Australian Government

Civil Aviation Safety Authority

I, JOHN FRANCIS McCORMICK, Director of Aviation Safety, on behalf of CASA, make this instrument under regulation 207 of the *Civil Aviation Regulations 1988*.

[Signed John F. McCormick]
John F. McCormick
Director of Aviation Safety

20 December 2011

Civil Aviation Order 20.18 Amendment Instrument 2011 (No. 2)

1 Name of instrument

This instrument is the *Civil Aviation Order 20.18 Amendment Instrument 2011 (No. 2)*.

2 Commencement

This instrument commences on the day after registration.

3 Amendment of Civil Aviation Order 20.18

Schedule 1 amends Civil Aviation Order 20.18.

Schedule 1 Amendments

[1] Paragraph 9B.1

after

operations

insert

in Australian territory

[2] Paragraph 9B.2, definitions

omit

In this subsection

insert

In subsections 9B and 9C,

[3] Paragraph 9B.2, definition of *aircraft address*

substitute

aircraft address means a unique code of 24 binary bits assigned to an aircraft by:

(a) CASA when the aircraft is registered on the Australian Civil Aircraft Register; or

(b) the relevant RAAO for the aircraft when the aircraft is placed on its aircraft register.

[4] Paragraph 9B.2, definitions

insert

ATC means air traffic control.

EHS DAPs means enhanced surveillance downlink of aircraft parameters.

Mode A is a transponder function that transmits a 4-digit octal identification code for an aircraft when interrogated by an SSR, the code having been assigned to the aircraft by ATC for the relevant flight sector.

Mode A code is the 4-digit octal identification code transmitted by a Mode A transponder function.

Mode C is a transponder function that transmits a 4-digit octal code for an aircraft's pressure altitude when interrogated by an SSR.

Mode C code is the 4-digit octal identification code transmitted by a Mode C transponder function.

Mode S is a monopulse radar interrogation technique that improves the accuracy of the azimuth and range information of an aircraft, and uses a unique aircraft address to selectively call individual aircraft.

SSR means a secondary surveillance radar system that is used by ATC to detect an aircraft equipped with a radar transponder.

[5] Paragraph 9B.8

omit

On and after

insert

Subject to paragraph 9B.9, on and after

[6] Paragraph 9B.8, Note

omit

[7] Paragraph 9B.9

omit all words after

aircraft (first occurring)

insert

if:

(a) the aircraft owner, operator or pilot has written authorisation from CASA for the operation of the aircraft without the ADS-B transmitting equipment; or

(b) the equipment is unserviceable for a flight, and each of the following applies:

(i) the flight takes place within 3 days of the discovery of the unserviceability;

(ii) subparagraph 10.1 (a), (b) or (c) applies for the flight;

(iii) ATC clears the flight before it commences despite the unserviceability.

[8] After subsection 9B

insert

9C Standards for Mode S transponder equipment

9C.1 This subsection applies to an aircraft engaged in private, aerial work, charter or regular public transport operations.

9C.2 If the aircraft carries Mode S transponder equipment (the ***equipment***), the equipment must meet the standards set out in this subsection.

9C.3 The equipment must be of a type that is authorised by:

(a) the FAA, in accordance with TSO-C112 as in force on 5 February 1986, or a later version as in force from time to time; or

(b) EASA, in accordance with ETSO-C112a as in force on 24 October 2003, or a later version as in force from time to time; or

(c) CASA, in accordance with an instrument of approval of the type.

Note 1 CASA Advisory Circular 21-46 provides guidelines on Mode S transponder equipment.

Note 2 If Mode S transponder equipment incorporates ADS-B functionality, the standards set out in subsection 9B for ADS-B transmitting equipment will also apply to the Mode S transponder equipment.

9C.4 The aircraft address entered into the equipment must exactly correspond to the aircraft address assigned to the aircraft by CASA or the relevant RAAO.

9C.5 The equipment must transmit each of the following when interrogated on the manoeuvring area of an aerodrome or in flight:

(a) the aircraft address;

(b) the Mode A code;

(c) the Mode C code;

(d) subject to paragraph 9C.7, the aircraft flight identification in accordance with paragraph 9C.6.

9C.6 The aircraft flight identification must:

(a) if a flight notification is filed with ATC for the flight — correspond exactly with the aircraft identification mentioned on the flight notification; or

(b) if no flight notification is filed with ATC for the flight:

(i) for an aircraft registered on the Australian Civil Aircraft Register — be the aircraft registration mark; or

(ii) for an Australian aircraft registered by a RAAO — be in accordance with the RAAO's operations manual; or

(c) be another flight identification directed or approved for use by ATC.

9C.7 Mode S transponder transmission of the aircraft flight identification is optional for any aircraft that was first registered in Australia before 9 February 2012 (an ***older aircraft***). However, if an older aircraft is equipped to transmit, and transmits, an aircraft flight identification then that aircraft flight identification must be in accordance with paragraph 9C.6.

9C.8 If the equipment transmits any Mode S EHS DAPs, the transmitted DAPs must comply with the standards set out in paragraph 3.1.2.10.5.2.3 and Table 3-10 of Volume IV, Surveillance and Collision Avoidance Systems, of Annex 10 of the Chicago Convention.

Note 1 Paragraph 3.1.2.10.5.2.3 includes 3.1.2.10.5.2.3.1, 3.1.2.10.5.2.3.2 and 3.1.2.10.5.2.3.3.

Note 2 Australian Mode S SSR are EHS DAPs-capable, and operational use of EHS DAPs is to be introduced in Australia. Implementation of Mode S EHS DAPs transmissions that are not in accordance with the ICAO standards may be misleading to ATC. Operators need to ensure that correct parameters are being transmitted.

9C.9 If the equipment is carried in an aircraft first registered in Australia on or after 9 February 2012:

(a) having a certificated maximum take-off weight above 5 700 kg; or

(b) that is capable of normal operation at a maximum cruising true air speed above 250 knots;

the equipment's receiving and transmitting antennae must:

(c) be located in the upper and lower fuselage; and

(d) operate in diversity, as specified in paragraphs 3.1.2.10.4 to 3.1.2.10.4.5 (inclusive) of Volume IV, Surveillance and Collision Avoidance Systems, of Annex 10 of the Chicago Convention.

Note Paragraph 3.1.2.10.4.2.1 is recommendatory only.

[9] Appendix XI, clause 3, the heading

omit

28 June 2012

insert

8 December 2016

[10] Appendix XI, clause 3

omit

28 June 2012

insert

8 December 2016

[11] Appendix XI, clause 4, the heading

omit

28 June 2012

insert

8 December 2016

[12] Appendix XI, clause 4

omit

28 June 2012

insert

8 December 2016

[13] Appendix XI, clause 7, the heading

omit

28 June 2012

insert

8 December 2016

[14] Appendix XI, clause 7

omit

28 June 2012

insert

8 December 2016

[15] Appendix XI, clause 8, the heading

omit

28 June 2012

insert

8 December 2016

[16] Appendix XI, clause 8

omit

28 June 2012

insert

8 December 2016
