



Aircraft Tracking - European Requirements Jessie Turner – Boeing Commercial Airplanes - Avionics June 7, 2017

Normal Tracking Regional and National Regulator Status

Organization/	Normal Tracking Requirements					
Regulator	Applicability Date	Forward Fit Required?	Retrofit Required?	Type of Mandate		
ICAO	Nov. 8 2018	\checkmark	\checkmark	Requirement for all aircraft flying in oceanic airspace to be tracked automatically with min 15m interval		
EU/EASA	Dec. 16, 2018	\checkmark	\checkmark	Requirement for all aircraft to be tracked from takeoff to landing automatically with a minimum 15 minute interval. [In 2021, a minimum 3 minute interval if no ADT capability (TBV – based on EASA AMC)].		
CAAC	Dec 1 2016	\checkmark	\checkmark	Advisory Circular consistent with ICAO Circular		
India	May 5 2014 (manual acceptable) 2016 (automatic required)	?	?	AIR SAFETY CIRCULAR 04 OF 2014 Operators should use all suitable means to track all its aircraft engaged in the carriage of passengers/cargo from departure (Chocks-off) to arrival (Chocks-on).		
Malaysia	Mar 8 2015	\checkmark	\checkmark	Malaysian Airlines required to implement 15 min tracking		
CAAS	July 1 2016	\checkmark	\checkmark	From July 1, 2016 airlines required to track aircraft manually or automatically. From Nov 8, 2018, only automatic tracking will be permitted.		

Autonomous Distress Tracking Regional and National Regulator Status

Organization/ Regulator Applicability Date Forward Fit Required? Required	Autonomous Distress Tracking Requirements					
	Retrofit Required?	Type of Mandate				
ICAO	Jan 2021	\checkmark		Means to track aircraft position to end-of-flight		
EU/EASA	Jan 2021	\checkmark		EU/EASA – Same requirement (TBV).		

European Union Regulation EU 965/2012

25.10.2012

EN

Official Journal of the European Union

L 296/1

II

(Non-legislative acts)

REGULATIONS

This regulation provides requirements for air operations for Commercial Air Transport (CAT) aircraft

COMMISSION REGULATION (EU) No 965/2012

of 5 October 2012

laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council

Article 1

Subject matter and scope

1. This Regulation lays down detailed rules for commercial air transport operations with aeroplanes and helicopters, including ramp inspections of aircraft of operators under the safety oversight of another State when landed at aerodromes located in the territory subject to the provisions of the Treaty.

European Union Regulation EU 2015/2338

This regulation <u>amends</u> the requirements of EU 965/2012

16.12.2015	EN	Official Journal of the European Union	L 330/1
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(Non-legislative acts)

REGULATIONS

COMMISSION REGULATION (EU) 2015/2338

of 11 December 2015

amending Regulation (EU) No 965/2012 as regards requirements for flight recorders, underwater locating devices and aircraft tracking systems

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Title Page:

(4) It is necessary to take into consideration the disappearance of flight MH370 on 8 March 2014 and the recommendations made by the multidisciplinary meeting of the ICAO on global tracking of 12 and 13 May 2014. The position of public transport aircraft should be known at all times, even in a remote location, in order to facilitate the location of the aircraft in case of an abnormal behaviour, an emergency or an accident. Whenever possible, the aircraft tracking means should be robust to loss of normal electrical power on board and should not offer any control to disable it during the flight. Therefore, Regulation (EU) No 965/2012 should be amended in order to include additional requirements related to means to track aircraft on a global basis, including over oceans and remote areas.

HAS ADOPTED THIS REGULATION:

Article 1 Annex I (Definitions), Annex IV (Part-CAT), Annex VI (Part-NCC) and Annex VIII (Part-SPO) to Regulation (EU) No 965/2012 are amended in accordance with the Annex to this Regulation.

Annex I (Definitions):

1. The following points are inserted in Annex I to Regulation (EU) No 965/2012:

(8a) "aircraft tracking" means a ground based process that maintains and updates, at standardised intervals, a record of the four dimensional position of individual aircraft in flight;

(8b) "aircraft tracking system" means a system that relies on aircraft tracking in order to identify abnormal flight behaviour and provide alert;'.

Annex IV (Part-CAT): Annex IV to Regulation (EU) No 965/2012 is amended as follows:

(c) The following point CAT.GEN.MPA.205 is inserted:

Normal Tracking

CAT.GEN.MPA.205 Aircraft tracking system — Aeroplanes

- (a) By 16 December 2018 at the latest, the operator shall establish and maintain, as part of the system for exercising operational control over the flights, an aircraft tracking system, which includes the flights eligible to (b) when performed with the following aeroplanes:
 - (1) aeroplanes with an MCTOM of more than 27 000 kg, with an MOPSC of more than 19, and first issued with an individual CofA before 16 December 2018, which are equipped with a capability to provide a position additional to the secondary surveillance radar transponder;
 - (2) all aeroplanes with an MCTOM of more than 27 000 kg, with an MOPSC of more than 19, and first issued with an individual CofA on or after 16 December 2018; and
 - (3) all aeroplanes with an MCTOM of more than 45 500 kg and first issued with an individual CofA on or after 16 December 2018.

(b) Flights shall be tracked by the operator from take-off to landing, except when the planned route and the planned diversion routes are fully included in airspace blocks where:

- (1) ATS surveillance service is normally provided which is supported by ATC surveillance systems locating the aircraft at time intervals with adequate duration; and
- (2) the operator has provided to competent air navigation service providers necessary contact information.'.

MCTOM = Maximum Certified Take-Off Mass MOPSC = Maximum Operational Passenger Seating Configuration

Annex IV (Part-CAT): Annex IV to Regulation (EU) No 965/2012 is amended as follows:

(c) The following point CAT.GEN.MPA.210 is inserted:

DistressTracking

'CAT.GEN.MPA.210 Location of an aircraft in distress — Aeroplanes

The following aeroplanes shall be equipped with robust and automatic means to accurately determine, following an accident where the aeroplane is severely damaged, the location of the point of end of flight:

- (1) all aeroplanes with an MCTOM of more than 27 000 kg, with an MOPSC of more than 19 and first issued with an individual CofA on or after 1 January 2021; and
- (2) all aeroplanes with an MCTOM of more than 45 500 kg and first issued with an individual CofA on or after 1 January 2021.'.

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European Union Mandate EU 2015/2338

Annex IV (Part-CAT): Annex IV to Regulation (EU) No 965/2012 is amended as follows:

(h) CAT.IDE.A.280 is amended as follows:

(i) point (a) is replaced by the following:

(a) with an MOPSC of more than 19 shall be equipped with at least:

- (1) two ELTs, one of which shall be automatic, or one ELT and one aircraft localisation means meeting the requirement of CAT.GEN.MPA.210, in the case of aeroplanes first issued with an individual CofA after 1 July 2008; or
- (2) one automatic ELT or two ELTs of any type or one aircraft localisation means meeting the requirement of CAT.GEN.MPA.210, in the case of aeroplanes first issued with an individual CofA on or before 1 July 2008.'.
- (ii) point (b) is replaced by the following:

'(b) Aeroplanes with an MOPSC of 19 or less shall be equipped with at least: (1) one automatic ELT or one aircraft localisation means meeting the requirement of CAT.GEN.MPA.210, in the case of aeroplanes first issued with an individual CofA after 1 July 2008; or (2) one ELT of any type or one aircraft localisation means meeting the requirement of CAT.GEN. MPA.210, in the case of aeroplanes first issued with an individual CofA on or before 1 July 2008.'.



EASA Executive Director (ED) Decision AMC/GM

There have been <u>two sets</u> of EASA Acceptable Means of Compliance (AMC) and Guidance Material (GM) that have been released in support of EU 2015/2338. First set published Dec. 17, 2015:



ED Decision 2015/030/R

Executive Director Decision

2015/030/R

of 17 December 2015

amending Acceptable Means of Compliance and Guidance Material to Part-ORO, Part-CAT, Part-NCC, and Part-SPO of Commission Regulation (EU) No 965/2012

> 'AMC and GM to Part-ORO — Issue 2, Amendment 5; AMC and GM to Part-CAT — Issue 2, Amendment 4; AMC and GM to Part-NCC — Amendment 4; and AMC and GM to Part-SPO — Amendment 4'

'AMC and GM to Commission Regulation (EU) 2015/2338¹ on flight recorders, underwater locating devices and aircraft tracking systems (first set)'

EASA Executive Director (ED) Decision AMC/GM

Second set published Sept. 12, 2016:



ED Decision 2016/012/R

Executive Director Decision

2016/012/R

of 12 September 2016

amending Acceptable Means of Compliance and Guidance Material to Part-CAT, Part-NCC and Part-SPO of Commission Regulation (EU) No 965/2012

> 'AMC and GM to Part-CAT — Issue 2, Amendment 7; AMC and GM to Part-NCC — Amendment 6; and AMC and GM to Part-SPO — Amendment 6'

(AMC and GM to implementing rules on flight recorders, underwater locating devices and aircraft tracking systems (second set))

EASA Executive Director (ED) Decision AMC/GM

However, these two sets of AMC/GM publications did NOT address Normal or Distress tracking. In each publication, it was stated that *"CAT.GEN.MPA.205 or CAT.GEN.MPA.210 are out of the scope of this Decision".* Therefore, to-date, there have been <u>NO</u> Acceptable Means of Compliance (AMC) or Guidance Material (GM) that has been published by EASA in support of the following new EU regulations within EU 2015/2338:

- CAT.GEN.MPA.205 Aircraft tracking system Aeroplanes
- CAT.GEN.MPA.210 Location of an aircraft in distress Aeroplanes

According to Guillaume Aigoin @ EASA:

- AMC/GM to CAT.GEN.MPA.205 (Normal Tracking) is on hold. EASA is working through requirements.
- AMC/GM to CAT.GEN.MPA.210 is also on hold waiting for:
 - ICAO to complete ICAO Doc. 10054
 - Distress Tracking requirements from COSPAS-SARSAT
- Expect ADFR to be an acceptable means of compliance for MPA.210
- The DRAFT Notice of Proposed Amendment (NPA) for an Executive Director (ED) Decision that went out for public comment in Feb. 2016 which was titled: "Annex II ED Decision 2015/XXX/R AMC and GM to Part-CAT — Issue 2, Amendment X" should <u>NOT</u> be used as AMC/GM for either Normal Tracking or Distress Tracking, since EASA has changed their requirements approach. Therefore, the AEEC GADSS Working Group should not use these requirements.