

STATE OF LIBYA
MINISTRY OF TRANSPORT
CIVIL AVIATION AUTHORITY



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ADVISORY CIRCULAR
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GUIDELINES CALCULATION OF DECLARED DISTANCES

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1. Purpose

- 1.1. The purpose of this AC is to provide supplementary guidance to aerodrome operators on the calculation of declared distances for each runway direction at a certified aerodrome. It provides guidance on what is acceptable to the Aerodrome safety and Standard Bureau at Libyan Civil Aviation Authority (LYCAA) to compliance with regulatory requirements in 139.CHR.010 Runway.
- 1.2. Explain different distances required to be calculated for a runway direction intended to be used and illustrate the suggested format for providing information on declared distance.

2. References

- 2.1. LYCAR 139, Aerodromes standards and certification regulations
- 2.2. ICAO Annex 14, Volume I

3. Applicability

- 3.1. This Advisory Circular applies to all certified aerodrome in LIBYA

4. Introduction

- 4.1. Declared distances are the available operational distances notified to a pilot for take-off, landing or safely aborting a take-off. These distances are used to determine whether the runway is adequate for the proposed landing or take-off or to determine the maximum payload permissible for a landing or take-off.
- 4.2. Declared distances are a combination of the runway (i.e. full strength pavement), any stop way (SWY) and clearway (CWY) provided.

5. Objective

- 5.1. The objective of measuring and providing information on declared distances is to allow pilots to determine the allowable aircraft loading based on aircraft performance requirements.

6. Definitions

- 6.1. Clearway (CWY) :
A defined rectangular area on the ground or water under the control of the aerodrome operator, selected or prepared as a suitable area over which an aero plane may make a portion of its initial climb to a specified height.
- 6.2. Stop way (SWY):
A defined rectangular on the ground at the end of take-off run available (TORA) prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take off.
- 6.3. Take-off run available (TORA)
The length of runway declared available and suitable for the ground run of an aero plane taking off.
- 6.4. Take-off distance available (TODA)
The length of the take-off run available plus the length of the clearway, if provided.
- 6.5. Accelerate-stop distance available (ASDA)
The length of the take-off run available plus the length of the stop way, if provided.
- 6.6. Landing distance available (LDA)
The length of runway which is declared available and suitable for the ground run of an aero plane landing.

7. Calculation of Declared Distances

- 7.1. These declared distances comprise of the take-off run available (TORA), take-off distance available (TODA), accelerate-stop distance available (ASDA) and landing distance available (LDA).

- 7.2. 2. Where a runway is not provided with a stop way (SWY) or clearway (CWY) and the threshold is located at the extremity of the runway, the four declared distances should normally be equal to the length of the runway, as shown in Figure 1.

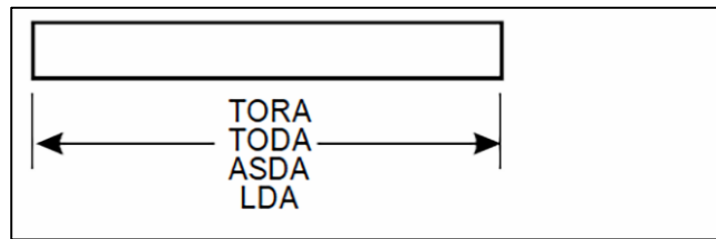


Figure 1

- 7.3. 3. Where a runway is provided with a clearway (CWY), then the TODA will include the length of clearway, as shown in Figure 2.

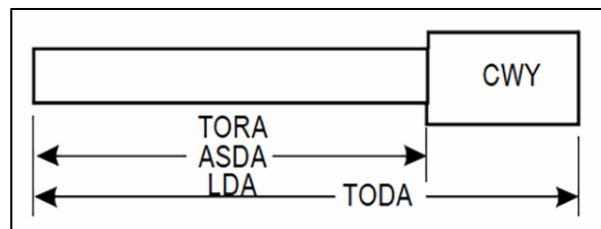


Figure 2

- 7.4. 4. Where a runway is provided with a stop way (SWY), then the ASDA will include the length of stop way (SWY), as shown in Figure 3.

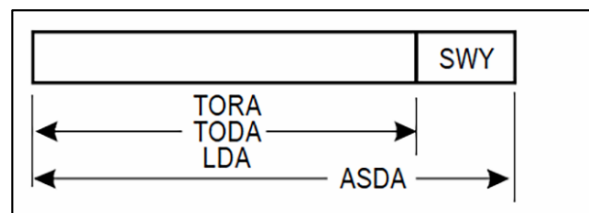


Figure 3.

- 7.5. 5. Where a runway has a displaced threshold, then the LDA will be reduced by the distance the threshold is displaced, as shown in Figure 4. A displaced threshold affects only the LDA for approaches made to that threshold; all declared distances for operations in the reciprocal direction are unaffected.

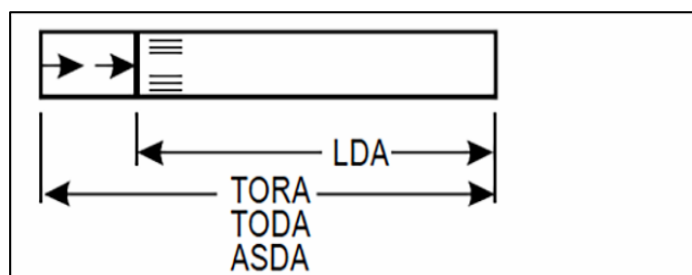


Figure4

- 7.6. 6. Figures 2 through 4 illustrate a runway provided with a clearway or a stopway or having a displaced threshold. Where more than one of these features exist, then

more than one of the declared distances will be modified - but the modification will follow the same principle illustrated. An example showing a situation where all these features exist is shown in Figure 5.

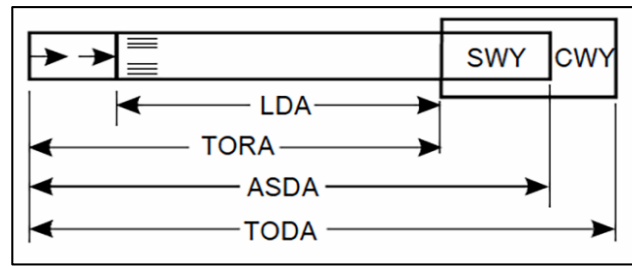
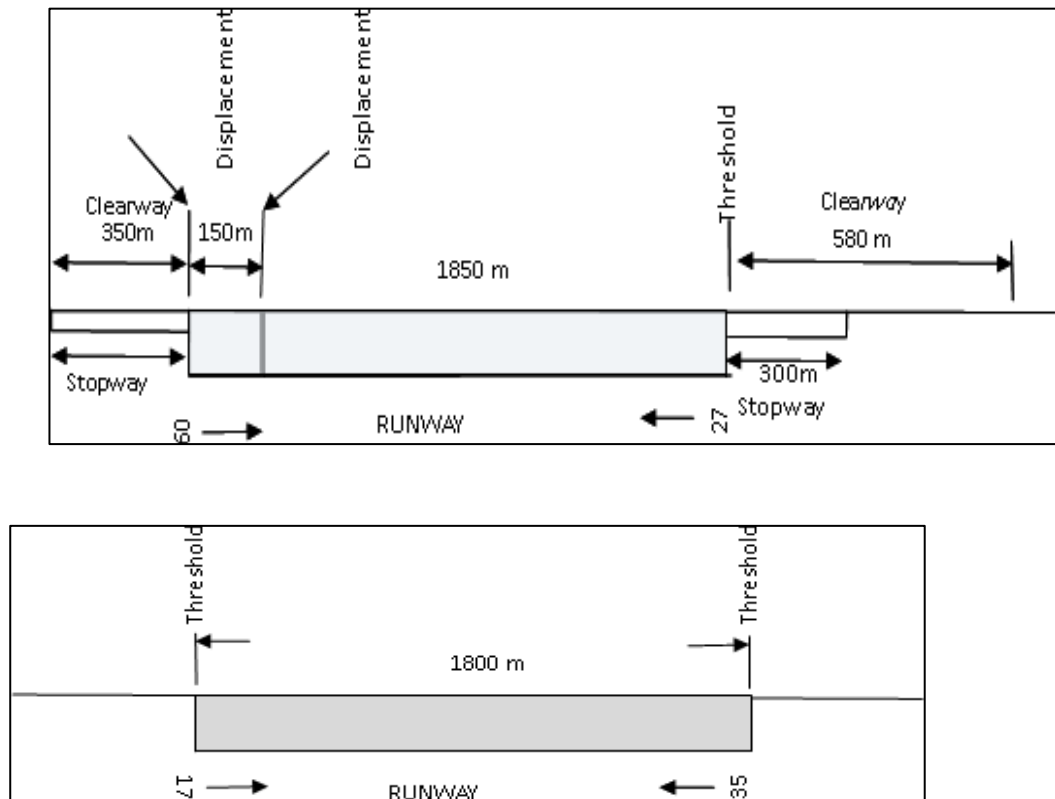


Figure 5

7.7. A suggested format for providing information on declared distances is given in Figure 6. If a runway direction cannot be used for take-off or landing, or both, because it is operational forbidden, then this should be declared and the words “not usable” or the abbreviation “NU” entered



Runway	TORA	ASDA	TODA	LDA
	m	m	m	m
09	2000	2300	2580	1850
27	2000	2350	2350	
17	NU	NU	NU	
35	1800	1800	1800	

Figure 6.

8. Information to be reported to Aeronautical Information Services

- 8.1. Under Section 139.OBL.035 of LYCAR.Part-139, the declared distances shall be calculated and reported by the aerodrome operator to Aeronautical Information Services (AIS). Such information should be subsequently made available to pilots via Aeronautical Information Publication (AIP).