



22/6/04

Transmittal Note

**AMENDMENT NO. 2
TO THE
SUPPLEMENT TO**

**ANNEX 5 — UNITS OF MEASUREMENT TO BE USED
IN AIR AND GROUND OPERATIONS**

(Fourth Edition)

1. Amendment No. 2 to the Supplement to Annex 5 provides additional information received from States up to 22 June 2004 with respect to all amendments up to and including Amendment 16.
 2. To incorporate this amendment:
 - a) replace existing pages (iii), (iv) and (v) by the attached replacement pages dated 22/6/04;
 - b) add country page for the Republic of Korea dated 22/6/04; and
 - c) record the entry of this amendment on page (ii).
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28/10/02

Transmittal Note

**AMENDMENT NO. 1
TO THE
SUPPLEMENT TO**

**ANNEX 5 — UNITS OF MEASUREMENT TO BE USED
IN AIR AND GROUND OPERATIONS**

(Fourth Edition)

1. Amendment No. 1 to the Supplement to Annex 5 provides additional information received from States up to 28 October 2002 with respect to all amendments up to and including Amendment 16.
 2. To incorporate this amendment:
 - a) replace existing pages (iii) and (iv) by the attached replacement pages dated 28/10/02;
 - b) add new page (v) and country pages for Australia dated 28/10/02; and
 - c) record the entry of this amendment on page (ii).
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16/7/01

Transmittal Note

SUPPLEMENT TO
ANNEX 5 — UNITS OF MEASUREMENT TO BE USED
IN AIR AND GROUND OPERATIONS
(Fourth Edition)

1. The attached Supplement supersedes all previous Supplements to Annex 5 and includes differences notified by Contracting States up to 16 July 2001 with respect to all amendments up to and including Amendment 16.
2. This Supplement should be inserted at the end of Annex 5 (Fourth Edition). Additional differences received from Contracting States will be issued at intervals as amendments to this Supplement.

SUPPLEMENT TO ANNEX 5 — FOURTH EDITION

**UNITS OF MEASUREMENT TO BE USED
IN AIR AND GROUND OPERATIONS**

Differences between the national regulations and practices of Contracting States and the corresponding International Standards and Recommended Practices contained in Annex 5, as notified to ICAO in accordance with Article 38 of the *Convention on International Civil Aviation* and the Council's resolution of 21 November 1950.

JULY 2001

INTERNATIONAL CIVIL AVIATION ORGANIZATION

RECORD OF AMENDMENTS

<i>No.</i>	<i>Date</i>	<i>Entered by</i>	<i>No.</i>	<i>Date</i>	<i>Entered by</i>
1	28/10/02	ICAO			
2	22/6/04	ICAO			

**AMENDMENTS TO ANNEX 5 ADOPTED OR APPROVED BY THE COUNCIL
SUBSEQUENT TO THE FOURTH EDITION ISSUED JULY 1979**

<i>No.</i>	<i>Date of adoption or approval</i>	<i>Date applicable</i>	<i>No.</i>	<i>Date of adoption or approval</i>	<i>Date applicable</i>
14	27/2/84	22/11/84			
15	24/11/86	19/11/87			
16	21/2/00	2/11/00			

1. Contracting States which have notified ICAO of differences

The Contracting States listed below have notified ICAO of differences which exist between their national regulations and practices and the International Standards and Recommended Practices of Annex 5 (Fourth Edition) up to and including Amendment 16, or have commented on implementation.

The page numbers shown for each State and the dates of publication of those pages correspond to the actual pages in this Supplement.

<i>State</i>	<i>Date of notification</i>	<i>Pages in Supplement</i>	<i>Date of publication</i>
Australia	27/2/02	1-2	28/10/02
Canada	29/9/00	1	16/7/01
Italy	2/10/00	1	16/7/01
Norway	25/9/00	1	16/7/01
Republic of Korea	14/6/04	1	22/6/04
Slovakia	19/9/00	1	16/7/01
South Africa	17/7/00	1	16/7/01

2. Contracting States which have notified ICAO that no differences exist

<i>State</i>	<i>Date of notification</i>	<i>State</i>	<i>Date of notification</i>
Argentina	31/8/00	Ireland	2/10/00
Bahrain	10/7/00	Jordan	13/6/00
Barbados	25/7/00	Latvia	15/6/04
Belgium	17/10/00	New Zealand	29/9/00
Chile	30/10/00	Portugal	22/9/00
China (Hong Kong SAR)	28/9/00	Romania	2/10/00
Cook Islands	13/10/02	Sri Lanka	10/8/00
Cuba	30/8/00	Sweden	18/9/00
Dominican Republic	15/8/00	Switzerland	10/7/02
Egypt	12/7/00	United Arab Emirates	30/5/00
Eritrea	16/6/00	United Republic of Tanzania	7/6/00
Ethiopia	29/9/00	Uruguay	18/9/00
Germany	5/9/00	Vanuatu	11/6/04

3. Contracting States from which no information has been received

Afghanistan	Bahamas	Brazil
Albania	Bangladesh	Brunei Darussalam
Algeria	Belarus	Bulgaria
Andorra	Belize	Burkina Faso
Angola	Benin	Burundi
Antigua and Barbuda	Bhutan	Cambodia
Armenia	Bolivia	Cameroon
Austria	Bosnia and Herzegovina	Cape Verde
Azerbaijan	Botswana	Central African Republic

Chad	Kenya	Republic of Moldova
China	Kiribati	Russian Federation
Colombia	Kuwait	Rwanda
Comoros	Kyrgyzstan	Saint Kitts and Nevis
Congo	Lao People's Democratic Republic	Saint Lucia
Costa Rica	Lebanon	Saint Vincent and the Grenadines
Côte d'Ivoire	Lesotho	Samoa
Croatia	Liberia	San Marino
Cyprus	Libyan Arab Jamahiriya	Sao Tome and Principe
Czech Republic	Lithuania	Saudi Arabia
Democratic People's Republic of Korea	Luxembourg	Senegal
Democratic Republic of the Congo	Madagascar	Serbia and Montenegro
Denmark	Malawi	Seychelles
Djibouti	Malaysia	Sierra Leone
Ecuador	Maldives	Singapore
El Salvador	Mali	Slovenia
Equatorial Guinea	Malta	Solomon Islands
Estonia	Marshall Islands	Somalia
Fiji	Mauritania	Spain
Finland	Mauritius	Sudan
France	Mexico	Suriname
Gabon	Micronesia (Federated States of)	Swaziland
Gambia	Monaco	Syrian Arab Republic
Georgia	Mongolia	Tajikistan
Ghana	Morocco	Thailand
Greece	Mozambique	The former Yugoslav Republic of Macedonia
Grenada	Myanmar	Togo
Guatemala	Namibia	Tonga
Guinea	Nauru	Trinidad and Tobago
Guinea-Bissau	Nepal	Tunisia
Guyana	Netherlands	Turkey
Haiti	Nicaragua	Turkmenistan
Honduras	Niger	Uganda
Hungary	Nigeria	Ukraine
Iceland	Oman	United Kingdom
India	Pakistan	United States
Indonesia	Palau	Uzbekistan
Iran (Islamic Republic of)	Panama	Venezuela
Iraq	Papua New Guinea	Viet Nam
Israel	Paraguay	Yemen
Jamaica	Peru	Zambia
Japan	Philippines	Zimbabwe
Kazakhstan	Poland	
	Qatar	

4. Paragraphs with respect to which differences have been notified

<i>Paragraph</i>	<i>Differences notified by</i>	<i>Paragraph</i>	<i>Differences notified by</i>
Chapter 1			Norway Republic of Korea Slovakia South Africa
Definitions	Australia Republic of Korea		
Chapter 3		3.3.1 (Table 3-4)	Australia
3.2.1 (Table 3-2)	Australia	3.3.2	Italy
3.2.2 (Table 3-3)	Australia	Chapter 4	
3.3 (Table 3-4)	Canada	4.1 (Table 4-1)	Canada

CHAPTER 1

Definitions *Candela.* The candela is the luminous intensity, in a given direction, of a source that emits monochromatic radiation of frequency 540×10^{12} hertz and that has a radiant intensity in that direction of 1/683 watt per steradian.

Knot (kt). Australia's National Measurement Regulations specify the abbreviation of knot as "kn". The abbreviation "kt" is used in aviation publications.

Nautical mile (NM). Australia's National Measurement Regulations specify the abbreviation of nautical mile as "n mile". The abbreviation "NM" is used in aviation publications.

Sievert (Sv). The sievert is the dose equivalent or dose equivalent index where:

- a) an absorbed dose of ionising radiation equal to 1 gray is delivered to a biological material; and
- b) the conditions under which the dose is delivered satisfy the formula:

$$Q \times N = 1$$

where:

Q is a factor that is the quality factor representing the effect on the detriment of the microscopic distribution of absorbed energy; and

N is a factor that is the product of all other modifying factors specified by the International Radiological Protection as at the commencement of these regulations.

CHAPTER 3

3.2.1
Table 3-2

<i>Specific quantities in Table 3-4 related to</i>	<i>Unit</i>	<i>Symbol used by Australia</i>
temperature	degree Celsius	C
time	minute	MIN
	hour	HR

3.2.2
Table 3-3

<i>Specific quantities in Table 3-4 related to</i>	<i>Unit</i>	<i>Symbol used by Australia</i>
speed	knot	KT

3.3.1

Table 3-4

<i>Ref. No.</i>	<i>Quantity</i>	<i>Symbol used by Australia</i>
1.1	altitude	FT
1.3	distance (long)	NM
1.5	elevation	FT
1.7	height	FT

Chapter 33.3
Table 3-4

<i>Ref. No.</i>	<i>Quantity</i>	<i>Unit used by Canada</i>
1.4	distance (short) ¹	ft
1.12	runway length ¹	ft
1.13	runway visual range	ft
1.16	visibility ²	statute miles and fractions of
1.18	wind direction for purposes of landing and take-off at aerodromes in northern domestic airspace only	degrees true
2.12	mass (weight) ³	kg (pound)
3.2	altimeter setting	inches of mercury
1. Short distances such as runway lengths shall be given in both feet and metres in aeronautical publications when there is an operational requirement to do so. 2. Except for aerodrome forecasts in TAF code disseminated for use outside the NAM region. 3. Weight of an aircraft is expressed in kilos and/or pounds.		

Chapter 44.1
Table 4-1

We do not support the establishment of dates, for planning purposes, for termination of the use of knot, nautical mile or foot.

Chapter 3

3.3.2* Awaiting changes of technical operational standards.

* Recommended Practice

Chapter 3

3.3

Table 3-4

<i>Ref. No.</i>	<i>Quantity</i>	<i>Unit used by Norway</i>
1.1	altitude	ft
1.3	distance (long)	NM
1.5	elevation	ft
1.7	height	ft
4.1	airspeed	kt
4.15	vertical speed	ft/min
4.16	wind speed	kt

Chapter 1

Definitions *Candela.* The candela is the luminous intensity of a light source producing single-light at a frequency 540×10^{12} hertz with a power of 1/683 watt per steradian over a complete sphere centred at the light source.

Chapter 3

3.3

Table 3-4

<i>Ref. No.</i>	<i>Quantity</i>	<i>Unit used by Republic of Korea</i>
1.16	visibility	statute mile

Chapter 3

3.3

Table 3-4

<i>Ref. No.</i>	<i>Quantity</i>	<i>Unit used by Slovakia</i>	
		Primary unit (symbol)	Non-SI alternative unit (symbol)
4.16	wind speed	m/s	kt, km/h

Chapter 3

3.3

Table 3-4

<i>Ref. No.</i>	<i>Quantity</i>	<i>Unit used by South Africa</i>
1.1	altitude	ft
1.3	distance (long)	NM (except when reporting visibility, when m are used)
1.5	elevation	ft
1.7	height	ft
4.1	airspeed	kt
4.7	ground speed	kt
4.15	vertical speed	ft/min
4.16	wind speed	kt