
TELEPHONE:
1300-306-630
(local call - Aust wide,
except from mobile
phone)
FAX: 02 6268 5111

AUSTRALIA AIC

AERONAUTICAL INFORMATION
SERVICE
AIRSERVICES AUSTRALIA
GPO BOX 367
CANBERRA ACT 2601

H15/14

E-mail: AIM.Editorial@airservicesaustralia.com

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CLASSIFICATION OF INSTRUMENT LANDING SYSTEMS

1. INTRODUCTION

1.1 This Aeronautical Information Circular (AIC) provides information on the International Civil Aviation Organization (ICAO) system for classifying an Instrument Landing System (ILS). This classification system is generally used in association with ILS facilities intended for precision approach category (CAT) II or III (and similar) operations.

1.2 In order to fully exploit the benefits of modern aircraft automatic flight control systems, there is a need to describe ground-based ILS facilities more specifically than the simple Facility Performance Category I/II/III. This is achieved by the ILS classification system using three designated characters detailed in para 2.1 below. The ILS classification scheme provides a means for identifying the additional capabilities that may be available from a particular ILS ground facility in order to determine the particular operational application.

2. ILS CLASSIFICATION SYSTEM

2.1 An ILS facility classification is defined by a three character string with each character separated by a slash (/) according to the following:

- a. The first character - Roman numeral **I**, **II**, or **III**. indicates conformance with the Facility Performance standards contained in International Civil Aviation Organization (ICAO) Annex 10, and indicates that the ILS is CAT I, CAT II or CAT III-capable.
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b. The second character - Letter **A**, **B**, **C**, **T**, **D**, or **E**, defines the point along the approach path or runway to which the localizer conforms to the facility performance Category II/III course structure tolerances. The character indicates ILS conformance to a physical location as follows:

- **A**: 7.5KM (4NM) before the threshold
- **B**: 1050M (3500FT) before the threshold (CAT I decision point)
- **C**: Glidepath altitude of 100FT height above touchdown (HAT) (CAT II decision point)
- **T**: Threshold
- **D**: 900M (3000FT) beyond the threshold (Touchdown guidance)
- **E**: 600M (2000FT) before the runway end (Roll out guidance).

c. The third character - Number **1**, **2**, **3**, or **4**. indicates the minimum level of integrity and Continuity of Service (CoS) of the ILS. Integrity is needed to ensure that an aircraft on approach will have a low probability of receiving false guidance; CoS is needed to ensure that an aircraft in the final stages of approach will have low probability of being deprived of a guidance signal. The interpretation of each number is as follows:

- **1**: The performance objective of the ILS equipment has not been demonstrated or is less than Level 2

***Note:** Level 1 performance can support low-visibility operations for which positioning guidance below approximately 200 feet height above threshold (HAT) is supplemented by other means, such as visual cues or advanced avionics*

- **2**: The performance objective for ILS equipment used to support low visibility operations when ILS guidance for position information in the landing phase is supplemented by visual cues. This level is a
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recommended objective for equipment supporting Category I operations

- **3:** The performance objective for ILS equipment used to support operations which place a high degree of reliance on ILS guidance for positioning through touchdown. This level is a required objective for equipment supporting Category II and IIIA operations
- **4:** The performance objective for ILS equipment used to support operations which place a high degree of reliance on ILS guidance throughout touchdown and rollout. This level basically relates to the needs of the full range of Category III operations.

3. CLASSIFICATION EXAMPLE

3.1 An ILS that conforms to the ICAO Annex 10 Facility Performance CAT III standards, meets the CAT III localizer course structure criteria to ILS point “E,” and conforms to the integrity and CoS objectives of Level 4 would be described as Class “III/E/4”.

4. IMPACT OF CLASSIFICATION ON APPROACH MINIMA

4.1 The following shows the typical relationship between Runway Visual Range (RVR) minimum and ILS classification:

Facility Classification	Typical touchdown zone Runway Visual Range minimum	
	CAT II	CAT III
II/T/2	≥ 350 m	N/A
II/D/2	≥ 300 m	N/A
III/D/3		≥ 200 m
III/E/3		≥ 175 m
III/E/4		< 175 m

4.2 Some States, like Australia and the United States of America, will publish instrument flight procedure charts which contain State minima. In

such cases, the minima will generally account for the ILS Classification for the particular runway.

4.3 System issues can occasionally result in a temporary degradation of performance and advice of change of classification. This change may be in the form of a NOTAM or directed advice. Pilots would be expected to adjust minima as appropriate to any reported downgrade.

5. CANCELLATION

5.1 This AIC provides information of an ongoing nature and has no cancellation date.

6. DISTRIBUTION

6.1 By Airservices Australia website only.
