AWM:** Airworthiness Manual;
 - (d) **CAA:** Civil Aviation Authority;
 - (e) **CARs:** Canadian Aviation Regulations;
 - (f) **COM:** Company Operations Manual;
 - (g) **FAA:** Federal Aviation Administration (United States);
 - (h) **FSIMS:** Flight Standards Information Management System (FAA website)
 - (i) **LAHSO:** An acronym for "land and hold short operations";
 - (j) **SA:** Special Authorization; and
 - (k) **TC:** Transport Canada.

3.0 BACKGROUND

3.1 General

- (1) In Canada, Land and Hold Short Operations (LAHSO) is considered to be primarily an Air Traffic Control (ATC) procedure where the hold short clearance issued to a landing aircraft will ensure the required separation criteria between it and another departing or arriving aircraft that is using an intersecting runway. In Canada, air operators do not require a special authorization to be added to their air operator certificate (AOC), in order to conduct LAHSO at domestic airports.
- (2) Some foreign states that allow LAHSO, such as the United States, may authorize domestic and foreign air operators to conduct such operations via the issuance of an Operations Specification (Ops Spec). Canadian air operators must be issued the Federal Aviation Administration (FAA) Ops Spec A027, if they wish to conduct LAHSO in the United States. The FAA will only issue Ops Spec A027 to a foreign air operator, if that foreign air operator has been issued a similar authorization by their State of Registry.
- (3) For the purpose of harmonization, TCCA has now revised the conditions of the Special Authorization (SA) which is issued to those air operators who wish to apply for the FAA Ops Spec for LAHSO (A027) or any similar foreign LAHSO authorizations. The conditions of the SA for LAHSO appear in Appendix A of this AC.

CAUTION: A foreign civil aviation authority, such as the United States FAA may impose additional requirements or may change their requirements. For specific guidance in these matters, air operators need to contact the foreign civil aviation authority.

CAUTION: This AC will not necessarily be updated to reflect changes in any foreign requirements. Air operators and pilots remain responsible for ensuring compliance with the applicable foreign regulations.

3.2 Application and Structure of this Advisory Circular

- (1) This Advisory Circular (AC) provides the conditions and associated guidance applicable to the SA for ***Land and Hold Short Operations (LAHSO)***.
- (2) To accomplish the above stated objectives, the AC is structured in the following sections:
 - (a) **Main Body:** Provides background information and general guidance.
 - (b) **Appendix A:** Stipulates the conditions which operators must meet when issued the subject SA. Compliance with these conditions is mandatory for operators and pilots conducting LAHSO in a foreign country, such as the United States which requires this SA.
 - (c) **Appendix B:** Provides specific guidance respecting the conditions for the subject SA (Appendix A). To facilitate cross-reference, the guidance in Appendix B utilizes the same numbering as the conditions in Appendix A of this AC.
 - (d) **Appendix C:** Features a compliance checklist for the conditions of the subject SA (Appendix A). This compliance checklist has been developed to assist operators to confirm that they are in compliance with the conditions of the SA. It also serves as an aid to Transport Canada Civil Aviation (TCCA) personnel for certification and safety oversight purposes.
 - (e) **Appendix D:** Provides a list of the provisions in the *Canadian Aviation Regulations* (CARs) and *Commercial Air Service Standards* (CASS) that are applicable to air operators conducting LAHSO.
 - (f) **Appendix E:** Provides information and guidance respecting the conduct of LAHSO in the United States.

4.0 TRANSPORT CANADA CIVIL AVIATION APPROVAL

- (1) A Canadian air operator who wishes to apply for authorization from a foreign state to conduct LAHSO may request SA for LAHSO from their Principal Operations Inspector (POI). A Canadian air operator who will only be conducting LAHSO domestically does not require this Special Authorization since it is not required under the Canadian regulatory framework.

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 OFFICE

For more information, please contact:

Chief, Commercial Flight Standards (AARTF)

E-mail: AARTInfoDoc@tc.gc.ca

Fax: **613-990-6215**

Suggestions for amendment to this document are invited, and should be submitted via: the-email and fax number provided above.

Original signed by

Robert Sincennes
Director, Standards
Civil Aviation

APPENDIX A — CONDITIONS FOR SPECIAL AUTHORIZATION LAND AND HOLD SHORT OPERATIONS (LAHSO)

AUTHORITY

The **SPECIAL AUTHORIZATION: *Land and Hold Short Operations (LAHSO)*** is issued pursuant to subparagraphs 704.08(g)(i), 704.08(g)(xi), 705.08(g)(i) and 705.08(g)(xi) of the *Canadian Aviation Regulations* (CARs). It authorizes the conduct of LAHSO outside of Canada, when authorized by the civil aviation authority of the foreign country. This authorization is only valid when the conditions of this authorization and the conditions of the authorization from the applicable foreign civil aviation authority are complied with.

CONDITIONS

This authority is granted subject to the following conditions:

1. OPERATOR REQUIREMENTS

1.1 DOCUMENTATION

- 1.1.1 When required by the regulations of a foreign civil aviation authority, LAHSO may only be conducted outside of Canada when the air operator has been issued the applicable authorization by that foreign civil aviation authority and complies with the associated conditions.
- 1.1.2 The air operator's company operations manual (COM) will address the conduct of LAHSO in the foreign country. The contents of the COM will include, but is not limited to:
 - (a) the method used to determine the required landing distance specified in paragraph 1.4.1;
 - (b) the conditions and restrictions imposed by the foreign civil aviation authority respecting LAHSO; and
 - (c) any other safety information respecting LAHSO which the air operator deems appropriate.

1.2 OPERATIONAL PROCEDURES

- 1.2.1 Prior to conducting an approach and landing when LAHSO is in effect, the pilot-in-command shall ascertain that landing distance available is sufficient, while considering the weather at the aerodrome, the condition of the runway of intended landing, and the aeroplane performance.

1.3 GROUND TRAINING (INITIAL AND RECURRENT)

- 1.3.1 The air operator shall have an approved initial and recurrent ground training program to qualify pilots respecting the conduct of LAHSO in the foreign state.
- 1.3.2 The air operator's approved initial and recurrent ground training program respecting the conduct of LAHSO in the foreign country will include, but is not limited to:
 - (a) the method used to determine the required landing distance specified in paragraph 1.4.1;
 - (b) the conditions of the Special Authorization (SA) for LAHSO issued by Transport Canada Civil Aviation (TCCA) as stipulated in Appendix A of this advisory circular (AC);
 - (c) the conditions and restrictions imposed by the foreign civil aviation authority respecting LAHSO; and

- (d) any other safety information respecting LAHSO which the air operator deems appropriate.

1.3.3 The validity period of initial and recurrent ground training for pilots specified in paragraphs 1.3.1 and 1.3.2 expires on the first day of the thirty-seventh month following the month in which the training was completed, and is also subject to the following:

- (a) Where the initial or recurrent ground training is renewed within the last 90 days of its validity period, the validity period is extended by 36 months (from the date when the pilot's validity period was to have expired);
- (b) The Minister may extend the validity period of initial or recurrent ground training by up to 60 days where the Minister is of the opinion that aviation safety is not likely to be affected; and
- (c) Where all of the elements of initial or recurrent ground training have been taught within the last 90 days of the ground training instructor's validity period, that instructor's validity period (for initial or recurrent ground training) is extended by 36 months (from the date when the instructor's validity period was to have expired).

1.4 PERFORMANCE

1.4.1 When determining that the landing distance available is sufficient, the pilot-in-command of a turbo-jet powered aeroplane or a propeller-driven aeroplane shall ensure that the landing distance available is sufficient to meet or exceed the requirements stipulated in:

- (a) any landing distance requirement for LAHSO specified by the applicable foreign civil aviation authority; and
- (b) the applicable CARs.

2. AIRCRAFT REQUIREMENTS

2.1 CERTIFICATION STANDARDS

2.1.1 The aeroplane utilized to conduct LAHSO must have Aircraft Flight Manual (AFM) performance information to meet the landing distance performance requirements specified in paragraph 1.4.1; and must be certified in accordance with:

- (a) Chapter 523 of the *Airworthiness Manual (AWM)—Commuter Category Aeroplanes*;
- (b) Chapter 525 of the AWM – *Transport Category Aeroplanes*;
- (c) Federal Aviation Administration (FAA), *Federal Aviation Regulations (FAR) 23, Airworthiness Standards: Commuter Category Airplanes*; or
- (d) FAA FAR 25 *Airworthiness Standards: Transport Category Airplanes*.

APPENDIX B — SPECIFIC GUIDANCE RESPECTING THE CONDITIONS OF THE SPECIAL AUTHORIZATION LAND AND HOLD SHORT OPERATIONS (LAHSO)

B.1 Overview

- (1) The matrix below provides specific guidance corresponding to the conditions specified for the **Special Authorization (SA): *Land and Hold Short Operations (LAHSO)*** which appears in Appendix A of this AC.
- (2) Each row of the matrix provides:
 - (a) an Item Number to identify the portion of text;
 - (b) the specific condition of the SA to be discussed; and
 - (c) the corresponding guidance information related to that specific condition.

ITEM NO.	CONDITION OF SA (APPENDIX A)	GUIDANCE INFORMATION
1	<p>Paragraph 1.1.1</p> <p><i>Documentation</i></p> <p><i>Authorization from foreign state</i></p>	<ul style="list-style-type: none"> (1) Canadian air operators must be aware of, and comply with, any applicable regulations, direction or guidance regarding LAHSO which is issued by the civil aviation authority of the foreign state where they intend to conduct LAHSO operations. (2) In particular, Canadian air operators must ensure that any training, checking or currency requirements specified by the foreign civil aviation authority have been complied with. (3) Information respecting the requirements to conduct LAHSO in the United States – and associated guidance information – is provided in Appendix E of this AC. <p>CAUTION: A foreign civil aviation authority, such as the United States FAA may impose additional requirements or may change their requirements. For specific guidance in these matters, air operators need to contact the foreign civil aviation authority.</p> <p>CAUTION: This AC will not necessarily be updated to reflect changes in any foreign requirements. Air operators and pilots remain responsible for ensuring compliance with the applicable foreign regulations.</p>

ITEM NO.	CONDITION OF SA (APPENDIX A)	GUIDANCE INFORMATION
2	<p>Paragraph 1.1.2</p> <p><i>Documentation</i></p> <p><i>Company Operations Manual</i></p>	<p>(1) Canadian air operators also need to ensure that their flight crews are provided with the operational conditions stipulated by the applicable foreign civil aviation authority.</p>
3	<p>Paragraph 1.2.1</p> <p><i>Operational Procedures</i></p>	<p>(1) In order to ascertain the landing distance available, flight crews should refer to information which is published or information which has been provided by air traffic control (ATC). Flight crews must also consider any applicable NOTAMs which may affect runway length available.</p> <p>(2) Flight crews must be aware of the factors which affect landing distance.</p> <p>(3) The procedures developed by flight crews and air operators to assess landing performance at the time of arrival should include an adequate safety margin and should consider runway surface conditions/braking action, winds, temperatures, slope, pressure altitude, icing conditions, final approach speed, airplane weight and configuration, and the deceleration devices used.</p>
4	<p>Paragraphs 1.3.1, 1.3.2 and 1.3.3</p> <p><i>Ground Training</i></p>	<p>(1) The goal of initial and recurrent ground training is to ensure that flight crews clearly understand the procedures necessary to safely conduct LAHSO.</p> <p>(2) In particular, flight crews need to understand:</p> <ul style="list-style-type: none"> (a) the method used to determine the required landing distance specified in paragraph 1.4.1; (b) the conditions and restrictions imposed by the foreign civil aviation authority respecting LAHSO; (c) the factors which can adversely affect landing distance; (d) any other safety information respecting LAHSO which the air operator deems appropriate; and (e) Air operators conducting operations under subpart 705 of the CARs, must also comply with the regulatory requirements specified in section 705.111 of the CARs — <i>Route and Aerodrome Qualifications</i> and the associated standards which are specified in subsection 725.124(30) of the CASS.

ITEM NO.	CONDITION OF SA (APPENDIX A)	GUIDANCE INFORMATION
	<p>Paragraphs 1.3.1, 1.3.2 and 1.3.3</p> <p><i>Ground Training</i></p> <p>CONTINUED...</p>	<p>(3) Ground training instructors have been given the flexibility to have their own personal validity period – for initial or recurrent ground training – renewed through the action of providing instruction.</p>
<p>5</p>	<p>Paragraph 1.4.1</p> <p><i>Performance</i></p>	<p>(1) The pilot-in-command of a turbo-jet powered aeroplane, or a propeller-driven aeroplane, is required to ensure that the landing distance available is sufficient to meet or exceed the requirements stipulated in:</p> <ul style="list-style-type: none"> (a) any landing distance requirement for LAHSO specified by the applicable foreign civil aviation authority; and (b) the applicable CARs <p>(2) Some aircraft manufacturers provide <i>unfactored</i> landing distance information in their AFMs while other manufacturers provide landing distance information that has already been factored. Air operators will need to consult the aircraft manufacturer for further specific details.</p> <p>(3) Specific information respecting United States FAA landing distance computation requirements for LAHSO is provided in Appendix E, Section E.3 and associated subsections.</p>
<p>6</p>	<p>Paragraph 2.1.1</p> <p><i>Aircraft Certification Standards</i></p>	<p>(1) Aeroplanes certified in accordance with the specified airworthiness standards provide the type of performance information which is necessary to comply with the AFM landing distance requirements specified for LAHSO by the foreign civil aviation authority.</p>

APPENDIX C — COMPLIANCE CHECKLIST

C.1 Overview

1. The matrix below has been developed to assist air operators in ensuring that they are in compliance with the conditions specified for the **Special Authorization (SA): Land and Hold Short Operations (LAHSO)** (Appendix A).
2. This matrix also serves as an aid for TCCA personnel for the purposes of certification and safety oversight.
3. This matrix provides:
 - (a) A reference to the specific condition in the SA;
 - (b) The assessment of compliance (to be made by the air operator/private operator/TCCA personnel); and
 - (c) An area to record the details of the air operator's/private operator's means of compliance. (This can include, such things as the applicable references in the company operations manual, etc.)
4. This matrix can be reproduced locally.

REQUIREMENT		COMPLIANCE (Y/N)	MEANS OF COMPLIANCE (References / Documentation)
1 OPERATOR REQUIREMENTS	Paragraph 1.1.1 <i>Documentation</i> <i>Authorization from foreign state</i>		
	Paragraph 1.1.2 <i>Documentation</i> <i>Company Operations Manual</i>		
	Paragraph 1.2.1 <i>Operational Procedures</i>		

REQUIREMENT		COMPLIANCE (Y/N)	MEANS OF COMPLIANCE (References / Documentation)
1 OPERATOR REQUIREMENTS <i>Continued</i>	Paragraph 1.3.1 <i>Approved Training Program</i>		
	Paragraph 1.3.2 <i>Training Program Contents</i>		
	Paragraph 1.3.3 <i>Recurrent Training Each 36 Months</i>		
	Paragraph 1.4.1 <i>Performance</i>		
2 AIRCRAFT REQUIREMENTS	Paragraph 2.1.1 <i>Certification Standards</i>		

APPENDIX D – APPLICABLE REGULATIONS

D.1 Overview

- (1) Some of *Canadian Aviation Regulations (CARs)* and *Commercial Air Service Standards (CASS)* that are applicable to air operators conducting Land and Hold Short Operations (LAHSO) are specified below.

CAUTION: The regulations listed below are not necessarily complete and up to date; and they will not necessarily be updated. Air operators and pilots are responsible for compliance with all relevant provisions.

D.2 Part VII, Subparts 4 and 5 of the CARs

SUBJECT	PROVISIONS in the CARs	PROVISIONS in the CASS
Contents of an Air Operator Certificate	Subparagraphs 704.08(g)(i), 704.08(g)(xi), 705.08(g)(i) and 705.08(g)(xi)	Sections 724.08 and 725.08
Company Operations Manual	Sections 704.121 and 705.135	Sections 724.121 and 725.135
Standard Operating Procedures (SOPs)	Sections 704.124 and 705.138	Sections 724.124 and 725.138
Flight Crew Member Qualifications	Sections 704.108 and 705.106	Sections 724.108 and 725.106
Training Program (Pilots)	Sections 704.115 and 705.124 of the CARs	Sections 724.115 and 725.124 of the CASS
Training and Qualification Records	Subsections 704.117 and 705.127	N/A
Safety Management System	Sections 107.01, 107.02, 107.03, 107.04, 604.183, 604.202, 604.203, 705.151, 705.152 and 705.153	N/A

Part VII, Subparts 1, 2, 3, 4 and 5 of the CARs - *Continued...*

SUBJECT	PROVISIONS in the CARs	PROVISIONS in the CASS
Route and Aerodrome Qualifications	Section 705.111	Section 725.111
Take-off Weight Limitations	Paragraphs 704.46(1)(b) and 705.56(1)(b) of the CARs	
Dispatch Limitations: Landing at Destination and Alternate Aerodromes	Sections 704.49 and 705.60 of the CARs	

D.3 Aeronautics Act

- (1) When conducting flight operations in a foreign state, air operators are subject to Section 4(2) of the *Aeronautics Act*, which states:

Every person exercising the privileges accorded by a Canadian aviation document in a foreign state and every Canadian aircraft operated in a foreign state shall comply with or be operated in accordance with the applicable aeronautics laws of that state.

APPENDIX E – UNITED STATES FEDERAL AVIATION ADMINISTRATION (FAA) REQUIREMENTS AND ASSOCIATED GUIDANCE

E.1 Overview

- (1) Appendix E provides information respecting the conduct of LAHSO in the United States.

CAUTION:

The information provided below is not necessarily complete and up to date, and it will not necessarily be updated.

A foreign civil aviation authority, such as the United States FAA may impose additional requirements or may change their requirements. For specific guidance in these matters, air operators need to contact the United States FAA.

Air operators and pilots are responsible for ensuring compliance with the applicable foreign regulations.

E.2 United States FAA Foreign Operations Specification (Ops Spec) A027. Land and Hold Short Operations (LAHSO)

- (1) The conduct of LAHSO in the United States is subject to the conditions specified in FAA Foreign Operations Specification A027. Land and Hold Short Operations (LAHSO). The template text of Ops Spec A027 (HQ Control: 05/06/2002, HQ Revision: 010) appears below:

The foreign air carrier shall conduct Land and Hold Short Operations (LAHSO) only when authorized by the State of the Operator and at designated airports and specified runway configurations as identified by Air Traffic Services in accordance with the following provisions:

a. Landing Distance Computations.

(1) Landing distance will be the CAA-approved Aircraft Flight Manual (AFM) landing distance for the configuration, environment, and the weight (mass) actually used for landing, plus 1,000 feet. In no case shall LAHSO be conducted to a runway distance less than specified for an aircraft type as identified in FAA Order 7110.118, Appendix 1.

(2) The AFM distance is that determined in accordance with the appropriate Title 14 of the Code of Federal Regulations Sections 23.75, 25.125, and 121.195, and Part 135 Subpart I.

b. Limitations and Provisions.

(1) LAHSO on wet runways is prohibited.

(2) LAHSO shall not be conducted to a runway that does not have visual or electronic vertical guidance.

(a) LAHSO weather minima requires a prevailing weather condition consisting of:

- (i) a ceiling of no less than 1,500 feet and*
 - (ii) a visibility of no less than 5 statute miles.*
 - (b) LAHSO weather minima may be lowered to a ceiling of no less than 1,000 feet and a visibility of no less than 3 statute miles where a Precision Approach Path Indicator (PAPI) or Visual Approach Slope Indicator (VASI) is installed and operational.*
 - (c) At locations where a rejected landing procedure is published, the ceiling and visibility minima will be established in local flying directives and published.*
- (3) LAHSO shall not be conducted if windshear has been reported within the previous 20 minutes prior to the LAHSO clearance being issued.*
- (4) The tailwind on the hold short runway shall be calm (less than 3kts).*
- (5) Night LAHSO shall be conducted only where an approved FAA lighting configuration for LAHSO is installed.*

c. Special Procedures.

CAUTION: The above template text for Ops Spec A027 is subject to revision. A foreign civil aviation authority, such as the United States FAA may impose additional requirements or may change their requirements. To ensure compliance with the current requirements, air operators need to contact the FAA.

E.3 Landing Distance Calculations

- (1) United States FAA Ops Spec A027 provides specific landing distance requirements for the conduct of LAHSO in the United States. These are detailed below.

E.3.1 CAA-approved Aircraft Flight Manual (AFM) Landing Distance

- (1) United States FAA Ops Spec A027 states that the landing distance calculation “will be the CAA-approved Aircraft Flight Manual (AFM) landing distance for the configuration, environment, and the weight (mass) actually used for landing, plus 1,000 feet.” Ops Spec A027 also states that this “CAA-approved AFM landing distance is that determined in accordance with the appropriate Title 14 of the Code of Federal Regulations Sections 23.75, 25.125, and 121.195, and Part 135 Subpart I.”
- (2) In simple terms, this means that the landing distance required for LAHSO is calculated by multiplying the actual landing distance by 1.67 – to which an additional thousand feet is added. This is illustrated in Figure 1, below.
- (3) This multiplication of actual landing distance by 1.67 provides the 60% factored landing distance for dispatch, which is specified in subparagraphs 705.60(1)(a)(i) and 704.49(1)(a)(i) of the CARs for turbojets. However, it should be noted that for LAHSO conducted in the United States, this same 60% factor is applied to both turbojet and propeller-driven aeroplanes.

- (4) It should be noted that some aircraft manufacturers provide unfactored landing distance information in their AFMs while other manufacturers provided landing distance information that has already been factored. Air operators will need to consult the aircraft manufacturer for further specific details.

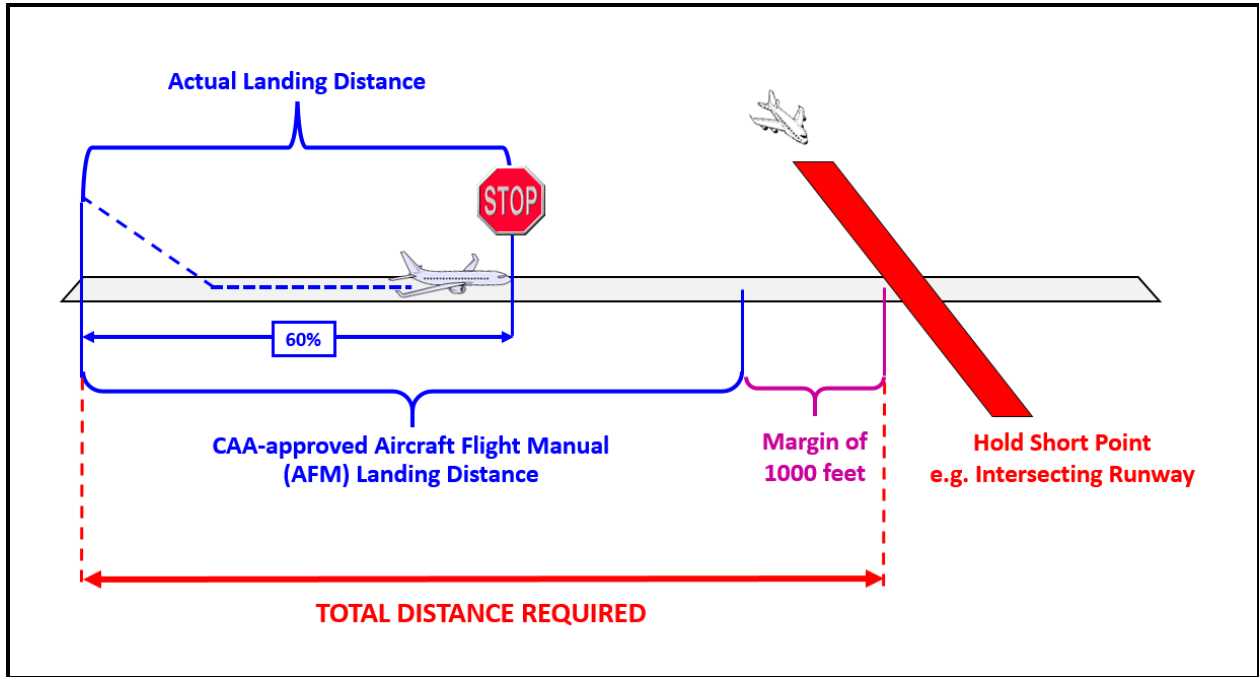


Figure 1 – Landing distance calculation required by US FAA Ops Spec A027

E.3.1.2 FAA Order 7110.118

- (1) United States FAA Ops Spec A027 states that “in no case shall LAHSO be conducted to a runway distance less than specified for an aircraft type as identified in FAA Order 7110.118, Appendix 1.”
- (2) FAA Order 7110.118, Appendix 1 contains a table which is an air traffic control tool for identifying aircraft, by groups, that are able to land and hold short based on the available landing distance. Air traffic managers utilize this table for identifying aircraft by groups that are able to land and hold short at their facility.
- (3) United States FAA Order 7110.118, Appendix 1 is available online at: https://www.faa.gov/regulations_policies/orders_notices/index.cfm/go/document.information/documentID/4341