

Annex A

Final Amendments to

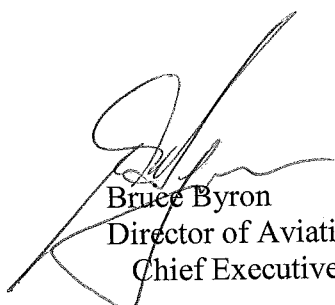
Chapter 2 – Introduction and Chapter 6 – Physical Characteristics of the Manual of Standards (MOS) Part 139 – Aerodromes

INTENTIONALLY LEFT BLANK



Australian Government
Civil Aviation Safety Authority

I, WILLIAM BRUCE BYRON, Director of Aviation Safety, on behalf of CASA, make this instrument under regulation 139.015 of the *Civil Aviation Safety Regulations 1998*.


Bruce Byron
Director of Aviation Safety and
Chief Executive Officer
2 April 2008

Manual of Standards Part 139 Amendment (No. 2) 2008

1 Name of instrument

This instrument is the *Manual of Standards Part 139 Amendment (No. 2) 2008*.

2 Commencement

This instrument commences on the day after it is registered.

3 Amendment of the Manual of Standards Part 139

Schedule 1 amends Manual of Standards Part 139 — Aerodromes.

Schedule 1 Amendments

[1] Paragraph 2.1.6.2 (Table 2.1-2)

substitute

AEROPLANE TYPE	REF CODE	AEROPLANE CHARACTERISTICS					
		ARFL (m)	Wing-span (m)	OMGWS (m)	Length (m)	MTOW (kg)	TP (kPa)
DHC2 Beaver	1A	381	14.6	3.3	10.3	2490	240
Beechcraft:							
58 (Baron)	1A	401	11.5	3.1	9.1	2449	392
100	1A	628	14.0	4.0	12.2	5352	-
Britten Norman Islander	1A	353	14.9	4.0	10.9	2850	228
Cessna:							
172	1A	272	10.9	2.7	8.2	1066	-

AEROPLANE TYPE	REF CODE	AEROPLANE CHARACTERISTICS					
		ARFL (m)	Wing-span (m)	OMGWS (m)	Length (m)	MTOW (kg)	TP (kPa)
206	1A	274	10.9	2.6	8.6	1639	-
310	1A	518	11.3	3.7	9.7	2359	414
404	1A	721	14.1	4.3	12.1	3810	490
Partenavia P68	1A	230	12.0	2.6	9.4	1960	-
Piper:							
PA 31 (Navajo)	1A	639	12.4	4.3	9.9	2950	414
PA 34	1A	378	11.8	3.4	8.7	1814	-
Beechcraft 200	1B	592	16.6	5.6	13.3	5670	735
Cessna:							
208A (Caravan)	1B	296	15.9	3.7	11.5	3310	-
402C	1B	669	13.45	5.6	11.1	3107	490
441	1B	544	15.1	4.6	11.9	4468	665
DHC 6 Twin Otter	1B	695	19.8	4.1	15.8	5670	220
Dornier 228-200	1B	525	17.0	3.6	16.6	5700	-
DHC-7	1C	689	28.4	7.8	24.6	19505	620
DHC-5E	1D	290	29.3	10.2	24.1	22316	-
Lear Jet 28/29	2A	912	13.4	2.5	14.5	6804	793
Beechcraft 1900	2B	1098	16.6	5.8	17.6	7530	-
CASA C-212	2B	866	20.3	3.5	16.2	7700	392
Embraer EMB110	2B	1199	15.3	4.9	15.1	5670	586
Metro II	2B	800	14.1	5.4	18.1	5670	740
Metro III	2B	991	17.37	5.4	18.1	6577	740
ATR 42-200	2C	1010	24.6	4.9	22.7	16150	728
Cessna 550	2C	912	15.8	6.0	14.4	6033	700
DHC-8:							
100	2C	948	25.9	8.5	22.3	15650	805
300	2C	1122	27.4	8.5	25.7	18642	805
Lear Jet 55	3A	1292	13.4	2.5	16.8	9298	-
IAI Westwind 2	3A	1495	13.7	3.7	15.9	10660	1000
BAe 125-400	3B	1713	15.7	3.3	15.5	12480	1007
Canadair:							
CL600	3B	1737	18.9	4.0	20.9	18642	1140
CRJ-200	3B	1527	21.21	4.0	26.77	21523	1117
Cessna 650	3B	1581	16.3	3.6	16.9	9979	1036
Dassault-Breguet:							
Falcon 900	3B	1515	19.3	5.3	20.2	20640	1300
Embraer EMB 145	3B	1500	20	4.8	29.9	19200	-
Fokker F28-2000	3B	1646	23.6	5.8	29.6	29480	689
Metro 23	3B	1341	17.4	5.4	18.1	7484	742
Shorts SD3-60	3B	1320	22.8	4.6	21.6	11793	758
Bae:							
Jetstream 31	3C	1440	15.9	6.2	14.4	6950	448
Jetstream 41	3C	1500	18.3	-	19.3	10433	-
146-200	3C	1615	26.3	5.5	26.2	42185	1138
146-300	3C	1615	26.3	5.5	31.0	44225	945
Bombardier Global Express	3C	1774	28.7	4.9	30.3	42410	-
Embraer:							
EMB 120	3C	1420	19.8	7.3	20.0	11500	828
EMB 170	3C	1600	26.0	5.8	29.90	37200	940

AEROPLANE TYPE	REF CODE	AEROPLANE CHARACTERISTICS					
		ARFL (m)	Wing-span (m)	OMGWS (m)	Length (m)	MTOW (kg)	TP (kPa)
Fokker:							
F27-500	3C	1670	29.0	7.9	25.1	20412	540
F28-4000	3C	1640	25.1	5.8	29.6	32205	779
F50	3C	1760	29.0	8.0	25.2	20820	552
F100	3C	1695	28.1	5.0	35.5	44450	920
SAAB SF-340	3C	1220	21.4	7.5	19.7	12371	655
Airbus A300 B2	3D	1676	44.8	10.9	53.6	142000	1241
Bombardier Dash 8 – Q400	3D	1354	28.4	9.6	32.8	29000	1020
Airbus A320-200	4C	2058	33.9	8.7	37.6	72000	1360
Boeing:							
B717-200	4C	2130	28.4	6.0	37.8	51710	-
B737-200	4C	2295	28.4	6.4	30.6	52390	1145
B737-300	4C	2749	28.9	6.4	30.5	61230	1344
B737-400	4C	2499	28.9	6.4	36.5	63083	1400
B737-800	4C	2256	35.8	6.4	39.5	70535	-
Embraer EMB 190	4C	2110	28.72	6.6	36.24	51800	1080
McDonnell Douglas:							
DC9-30	4C	2134	28.5	6.0	37.8	48988	-
DC9-80/MD80	4C	2553	32.9	6.2	45.1	72575	1390
Airbus:							
A300-600	4D	2332	44.8	10.9	54.1	165000	1260
A310-200	4D	1845	43.9	10.9	46.7	132000	1080
Boeing:							
B707-300	4D	3088	44.4	7.9	46.6	151315	1240
B757-200	4D	2057	38.0	8.7	47.3	108860	1172
B767-200ER	4D	2499	47.6	10.8	48.5	156500	1310
B767-300ER	4D	2743	47.6	10.8	54.9	172365	1310
McDonnell Douglas:							
DC8-63	4D	3179	45.2	7.6	57.1	158757	1365
DC10-30	4D	3170	50.4	12.6	55.4	251744	1276
Lockheed:							
L1011-100/200	4D	2469	47.3	12.8	54.2	211378	1207
McDonnell Douglas MD11	4D	2207	51.7	12.0	61.2	273289	1400
Airbus:							
A330-200	4E	2713	60.3	12.0	59.0	230000	1400
A330-300	4E	2560	60.3	12.0	63.6	230000	1400
A340-300	4E	2200	60.3	12.0	63.7	253500	1400
A340-500	4E	3275	63.70	12.0	67.80	368000	1400
A340-600	4E	3185	63.70	12.0	75.30	365000	1400
Boeing:							
B747-SP	4E	2710	59.6	12.4	56.3	318420	1413
B747-300	4E	3292	59.6	12.4	70.4	377800	1323
B747-400	4E	3383	64.9	12.4	70.4	394625	1410
B777-200	4E	2500	60.9	12.8	63.73	287800	1400
B777-300	4E	3140	60.93	12.6	73.86	299370	1400
Airbus A380-800	4F	3350	79.8	14.3	72.7	560000	1400

Explanatory Statement

Civil Aviation Safety Regulations 1998

Manual of Standards Part 139 Amendment (No. 2) 2008

Subsection 98 (1) of the *Civil Aviation Act 1988* (the *Act*) provides that the Governor-General may make regulations for the Act and in the interests of the safety of air navigation.

The *Civil Aviation Safety Regulations 1998* (**CASR 1998**) are made under subsection 98 (1). Part 139 of CASR 1998 deals with the operation of aerodromes, including rules about the certification of aerodromes and the requirements that apply to the operators of certified aerodromes. Under regulation 139.015 of CASR 1998, the standards for aerodromes are those set out in the Manual of Standards Part 139 — Aerodromes (**MOS Part 139**). MOS Part 139 contains standards for aerodrome facilities and equipment that certified aerodromes must comply with. Among these are standards for physical characteristics of the movement area, including standards for runways and taxiways. The required standards to be met by any runway or taxiway are set by referring to its aerodrome reference code (**ARC**). The applicable ARC is determined by referring to the characteristics of the most demanding aeroplanes using that runway or taxiway and consists of a code number and a code letter. Table 2.1-2 in MOS Part 139 sets out a list of representative aeroplanes operating in Australia to provide examples of each possible ARC code number and letter combination. While the table is a useful guide, paragraph 2.1.6.2 of MOS Part 139 mentions that the information provided is indicative only and exact values for a particular aeroplane should be obtained from the aeroplane manufacturer.

The MOS Amendment replaces Table 2.1-2 to update the list of aeroplanes included. Among the new aeroplanes are the Airbus A380, A340-500 and A340-600, the Boeing 777-300 and various Bombardier and Embraer types.

Legislative Instruments Act

Under section 5 of the *Legislative Instruments Act 2003* (the **LIA**), MOS Part 139 is taken to be a legislative instrument. The MOS Amendment is, therefore, a legislative instrument and it is subject to tabling and disallowance in the Parliament under sections 38 and 42 of the LIA.

Consultation

Consultation under section 17 of the LIA has taken place. A Notice of Proposed Change was issued and comments were received in response. A Notice of Final Change (139/03) was then issued to provide details of the changes to be made to the table.

The instrument commenced on the day after it was registered.

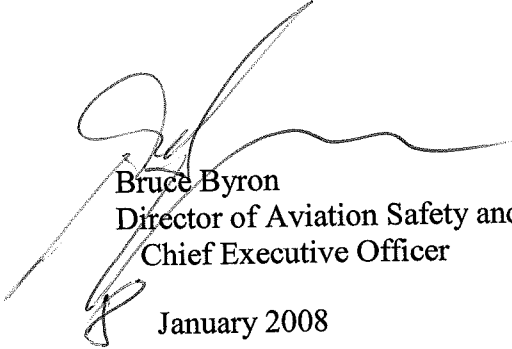
The instrument has been made by the Director of Aviation Safety, on behalf of CASA, in accordance with subsection 84A (2) of the Act.

[Manual of Standards Part 139 Amendment (No. 2) 2008]



Australian Government
Civil Aviation Safety Authority

I, WILLIAM BRUCE BYRON, Director of Aviation Safety, on behalf of CASA, make this instrument under regulation 139.015 of the *Civil Aviation Safety Regulations 1998*.



Bruce Byron
Director of Aviation Safety and
Chief Executive Officer

January 2008

Manual of Standards Part 139 Amendment (No. 1) 2008

1 Name of instrument

This instrument is the *Manual of Standards Part 139 Amendment (No. 1) 2008*.

2 Commencement

This instrument commences on the day after it is registered.

3 Amendment of the Manual of Standards Part 139

Schedule 1 amends Manual of Standards Part 139.

Schedule 1 Amendments

[1] Paragraph 6.2.3.1 (Note to Table 6.2-1)

omit all words after

Chapter 13

[2] After paragraph 6.2.3.1

insert

6.2.3.1A If a minimum runway width:

- (a) is mentioned in instructions issued under subregulation 235A (1) of CAR 1988 as applicable to a particular type of aeroplane; and
- (b) differs from the requirement in Table 6.2-1 that would otherwise apply to operations by that type;

the width mentioned in the instructions:

- (c) if it is less than the requirement in the Table — may be used in determining the required runway width for operations by that particular type; and
- (d) if it is more than the requirement in the Table — must be used in determining the required runway width for operations by that particular type.

Note Subregulation 235A (1) allows CASA to issue instructions specifying the minimum runway width applicable to an aeroplane or a type of aeroplane. Use of that runway width is subject to compliance with the conditions contained in the instructions.

6.2.3.1B Subject to meeting the additional requirements for runway shoulders mentioned in paragraph 6.2.14.3, code letter E runways may be used for A380 operations.

6.2.3.1C Paragraph 6.2.3.1B does not allow code letter E runways to be used for A380 operations:

- (a) if their construction begins after the commencement of paragraph 6.2.3.1B; or
- (b) if they are subjected to a major redevelopment, such as a runway extension, that begins after the commencement of that paragraph.

[3] After paragraph 6.2.14.2

insert

6.2.14.3 Code letter E runways used for A380 operations must be provided with shoulders that consist of:

- (a) inner shoulders 7.5 metres in width on either side that are able to support unintended aircraft runoff; and
- (b) outer shoulders 7.5 metres in width on either side that are resistant to engine blast erosion, prevent engine ingestion and are able to support emergency and service vehicles.

[4] Paragraph 6.3.1.1

omit

The

insert

Subject to this subsection, the

[5] Paragraph 6.3.1.1 (Table 6.3-1)

substitute

Code letter	Minimum taxiway width (straight sections)
A	7.5 m
B	10.5 m
C	18 m
D	23 m
E	23 m
F	25 m
<i>Note</i> Minimum widths are subject to exceptions, see paragraph 6.3.1.1A	

[6] After paragraph 6.3.1.1

insert

6.3.1.1A The minimum taxiway widths in Table 6.3-1 are subject to the following exceptions:

- (a) in the case of a code letter C taxiway that is only intended to serve aircraft with a wheelbase of less than 18 metres, the width may be reduced to 15 metres;
- (b) in the case of a code letter D taxiway that is only intended to serve aircraft with an outer main gear span of less than 9 metres, the width may be reduced to 18 metres;
- (c) subject to meeting the additional requirements for taxiway shoulders mentioned in paragraph 6.3.9.1A, code letter E taxiways may be used for A380 operations.

6.3.1.1B Subparagraph 6.3.1.1A (c) does not allow code letter E taxiways to be used for A380 operations:

- (a) if their construction begins after the commencement of paragraph 6.3.1.1A;
or
- (b) if they are subjected to a major redevelopment, such as a taxiway extension, that begins after the commencement of that paragraph.

[7] Paragraph 6.3.2.1

omit

The

insert

Subject to paragraph 6.3.2.1A, the

[8] After paragraph 6.3.2.1

insert

- 6.3.2.1A For A380 aircraft using a code letter E taxiway, the minimum clearance between the outer main gear wheels and the edge of the taxiway at any point must not be less than 4.3 metres.

[9] After paragraph 6.3.9.1

insert

- 6.3.9.1A The width of the shoulders on each side of a code letter E taxiway used for A380 operations must not be less than 18.5 metres.

[10] Subparagraph 6.3.10.1 (a)

after

erosion

insert

and prevent engine ingestion

[11] Subparagraph 6.3.10.1 (b)

omit

similar aircraft

insert

Airbus 380 aircraft, being an aircraft

Explanatory Statement

Civil Aviation Safety Regulations 1998

Manual of Standards Part 139 Amendment (No. 1) 2008

Subsection 98 (1) of the *Civil Aviation Act 1988* (the *Act*) provides that the Governor-General may make regulations for the Act and in the interests of the safety of air navigation.

Some of these regulations are contained in the *Civil Aviation Safety Regulations 1998* (*CASR 1998*). Part 139 of CASR 1998 deals with the operation of aerodromes, including rules about the certification of aerodromes and the requirements that apply to the operators of certified aerodromes. Under regulation 139.015 of CASR 1998, the standards for aerodromes are those set out in the Manual of Standards Part 139 — Aerodromes (*MOS Part 139*). MOS Part 139 contains standards for aerodrome facilities and equipment that certified aerodromes must comply with. Among these are standards for physical characteristics of the movement area, including standards for runways and taxiways.

With the introduction of the Airbus 380 aircraft (*A380*), it has become necessary to update standards in MOS Part 139 to allow for the operation of the new aircraft to, and from, Australian aerodromes. The standards that apply to an aerodrome are determined by reference to the aircraft category to which the largest aircraft for whose use the aerodrome is intended belongs. Particulars of the categories are set out in MOS Part 139. The size of the A380 would classify it as a Category F aircraft. This is the highest aircraft category. For comparison, the Boeing 747 type is a Category E aircraft. It has, however, been determined by international and national authorities, including the International Civil Aviation Organization and the European Aviation Safety Agency, that A380 aircraft may use runways and taxiways that have been designed to accommodate Category E aircraft, subject to certain modifications being carried out, such as the widening and strengthening of runway and taxiway shoulders.

The A380 has already operated in Australia on a trial basis. It has done so under specially issued permissions and conditions permitting its use of Category E runways and taxiways. Following the trials, CASA considers that operations may be carried out safely on a regular basis on existing facilities using the modified Category E standards contained in the MOS Part 139 amendments.

The modified category E standards will not apply to new facilities or facilities that are subjected to major upgrading after the commencement of the amendments. They will have to meet Category F standards if they intend to cater for the A380.

The amendments also contain some changes in presentation. They remove notes from Tables 6.2-1 and 6.3-1 and restate them in paragraphs 6.2.3.1A and 6.3.1.1A, in order to clarify their effect.

Legislative Instruments Act

Under section 5 of the *Legislative Instruments Act 2003* (the *LIA*), the MOS Part 139 is taken to be a legislative instrument. The MOS Amendment is, therefore, a legislative instrument and it is subject to tabling and disallowance in the Parliament under sections 38 and 42 of the LIA.

Consultation

Consultation under section 17 of the LIA has taken place. A Notice of Proposed Change was issued and comments were received in response. Submissions received were taken into account when the amendments were prepared. Airports that intend to provide for A380 operations have commenced the work required to upgrade their existing facilities in accordance with the MOS Part 139 amendments.

The instrument commences on the day after it is registered.

The instrument has been made by the Director of Aviation Safety, on behalf of CASA, in accordance with subsection 84A (2) of the Act.

[Manual of Standards Part 139 Amendment (No. 1) 2008]