



Notice of Proposed Amendment 2016-16

Regular update of Part-FCL

Regular update of Regulation (EU) No 1178/2011 regarding pilot training and licensing and the related oversight

RMT.0587

EXECUTIVE SUMMARY

The objective of this Notice of Proposed Amendment (NPA) is to address a non-controversial safety and regulatory coordination issue linked with pilot training and licencing requirements of Annex I (Part-FCL), Annex III (Conditions for the acceptance of licences issued by or on behalf of third countries), Annex VI (Part-ARA) and Annex VII (Part-ORA) to Regulation (EU) No 1178/2011 (the Aircrew Regulation).

This NPA proposes to clarify already existing rule text in order to make the regulatory framework more precise and effective, as well as to correct the current inconsistencies and editorial errors.

The proposed changes are expected to ensure clarity of the regulatory framework, promote a competitive environment, provide for alignment with International Civil Aviation Organization (ICAO) provisions, and maintain the current level of safety through harmonisation of the Aircrew Regulation requirements.

Action area:	Review of rules (ex post evaluation)		
Affected rules:	<ul style="list-style-type: none"> — Regulation (EU) No 1178/2011; — Part-FCL and related AMC/GM; — Annex III to Regulation EU No 1178/2011; — Part-ARA and related AMC/GM; — Part-ORA and related AMC/GM. 		
Affected stakeholders:	Pilots, operators, approved training organisations, competent authorities.		
Driver:	Efficiency/proportionality	Rulemaking group:	No
Impact assessment:	None	Rulemaking procedure:	Standard

● EASA rulemaking process



11.05.2016	30.11.2016	2017/Q3	2018/Q1	2018/Q3
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1. Procedural information

1.1. The rule development procedure

The European Aviation Safety Agency (EASA) developed this NPA in line with Regulation (EC) No 216/2008¹ (the EASA Basic Regulation) and the Rulemaking Procedure².

This rulemaking activity is included in the EASA [5-year Rulemaking Programme](#) under RMT.0587.

The text of this NPA has been developed by EASA with the support of stakeholders (industry and Member States (MSs)). It is hereby submitted to all interested parties for consultation³.

The 'EASA rulemaking process' table on the title page contains the major milestones of this rulemaking activity to date and provides an outlook of the timescales of the next steps.

1.2. The structure of this NPA

Chapter 1 of this NPA contains the procedural information related to this task. Chapter 2 (Explanatory Note) explains the core technical content. Chapter 3 contains the proposed text for the new requirements and related AMC/GM.

1.3. How to comment on this NPA

Please submit your comments using the automated **Comment-Response Tool (CRT)** available at <http://hub.easa.europa.eu/crt/>⁴.

The deadline for submission of comments is **17 March 2017**.

1.4. The next steps in the procedure

Following the closing of the public commenting period, EASA will review all comments.

Based on the comments received, EASA will develop an opinion containing the proposed amendments to the Aircrew Regulation⁵. The opinion will be addressed to the European Commission, which will use it as a technical basis in order to prepare an EU regulation.

Following the adoption of the regulation by the European Commission, EASA will issue a decision containing the related acceptable means of compliance (AMC)/guidance material (GM).

¹ Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p.1) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1467719701894&uri=CELEX:32008R0216>).

² EASA is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such a process has been adopted by the EASA Management Board Decision (MB) and is referred to as the 'Rulemaking procedure'. See MB Decision No 18-2015 of 15 December 2016 replacing Decision 01/2012 concerning the procedure to be applied by the Agency for the issuing of opinions, certification specifications and guidance material (<http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure>).

³ In accordance with Article 52 of the Basic Regulation and Articles 6(3) and 7 of the Rulemaking Procedure.

⁴ In case of technical problems, please contact the CRT webmaster (crt@easa.europa.eu).

⁵ Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 311, 25.11.2011, p. 1) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1477651104530&uri=CELEX:32011R1178>).



The comments received and the EASA responses thereto will be reflected in a comment-response document (CRD). The CRD will be annexed to the opinion.



2. Explanatory Note

This NPA contains amendments to the Aircrew Regulation and aims to improve the regulatory framework by correcting editorial errors and addressing non-controversial issues raised by EASA itself or stakeholders.

2.1. Overview of the issues to be addressed

Since the adoption of the Aircrew Regulation and related EASA decisions, many of the proposals contained in this NPA have been submitted by different parties. CAs, industry and EASA itself developed various concepts of how to improve the Aircrew Regulation and related EASA decisions. The aim of those proposals was to create a better regulatory framework by correcting editorial errors and inconsistencies between requirements and AMC/GM, as well as to update the Aircrew Regulation.

As a result, this NPA addresses different kinds of non-controversial issues:

- some existing requirements and related AMC/GM have been clarified;
- new requirements have been inserted to improve the regulatory framework; and
- new AMC/GM have been created to clarify the new or existing requirements.

For a more detailed analysis of the issues addressed by this proposal, please refer to Sections 2.3. and 2.4. below.

2.2. Objectives

The general objectives of the European Union (EU) in the field of civil aviation are defined in Article 2 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 2.

In addition to the general objectives outlined above, the specific objectives of this proposal are:

- to ensure that miscellaneous issues (such as internal and external rulemaking proposals and editorial issues) of a non-controversial nature where there is sufficient consensus with regard to initial pilot training and licensing or recurrent pilot training, testing and checking are addressed; and
- to continuously improve the regulatory framework by reducing complexity and promoting a competitive environment.

2.3. Summary of the impact assessment (IA)

An impact assessment is not included as the NPA addresses non-controversial issues only.

2.4. Overview of the proposed amendments

The rulemaking proposal developed in this NPA includes a review of Part-FCL, Annex III to the Aircrew Regulation, Part-ARA and Part-ORA aiming at simplifying the rule text, and introducing some new requirements to remove unnecessary administrative burdens, existing inconsistencies within the rule and editorial errors, as well as to perform a review of the associated AMC/GM in order to ensure consistency with the Aircrew Regulation.



Aircrew Regulation

- Article 8(6)

Part-FCL

- FCL.015 Application and issue, revalidation and renewal of licences, ratings and certificates
- FCL.625 IR — Validity, revalidation and renewal
- FCL.725 Requirements for the issue of class and type ratings
- FCL.720.A Experience requirements and prerequisites for the issue of class or type ratings — aeroplanes
- Appendix 6 — Modular training courses for the IR
- Appendix 9 — Training, skill test and proficiency check for MPL, ATPL, type and class ratings, and proficiency check for IRs

Annex III ‘Conditions for the acceptance of licences issued by or on behalf of third countries’

- A. Validation of licences

Part-ARA

- ARA.GEN.320 Procedure to change the competent authority (new)
- Appendix I — Flight crew licence
- Appendix IV to Annex VI (Part-ARA) — Flight simulation training device qualification certificate

Part-ORA

- ORA.ATO.300 General
- ORA.ATO.355 Flight test training organisations

AMC/GM to Part-FCL

- AMC1 FCL.625(c) IR — Validity, revalidation and renewal
- GM1 FCL.725 Requirements for the issue of class and type ratings (new)
- GM1 FCL.735.A Multi-crew cooperation training course — aeroplanes (new)
- GM2 FCL.735.A Multi-crew cooperation training course — aeroplanes (new)
- GM2 FCL.900(c)(1) Instructor certificates (new)
- GM1 to Appendix 5 Integrated MPL training course
- GM1 to Appendix 6 Modular training courses for the IR (new)
- AMC3 to Appendix 9 — Training, skill test and proficiency check for MPL, ATPL, type and class ratings, and proficiency check for IRs (moved from the current implementing rules (IRs)) (new)

AMC/GM to Part-ARA

- GM1 ARA.GEN.105 Definitions



- AMC2 ARA.GEN.200(a)(2) Management system
- GM2 ARA.GEN.200(a)(2) Management system (new)
- GM3 ARA.GEN.200(a)(2) Management system (new)
- AMC1 ARA.GEN.320 Procedure to change the competent authority (new)
- AMC to Appendix IV to Annex VI (Part-ARA) Flight simulation training device qualification certificate (new)
- GM to Appendix IV to Annex VI (Part-ARA) Flight simulation training device qualification certificate (new)

AMC/GM to Part-ORA

- GM1 ORA.GEN.005
- GM1 ORA.GEN.130(a) Changes to organisations
- GM1 ORA.GEN.130(c) Changes to organisations (new)
- AMC1 ORA.ATO.305(b) Classroom instruction (new)

2.4. Proposed amendments to the Aircrew Regulation and to the related AMC/GM

The following amendments are proposed:

Aircrew Regulation

- New paragraph (6) has been inserted into Article 8 to create special requirements regarding acceptance without formalities of third-country pilot licences in the frame of wet-lease-in of aircraft registered in a third country providing that these requirements are fully aligned with the requirements of Regulation (EC) No 452/2014⁶.

Part-FCL

- Some new requirements have been inserted into FCL.015 taking into consideration the possibility of having more than one CA within the same MS for a pilot holding licences in more than one category of aircraft. A new requirement has been inserted into FCL.015 clarifying that the allowed period for an application for a pilot licence is limited to 6 months after having succeeded at the skill test or assessment of competence.
- FCL.625(c) has been amended to ensure that the refresher training is not mandatory but its necessity should be evaluated by an ATO.
- A new requirement has been inserted to FCL.725(e) to ensure that the flight tests mentioned therein have been completed within a certain time limit prior to the issue of the type rating in order to ensure that mentioned flight tests are performed within an adequate time limit before the application for the issue of the type rating.

⁶ Commission Regulation (EU) No 452/2014 of 29 April 2014 laying down technical requirements and administrative procedures related to air operations of third country operators pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 133, 6.5.2014, p. 12) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1477656985002&uri=CELEX:32014R0452>).



- A new requirement has been inserted to FCL.720.A to clarify that before starting the flight training, an applicant for a first-class aeroplane or a type rating for a single-pilot aeroplane (SPA) must have flying experience in an aeroplane or touring motor glider (TMG).
- Appendix 6, Subpart Aa. IR(A), paragraph 8 has been clarified by adding the word ‘verbally’ — an applicant is obliged to verbally demonstrate their knowledge to the examiner.
- Some text of Appendix 9 has been moved to the related AMC3 to Appendix 9 to provide more flexibility to MSs regarding the content of skill tests and proficiency checks. In order to ensure that basic competences are demonstrated during the skill tests and proficiency checks, the list of basic competences has been inserted into Appendix 9.

Annex III ‘CONDITIONS FOR THE ACCEPTANCE OF LICENCES ISSUED BY OR ON BEHALF OF THIRD COUNTRIES

- Subpart A, paragraph 2 has been amended to clarify the requirements regarding the extension of the validation period of pilot licences issued by third countries.
- Subpart A, paragraph 3 has been amended to remove restrictive requirements and to allow pilots gain experience with other-than-CS-27/29 helicopters.
- New paragraph 3.A has been inserted into Subpart A to support MSs as several exemption requests have been received by EASA, and to create special requirements regarding acceptance of third-country pilot licences in the frame of dry-lease-out of aircraft registered in an MS to third-country operators for the purpose of commercial flights outside the MSs’ territory.

Part-ARA

- In order to clarify and simplify the procedure for changing the CA, the basic requirements are included in new ARA.GEN.320, and related paragraphs are inserted into the corresponding AMC.
- In order to avoid inconsistencies with a normal practice that there are only valid ratings in a licence, some requirements of Appendix I regarding not revalidated ratings have been deleted.
- Appendix IV to Annex VI (Part-ARA) has been updated and page 2 of the flight simulation training device (FSTD) qualification certificate has been moved to the related AMC to provide the flexibility to MSs to refer to a specific FSTD certificate (either for aeroplanes or for helicopters), and to include all the necessary information appropriate to the certain FSTD.

Part-ORA

- In ORA.ATO.300, the word ‘modular’ has been removed from point (a), to be in line with points (b) and (c) since the introductory sentence already indicates that a modular course is concerned.
- An new sentence has been inserted into ORA.ATO.355 in order to ensure the possibility to extend the ATO privileges to other categories of flight test personnel, not mentioned in the current text.



AMC/GM to Part-FCL

- AMC1 FCL.625(c) has been amended to ensure that the ATO should evaluate the necessity of the refresher training in case of an expired instrument rating on a case-by-case basis, without taking into account the date of expiry.
- New GM FCL.725(e) has been inserted to clarify that the hours gained during the instruction flights for category 1 or 2 flight tests are not considered as flight tests related to development, certification or production.
- A new paragraph has been inserted into GM1 FCL.735.A and GM2 FCL.735.A to introduce the new concept of multi-crew cooperation (MCC) course as an alternative for pilots in order to develop their core competences before commencing the initial type rating training.
- A new GM (GM2 FCL.900(c)(1)) has been created in order to provide the possibility to issue instructor certificates with unlimited duration for those third-country instructors who have sufficient experience in flight instruction and solo-flight supervision.
- New paragraph (d) has been inserted into GM1 to Appendix 5 to define the minimum content of the multi-crew pilot licence (MPL) training programme.
- New GM to Appendix 6 has been inserted to clarify the content and learning objectives (LOs) which the examiner should make use of for the demonstration of the flight crew's theoretical knowledge during the skill test.
- New AMC3 to Appendix 9 has been created by moving some text of Appendix 9 to this AMC to provide more flexibility to MSs regarding the content of skill tests and proficiency checks. Some text of the Appendix 9 tables has been improved without changes to its content.

AMC/GM to Part-ARA

- Several definitions have been moved from GM1 ORA.GEN.005 to GM1 ARA.GEN.105 in order to create one complete list of definitions for both Part-ARA and Part-ORA. GM1 ORA.GEN.005 has been therefore deleted.
- Additional qualification and training elements for inspectors have been inserted into AMC2 ARA.GEN.200(a)(2) — due to the large amount of new text, the whole AMC has been replaced.
- New GM2 ARA.GEN.200(a)(2) has been inserted to include the list of documents which may be used for the content of the initial training programme for inspectors referred to in (b)(3) and (b)(6) of AMC2 ARA.GEN.200(a)(2).
- New GM3 ARA.GEN.200(a)(2) has been inserted to clarify the content of 'relevant ratings and certificates appropriate to the level of the training conducted in the ATO'.
- New AMC1 ARA.GEN.320 has been inserted to clarify the procedure for changing the CA.
- New AMC to Appendix IV to Annex VI (Part-ARA) has been inserted to ensure certain flexibility regarding requirements included in the FSTD qualification certificate.
- New GM to Appendix IV to Annex VI (Part-ARA) has been inserted to clarify the information included in the FSTD qualification certificate.



AMC/GM to Part-ORA

- GM1 ORA.GEN.005 has been deleted as there is no related requirement in Part-ORA. All the definitions, as well as some additional ones, have been inserted into GM1 ARA.GEN.105.
- Additional text has been inserted into GM1 ORA.GEN.130(a) to clarify that the changes to organisations mentioned require prior approval by the CA.
- New GM1 ORA.GEN.130(c) has been inserted to specify that lists of changes not requiring prior approval by the CA should be included as annexes to the ATO documentation.
- New AMC ORA.ATO.305(b) has been inserted to clarify the requirements of ORA.ATO.305(b).



3. Proposed amendments

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

- (a) deleted text is marked with ~~strike through~~;
- (b) new or amended text is highlighted in grey;
- (c) an ellipsis (...) indicates that the remaining text is unchanged in front of or following the reflected amendment.

3.1. Draft Regulation (Draft EASA Opinion)

3.1.1. Regulation (EU) No 1178/2011

1. Article 8 is amended as follows:

Article 8

Conditions for the acceptance of licences from third countries

(...)

6. Notwithstanding the above requirements, for commercial air transport and other commercial operations inside or outside the territory of the Member States, using an aircraft wet-leased in accordance with Regulation (EU) No 965/2012 and registered in a third country, Member States may accept without formalities a pilot licence issued by the third country for the duration of the wet-lease period, provided that the applicant holds an appropriate licence and medical certificate as well as associated ratings or qualifications, including a language proficiency, issued in accordance with Annex 1 to the Chicago Convention by or on behalf of the State of Registry of the aircraft used.

3.1.2. Part-FCL

SUBPART A

GENERAL REQUIREMENTS

1. FCL.015 is amended as follows:

FCL.015 Application and issue, revalidation and renewal of licences, ratings and certificates

(...)

- (b) Unless otherwise specified in this Part, Any limitation or extension of the privilege granted by a licence, rating or certificate shall be endorsed in the licence or certificate by the competent authority.

(...)

- (d) A person holding licences in more than one category of aircraft shall have such licences issued by the competent authority or authorities designated by the same Member State.



- (e) An application for the issue of a licence for another category of aircraft, or for the issue of further ratings or certificates, as well as an amendment, revalidation or renewal of those licences, ratings or certificates shall be submitted to the competent authority, designated by the Member State, which initially issued the pilot licence, except when the pilot has requested a change of competent authority and a transfer of his licensing and medical records to that authority.
- (f) The applicant for a licence, rating or certificate shall apply not later than 6 months after having succeeded at the skill test or assessment of competence.

SUBPART G

INSTRUMENT RATING — IR

SECTION 1

Common requirements

2. FCL.625 is amended as follows:

FCL.625 IR — Validity, revalidation and renewal

(...)

- (c) Renewal. If an IR has expired, in order to renew their privileges applicants shall:
- (1) ~~go through~~ take a refresher training at an ATO, when necessary, to reach the level of proficiency needed to pass the instrument element of the skill test in accordance with Appendix 9 to this Part; and

(...)

SUBPART H

CLASS AND TYPE RATINGS

SECTION 1

Common requirements

3. FCL.725 is amended as follows:

FCL.725 Requirements for the issue of class and type ratings

(...)

- (e) Notwithstanding the paragraphs above, pilots holding a flight test rating issued in accordance with FCL.820 who were involved in development, certification or production flight tests for an aircraft type, and have completed either 50 hours of total flight time or 10 hours of flight time as PIC on test flights in that type, shall be entitled to apply for the issue of the relevant type rating, provided that they comply with the experience requirements and the prerequisites for the issue of that type rating, as established in this Subpart for the relevant aircraft category. 25 hours of total flight time or 5 hours of flight time as PIC on test flights in that type shall have been



completed within the preceding 12 months prior to the application for the issue of the type rating.

SECTION 2

Specific requirements for the aeroplane category

4. FCL.720.A is amended as follows:

FCL.720.A Experience requirements and prerequisites for the issue of class or type ratings — aeroplanes

(...)

- (b) Single-pilot high performance non-complex aeroplanes. Before starting flight training, an applicant for a first class or type rating for a single-pilot aeroplane classified as a high performance aeroplane shall:

- (1) have at least 200 hours of total flying experience in an aeroplane or touring motor glider (TMG), of which 70 hours as PIC on aeroplanes or TMGs; and

(...)

Appendix 6

Modular training courses for the IR

5. Aa.8(b) is amended as follows:

Aa. IR(A) — Competency-based modular flying training course

(...)

FLYING TRAINING

(...)

8. Applicants for the competency-based modular IR(A) holding a Part-FCL PPL or CPL and a valid IR(A) issued in compliance with the requirements of Annex 1 to the Chicago Convention by a third country may be credited in full towards the training course mentioned in paragraph 4. In order to be issued the IR(A), the applicant shall:

- (a) successfully complete the skill test for the IR(A) in accordance with Appendix 7;
- (b) verbally demonstrate to the examiner during the skill test that he/she has acquired an adequate level of theoretical knowledge of air law, meteorology and flight planning and performance (IR); and

(...)



Appendix 9

Training, skill test and proficiency check for MPL, ATPL, type and class ratings, and proficiency check for IRs

6. The table under B. is replaced by the following:

B. Specific requirements for the aeroplane category

(...)

CONTENT OF THE TRAINING/SKILL TEST/PROFICIENCY CHECK

5. Single-pilot aeroplanes, except for high performance complex aeroplanes:

(...)

(h) To establish or maintain PBN privileges, one approach shall be an RNP APCH. Where an RNP APCH is not practicable, it shall be performed in an appropriately equipped FSTD.

The applicant shall demonstrate competence in the following areas:

- (1) departure;
- (2) airwork (visual meteorological conditions (VMC));
- (3) en route procedures (visual flight rules (VFR));
- (4) instrument flight;
- (5) arrival (ARR) and landing;
- (6) abnormal procedures and emergency procedures; and
- (7) if applicable, simulated asymmetric flight.

(...)

7. The table under B. is replaced by the following:

B. Specific requirements for the aeroplane category

(...)

CONTENT OF THE TRAINING/SKILL TEST/PROFICIENCY CHECK

(...)

6. Multi-pilot aeroplanes and single-pilot high performance complex aeroplanes:

(...)

(i) In case of a restricted type rating issued in accordance with FCL.720.A(e), the applicants shall fulfil the same requirements as other applicants for the type rating except for the practical exercises relating to the take-off and landing phases.

The applicant shall demonstrate competence in the following areas:

- (1) flight preparation;
- (2) take-offs;



(3) flight manoeuvres and procedures;

(4) missed approach procedures; and

(5) landings.

(...)

8. The table under B. is replaced by the following:

B. Specific requirements for the aeroplane category

(...)

CONTENT OF THE TRAINING/SKILL TEST/PROFICIENCY CHECK

(...)

7. Class ratings — sea.

(...)

The applicant shall demonstrate competence in the following areas:

(a) departure;

(b) airwork (VFR);

(c) en route procedures (VFR);

(d) arrivals (ARRs) and landings;

(e) abnormal and emergency procedures; and

(f) if applicable, simulated asymmetric flight.

(...)

9. The table under C. is replaced by the following:

C. Specific requirements for the helicopter category

(...)

MULTI-PILOT HELICOPTERS

(...)

12. Applicants for the revalidation or renewal of the multi-pilot helicopter type rating proficiency check shall take only sections 1 to 4 and, if applicable, section 6.

The applicant shall demonstrate competence in the following areas, if applicable:

(a) pre-flight preparations and checks;

(b) flight manoeuvres and procedures;

(c) normal and abnormal operations of main systems and procedures;

(d) abnormal and emergency procedures;



(e) instrument flight procedures; and

(f) use of optional equipment.

(...)

10. The table under D. is replaced by the following:

D. Specific requirements for the powered-lift aircraft category

(...)

CONTENT OF THE TRAINING/SKILL TEST/PROFICIENCY CHECK

(...)

8. Flight Simulation Training Devices shall be used for practical training and testing if they form part of an approved type rating course. The following considerations will apply to the approval of the course:

(a) the qualification of the flight simulation training devices as set out in the relevant requirements of Part-ARA and Part-ORA;

(b) the qualifications of the instructor.

The applicant shall demonstrate competence in the following areas:

(1) pre-flight preparations and checks;

(2) flight manoeuvres and procedures;

(3) normal and abnormal operations of main systems and procedures;

(4) abnormal and emergency procedures;

(5) instrument flight procedures; and

(6) use of optional equipment.

(...)

11. The table under E. is replaced by the following:

E. Specific requirements for the airship category

(...)

CONTENT OF THE TRAINING/SKILL TEST/PROFICIENCY CHECK

(...)

8. Flight Simulation Training Devices shall be used for practical training and testing if they form part of a type rating course. The following considerations will apply to the course:

(a) the qualification of the flight simulation training devices as set out in the relevant requirements of Part-ARA and Part-ORA;

(b) the qualifications of the instructor.



The applicant shall demonstrate competence in the following areas:

- (a) pre-flight preparations and checks;
- (b) flight manoeuvres and procedures;
- (c) normal and abnormal operations of main systems and procedures;
- (d) abnormal and emergency procedures;
- (e) instrument flight procedures; and
- (f) use of optional equipment.

(...)

3.1.3. Annex III (Conditions for the acceptance of licences issued by or on behalf of third countries) to Regulation (EU) No 1178/2011

A. VALIDATION OF LICENCES

1. 'General' is amended as follows:

General

(...)

2. The period of validation of a licence shall not exceed 1 year, provided that the basic licence remains valid.

This period may only be extended once by the competent authority that issued the validation when, during the validation period, the pilot has applied, or is undergoing training, for the issuance of a licence in accordance with Part-FCL. This extension shall cover the period of time necessary for the licence to be issued in accordance with Part-FCL and shall not exceed 1 year.

The holders of a licence accepted by a Member State shall exercise their privileges in accordance with the requirements stated in Part-FCL.

2. 'Pilot licences for commercial air transport and other commercial activities' is amended as follows:

Pilot licences for commercial air transport and other commercial activities

(...)

> 700 hours in helicopters ~~other than those certificated~~ certified under CS-27/29 or equivalent, including 200 hours in the activity role for which acceptance is sought, and 50 hours in that role in the last 12 months.

(...)



3. New 3. A. is inserted after point 3. as follows:

3.A. Validation of third-country licences in the framework of a dry lease in terms of Commission Regulation (EU) No 965/2012

Notwithstanding the above requirements, for commercial air transport and other commercial operations outside the territory of the Member States, using a multi-pilot aeroplane registered in a Member State and dry-leased in accordance with Regulation (EU) No 965/2012 to a third-country operator the regulatory oversight of which has not been delegated to that third country, Member States may accept a pilot licence issued by the third country for the duration of the dry-lease period, provided that the applicant:

- (a) holds an appropriate licence and medical certificate as well as associated ratings or qualifications, including a language proficiency, issued in accordance with Annex 1 to the Chicago Convention;
- (b) has completed in the last 12 months a proficiency check relevant to the privileges of the licence held, in accordance with the type rating revalidation requirements established by the third country having issued the licence;
- (c) is directly or indirectly employed by the third-country operator.

The pilot shall operate as a member of a multi-pilot crew under the condition that there shall be not more than one inexperienced flight crew member, as described in ORO.FC.200(a), and that the pilot-in-command (PIC) holds an airline transport pilot licence (aeroplane) ATPL(A).

3.1.4. Part-ARA

SUBPART GEN

GENERAL REQUIREMENTS

SECTION III

Oversight, certification and enforcement

1. New ARA.GEN.320 is inserted as follows:

ARA.GEN.320 Procedure to change the competent authority

- (a) The request for a change of competent authority shall be submitted to the competent authority taking over the oversight of the pilot in a form and manner established by this authority.
- (b) The competent authority shall establish a procedure for a change of competent authority in accordance with FCL.015(e).
- (c) The procedure shall ensure that all pilot licencing and medical records and any other relevant information are transferred to the competent authority taking over the oversight of the pilot.



2. Appendix IV to Annex VI Part-ARA is replaced by the following:

FLIGHT SIMULATION TRAINING DEVICE (FSTD) QUALIFICATION CERTIFICATE

INTRODUCTION

EASA Form 145 shall be used for the FSTD qualification certificate. This document shall contain the FSTD specification (aeroplane or helicopter) including any limitation(s) and special authorisation(s) or approval(s) as appropriate to the FSTD concerned. The qualification certificate shall be printed in English and in any other language(s) determined by the competent authority.

Convertible FSTDs shall have a separate qualification certificate for each aircraft type or variant. Different engine and equipment fit on one FSTD shall not require separate qualification certificates. All qualification certificates shall:

- carry a unique identification code prefixed by a code in letters; and
- identify the FSTD operator (name and address of the operator’s principal place of business).

The prefixed letter code shall be specific to the competent authority of issue and the unique identification code shall be specific to the FSTD concerned.

European Union(*)

[Competent authority]

FLIGHT SIMULATION TRAINING DEVICE QUALIFICATION CERTIFICATE

Pursuant to Commission Regulation (EU) No 1178/2011, as amended, and subject to the conditions specified below, the [competent authority] hereby certifies that

FSTD No [LETTER CODE-UNIQUE IDENTIFICATION CODE]

Serial Number [FSTD manufacturer]/[FSTD platform serial number]

[AIRCRAFT TYPE or VARIANT]

located at [ADDRESS WHERE THE FSTD IS LOCATED]

operated by [NAME AND ADDRESS OF THE ORGANISATION OPERATING THE FSTD]

has satisfied the qualification requirements prescribed in Part-ORA, subject to the conditions of the FSTD specification attached.

This qualification certificate shall remain valid, subject to the FSTD and the holder of the qualification certificate remaining in compliance with the applicable requirements of Part-ORA, unless it has been surrendered, superseded, suspended or revoked.

Date of issue:

Signed:

(*) ‘European Union’ to be deleted for non-EU Member States



3.1.5. Part-ORA*SUBPART ATO***APPROVED TRAINING ORGANISATIONS****SECTION III*****Additional requirements for ATOs providing specific types of training***

1. ORA.ATO.300 is amended as follows:

ORA.ATO.300 General

The ATO may be approved to conduct modular course programmes using distance learning in the following cases:

- (a) ~~modular~~ courses of theoretical knowledge instruction;
- (...)

2. ORA.ATO.355 is amended as follows:

ORA.ATO.355 Flight test training organisations

- (a) The ATO that has been approved to provide flight test training for the issue of a category 1 or 2 flight test rating in accordance with Part-FCL may have its privileges extended to providing training for ~~other categories of flight tests and other categories of flight test personnel, provided that:~~

- (1) ~~other categories of flight test provided that:~~

- (i) the relevant requirements of Part-21 are met; and

- ~~(2)(ii)~~ a specific arrangement exists between the ATO and the Part-21 organisation that employs, or intends to employ, such personnel; or

- (2) ~~other categories of flight test personnel provided that the relevant requirements of Part-21 are met.~~

(...)



3.2. Draft AMC and GM (Draft EASA Decision)

3.2.1. AMC/GM to Part FCL

SUBPART G — INSTRUMENT RATING — IR

1. AMC1 FCL.625(c) is replaced by the following:

AMC1 FCL.625(c) IR — Validity, revalidation and renewal

RENEWAL OF INSTRUMENT RATING AT AN ATO: REFRESHER TRAINING

- (a) The objective of the refresher training at an ATO is to reach the level of proficiency needed to pass the instrument element of the skill test prescribed in Appendix 9 to Part-FCL. The amount of refresher training needed should be determined by the ATO on a case-by-case basis, taking into account the following factors:

- (1) the experience of the applicant;
- (2) the amount of time elapsed since the privileges of the rating were last used;
- (3) the complexity of the aircraft;
- (4) whether the applicant has a current rating on another aircraft type or class; and
- (5) where considered necessary, the performance of the applicant during a simulated proficiency check for the rating in an FSTD or an aircraft of a relevant type or class.

The amount of training needed to reach the desired level of competence should increase with the time elapsed since the privileges of the rating were last used.

- (b) Once the ATO has determined the needs of the applicant, it should develop an individual training programme based on the ATO's approved course for the rating and focusing on those aspects where the applicant has shown the greatest needs. Theoretical-knowledge instruction should be included, as necessary. The performance of the applicant should be reviewed during the training, and additional instruction should be provided where necessary to reach the standard required for the proficiency check.
- (c) After successful completion of the training, the ATO should provide a training completion certificate to the applicant, describing the evaluation of the factors listed under (a) above, the training received, and a statement that the training has been successfully completed. The training completion certificate should be presented to the examiner prior to the proficiency check. Following the successful renewal of the rating, the training completion certificate and examiner report form should be submitted to the competent authority.
- (d) Taking into account the factors listed in (a) above, an ATO may also decide that the applicant already possesses the required level of proficiency and that no refresher training is necessary. In such a case, the certificate or other documental evidence referred to in point (c) should contain a respective statement including sufficient reasoning.



SUBPART H — CLASS AND TYPE RATINGS

2. New GM1 FCL.725(e) is inserted as follows:

GM1 FCL.725(e) Requirements for the issue of class and type ratings

The hours gained during the instruction flights for category 1 or 2 flight tests are not considered as flight tests related to development, certification or production.

3. New GM1 FCL.735.A is inserted as follows:

GM1 FCL.735.A Multi-crew cooperation training course — aeroplanes**ENHANCED MCC TRAINING TO AIRLINE PILOT STANDARDS (APS)**

An MCC training course may be enhanced by including advanced swept-wing training and airline operational training to better equip a pilot with the knowledge, skills and attitudes required to commence initial type rating training to the standards required by a commercial air transport (CAT) operator certified in accordance with Regulation (EU) No 965/2012.

An ATO may provide generic stand-alone or CAT-operator-specific MCC training, advanced swept-wing training and airline standard operational training. In the case of generic stand-alone training, the ATO should establish appropriate documentation and manuals representative of a CAT operator, such as aeroplane original-equipment manufacturers (OEMs) SOPs, flight documentation, as well as reporting and management systems.

In the case of CAT-operator-specific training, the ATO should enter into a contractual agreement with a CAT operator in accordance with ORA.GEN.205. Such agreement should ensure that the CAT operator's documentation, manuals, SOPs, reporting structures and management system are represented throughout the training course.

The enhanced MCC training course should be based on a multi-pilot aeroplane type capable of carrying at least 50 passengers or equivalent mass. The FSTD used should be type-specific, and additionally equipped with a visual system that provides at least 180° horizontal and 40° vertical field of view. In the case of advanced swept-wing practical training, an FSTD representing a swept-wing multi-engine turbine-powered aeroplane should be used. Otherwise, the same minimum standard of FSTD representing the same aeroplane should be used throughout the practical exercises.

INSTRUCTORS PROVIDING ADVANCED SWEEP-WING TRAINING AND AIRLINE OPERATIONAL TRAINING

The minimum qualification level of an instructor to deliver the enhanced MCC training should be an MCC instructor (aeroplane) (MCCI(A)) stand-alone APS training course provided that the ATO ensures that before an MCCI delivers the advanced swept-wing handling or simulated-airline-operations training elements, they have satisfactorily completed appropriate specific-handling, systems and technical-instructor training under the instruction of a synthetic flight instructor (SFI) MPA or type rating instructor (TRI) MPA.

COURSE DESIGN AND CORE COMPETENCES

The enhanced MCC training course should be designed using instructional systems design (ISD) methodology. Progress should be monitored throughout the course in accordance with the course design. A final progress assessment should take place at the end of the practical training. The progress



assessment should assess the student pilot’s flying and monitoring knowledge, skills and attitudes. The final progress assessment should be conducted to the satisfaction of a TRI (MPA) or SFI (MPA) appointed by the ATO. Practical-training and progress assessments should be conducted to ensure that the student pilot has demonstrated the desired level of competence set for each core competence, as described in Tables 1A–1D and 2 below.

A student pilot who has successfully reached the required competences at the final progress assessment of the practical training should be awarded an MCC course completion certificate which specifically states that the course was delivered to enhanced MCC standards in accordance with this GM.

Regardless of the standard achieved and stated in the final progress assessment, a student who completes the course is entitled to, and should be issued with, a course completion certificate in accordance with FCL.735.A(c).

TABLE 1A — APS TRAINING COURSE CONTENT AND PERFORMANCE INDICATORS

BASIC APS CONTENT AND PERFORMANCE INDICATORS			
Core Competence	Performance Indicators	Knowledge	Practical Exercises
(a) Communications	(a) Know what, how much and with whom to communicate. (b) Ensure the recipient is ready and able to receive the information. (c) Communicate messages and information clearly, accurately, timely and adequately. (d) Check if the recipient has the correct understanding when communicating important information. (e) Listen actively, patiently and demonstrate understanding when receiving information. (f) Ask relevant and effective questions, and offer suggestions. (g) Use appropriate body language, eye contact and tone. (h) Be open and receptive to the recipient’s view.	(a) HF, threat and error management (TEM) and CRM. (b) Application of TEM and CRM principles to training.	In a CAT environment, apply multi-crew procedures, including principles of TEM and CRM to the following: (a) pre-flight preparation: (1) FMS initialisation; (2) radio and navigation equipment preparation; (3) flight documentation; and (4) computation of take-off performance data; (b) take-off and climb: (1) pre-take-off checks; (2) normal take-offs; (3) rejected take-offs; (5) take-offs with abnormal and emergency procedures; and (6) low-visibility procedures; (c) cruising: (1) emergency descent; and (2) pilot incapacitation; (d) descent and approach: (1) instrument flight procedures; (2) holding; (3) precision approach using



			<p>raw data;</p> <p>(4) precision approach using flight director;</p> <p>(5) precision approach using autopilot;</p> <p>(6) one-engine-inoperative approach;</p> <p>(7) non-precision and circling approaches;</p> <p>(8) computation, approach and landing data;</p> <p>(9) all engines go-around;</p> <p>(10) go-around with one-engine-inoperative; and</p> <p>(11) LVOs;</p> <p>(e) landing: transition from instrument to visual flight on reaching decision altitude or height or minimum descent altitude or height;</p> <p>(f) after-landing and post-flight procedures; and</p> <p>(g) selected emergency and abnormal procedures.</p>
(b) Leadership and teamwork	<p>(a) Be friendly, enthusiastic, motivating and considerate of others.</p> <p>(b) Take initiative, give direction and take responsibility when required.</p> <p>(c) Be open and honest about thoughts, concerns and intentions.</p> <p>(d) Give and receive criticism, praise well, and admit mistakes.</p> <p>(e) Confidently do and say what is important to them.</p> <p>(f) Demonstrate respect and tolerance towards others.</p> <p>(g) Involve others in planning and share activities fairly.</p>		
(c) Situation awareness	<p>(a) Be aware of what the aircraft and its systems are doing.</p> <p>(b) Be aware of where the aircraft is and of its environment.</p> <p>(c) Keep track of time and fuel.</p> <p>(d) Be aware of the condition of</p>		



	<p>people involved in the operation including passengers.</p> <p>(e) Recognise what is likely to happen, plan, and stay ahead of the game.</p> <p>(f) Develop 'what if' scenarios and make pre-decisions.</p> <p>(g) Identify threats to the safety of the aircraft and of the people.</p>		
<p>(d) Workload management</p>	<p>(a) Be calm, relaxed, careful and not impulsive.</p> <p>(b) Prepare, prioritise and schedule tasks effectively.</p> <p>(c) Use time efficiently when carrying out tasks.</p> <p>(d) Offer and accept assistance, delegate when necessary, and ask for help on time.</p> <p>(e) Review, monitor and cross-check actions conscientiously.</p> <p>(f) Follow procedures appropriately and consistently.</p> <p>(g) Concentrate on one thing at a time, ensure tasks are completed, and do not become distracted.</p> <p>(h) Carry out instructions as directed.</p>		
<p>(e) Problem-solving and decision-making</p>	<p>(a) Identify and verify why things have gone wrong, and do not jump to conclusions or make assumptions.</p> <p>(b) Seek accurate and adequate information from appropriate resources.</p> <p>(c) Persevere in working through problems.</p> <p>(d) Use and agree on an appropriate decision-making process.</p> <p>(e) Agree on essential and desirable criteria and priorities.</p> <p>(f) Consider as many options as practicable.</p> <p>(g) Make decisions, when needed, as well as reviews and changes, if required.</p>		



	(h) Consider risks but do not take unnecessary risks.		
(f) Active pilot monitoring	(a) Monitor and cross-check all actions. (b) Monitor aircraft trajectory in critical flight phases. (c) Take appropriate actions in response to deviations from the flight path. (d) Advocates SOP in response to deviations from the approved procedure.	(a) SOPs. (b) Aircraft systems. (c) Undesired aircraft states.	
(g) Task sharing	(a) Apply SOPs in both PF and PM roles. (b) Make and respond to standard call-outs.	(a) PF and PM roles. (b) SOPs.	
(h) Use of checklists	Utilise checklists appropriately according to SOPs.	(a) SOPs; (b) Checklist philosophy.	
(i) Briefings	Prepare and deliver appropriate briefings.	(a) SOPs. (b) Interpretation of FMS data and in-flight documentation. (c) All crew members as appropriate.	
(j) Flight management	(a) Maintain a constant awareness of the aircraft automation state. (b) Manage automation to achieve optimum trajectory and minimum workload. (c) Take effective recovery actions from automation anomalies. (d) Manage aircraft navigation and terrain clearance. (e) Manage aircraft fuel state and take appropriate actions.	(a) Understanding of aircraft performance and configuration. (b) Systems. (c) SOPs. (d) Interpretation of FMS data and in-flight documentation. (e) Minimum terrain clearance. (f) Fuel management IFR and VFR regulation.	
(k) FMS use	Programme, manage and monitor FMS in accordance with SOPs.	(a) Systems (FMS). (b) SOPs. (c) Automation.	



(l) Systems normal operations	Perform and monitor normal systems operation in accordance with SOPs.	(a) Systems. (b) SOPs.	
(m) Systems abnormal and emergency operations	(a) Perform and monitor abnormal systems operation in accordance with SOPs. (b) Utilise electronic and paper abnormal-operation checklists in accordance with SOPs.	(a) Systems. (b) SOPs. (c) Emergency and abnormal procedures, and abnormal-operations checklists. (d) Recall items.	
(n) Environment, weather and ATC	(a) Communicate effectively with ATC. (b) Avoid misunderstandings by requesting clarification. (c) Adhere to ATC instructions. (d) Construct a mental model of the local ATC and weather environment.	(a) Systems. (b) SOPs. (c) ATC environment and phraseology. (d) Procedures for hazardous weather conditions.	

TABLE 1B — APS TRAINING COURSE CONTENT AND PERFORMANCE INDICATORS

ADVANCED APS CONTENT AND PERFORMANCE INDICATORS			
Training	Performance Indicators	Knowledge	Practical Exercises
CRM training	(a) Display competence in the CRM-related core competencies (see Tables 1A-1D and 2). (b) Successfully complete the final progress check.	Understand the CRM concepts set out in AMC1 ORO.FC.115.	CRM should be integrated into all practical exercises of the APS.



TABLE 1C — APS TRAINING COURSE CONTENT AND PERFORMANCE INDICATORS

ADVANCED APS CONTENT AND PERFORMANCE INDICATORS			
Training	Performance Indicators	Knowledge	Practical Exercises
Advanced swept-wing flying training	<p>(a) Understand and apply combinations of thrust and attitude that ensure a stable, safe flight in various aircraft configurations and altitudes.</p> <p>(b) Manage the (much) wider range of speed and thrust at both low level and high level.</p> <p>(c) Demonstrate good judgement and correct use of lift and drag devices during various phases of the flight.</p> <p>(d) Use displays along with all available aids to stay mentally ahead when piloting all profiles.</p> <p>(e) Understand and recognise the precursors of high-energy approaches.</p> <p>(f) Know angle of attack (AoA) versus attitude indications at low level as well as at high level.</p> <p>(g) Practice upset prevention as a priority, and clearly recognise when and how recovery is necessary, by using the required pilots' skills to mitigate loss of control in-flight (LOC-I) events.</p>	<p>Elements and components of jet orientation:</p> <p>(a) glass cockpit displays;</p> <p>(b) propulsion;</p> <p>(c) aerodynamics;</p> <p>(d) flight controls;</p> <p>(e) performance;</p> <p>(f) jet flight planning;</p> <p>(g) weight and balance;</p> <p>(h) basic jet flying;</p> <p>(i) pilot techniques for jet flying, advanced-handling-skills development;</p> <p>(j) flight path management;</p> <p>(k) auto flight;</p> <p>(l) high-altitude operations; and</p> <p>(m) introduction into upset prevention and recovery.</p>	<p>(a) Take-off, approach, landing, go-around.</p> <p>(b) Flight deck management practices.</p> <p>(c) Complex problem-solving techniques.</p> <p>(d) Advanced handling.</p> <p>(e) Manual handling skills (no autopilot, no auto thrust, and where possible, no flight director).</p> <p>(f) Flight at different speeds, including slow flight and altitudes within the normal flight envelope.</p> <p>(g) Steep turns.</p> <p>(h) Aeroplane stability and stall awareness.</p> <p>(i) Recovery techniques from developed upsets, including stall events.</p> <p>(j) High-energy approach prevention.</p> <p>(k) Go-around management of approach and landing configurations.</p>



TABLE 1D — APS TRAINING COURSE CONTENT AND PERFORMANCE INDICATORS

ADVANCED APS CONTENT & PERFORMANCE INDICATORS			
Training	Performance Indicators	Knowledge	Practical Exercises
Airline-oriented training	<ul style="list-style-type: none"> (a) Understand the roles of airline departments. (b) Understand the challenges faced by airline departments. (c) Understand the relationships between airline departments. (d) Understand airline responsibilities. (e) Understand their own responsibilities as a crew member. 	Appropriate elements of Regulations (EU) Nos 1178/2012 and 965/2012.	Optional visit to the contracted airline.
Advanced airline-simulated operational training	<ul style="list-style-type: none"> (a) Execute pre-flight preparation in accordance with airline or OEM SOPs. (b) Conduct an effective crew briefing, including cabin crew managers (CCMs). (c) Display good airmanship and TEM skills in assessing aircraft serviceability, weather planning, fuel planning and destination facilities. (d) Conduct cockpit preparation and briefings in an effective and accurate manner. (e) Manage and execute engine start, taxi-out and pre-take-off checks safely and in accordance with airline or OEM SOPs. (f) Manage and execute runway line-up, take-off, climb, cruising, descent, approach, landing and taxi-in safely and in accordance with airline or OEM SOPs. (g) During non-normal operations, display good system knowledge, application of non-normal procedures, COM, TEM, situational awareness (SA), decision-making and aircraft handling. 	<ul style="list-style-type: none"> (a) Knowledge of systems as set out in GM1 FCL.735.A. (b) SOPs. (c) Normal- and non-normal operations checklists and procedures. 	<ul style="list-style-type: none"> (a) CHECK-IN PROCEDURES. (b) PRE-FLIGHT PREPARATION: <ul style="list-style-type: none"> (1) weather analysis; (2) flight planning; (3) fuel planning; (4) configuration deviation list (CDL), dispatch deviation procedures guide (DDPG), and minimum equipment list (MEL) analysis; and (5) CCMs briefing. (c) NORMAL PROCEDURES: <ul style="list-style-type: none"> cockpit preparation, pushback, engine starting, taxiing, take-off, climb, cruising, descent, landing, shutdown & disembarkation procedures. (d) ON TIME PERFORMANCE: <ul style="list-style-type: none"> (1) weather analysis; (2) flight planning; and (3) fuel planning. (e) NON-NORMAL PROCEDURES: <ul style="list-style-type: none"> (1) as per (c) above, in case of a technical or operational non-normal event; (2) TEM; (3) diversion decision-making; (4) communication; (5) diversion; (6) fuel SA; (7) passenger and crew care.



TABLE 2 — CORE COMPETENCES

Competence	Competence Description	Behavioural Indicators
Application of procedures	Identify and apply procedures in accordance with published operating instructions and applicable regulations, using the appropriate knowledge.	<ul style="list-style-type: none"> — Identify the source of operating instructions. — Follow SOPs unless a higher degree of safety dictates an appropriate deviation. — Identify and follow all operating instructions in a timely manner. — Correctly operate aircraft systems and associated equipment. — Comply with applicable regulations. — Apply relevant procedural knowledge.
Knowledge	Demonstrate relevant operational, technical and procedural knowledge.	<ul style="list-style-type: none"> — Demonstrate knowledge of relevant operational procedures. — Demonstrate technical knowledge of aircraft systems and their effect on the safe operation of the flight. — Demonstrate knowledge of procedures for operating a commercial aircraft under IFR. — Display an appropriate level of background knowledge. — Apply knowledge effectively to practical scenarios. — Display ability to locate required information using all reference material.
Aircraft flight path management automation	Control the aircraft flight path through automation, including appropriate use of one or more flight management system(s) and guidance.	<ul style="list-style-type: none"> — Control the aircraft using automation with accuracy and smoothness, as appropriate to the situation. — Detect deviations from the desired aircraft trajectory and take appropriate action. — Contain the aircraft within the normal flight envelope. — Manage the flight path to achieve optimum operational performance. — Maintain the desired flight path during flight using automation whilst managing other tasks and distractions. — Select the appropriate level and mode of automation in a timely manner, considering phase of flight and workload. — Effectively monitor automation, including engagement and automatic mode transitions.
Aircraft flight path management manual	Control the aircraft flight path through manual flight, including appropriate use of one or more flight management system(s) and flight guidance systems.	<ul style="list-style-type: none"> — Control the aircraft manually with accuracy and smoothness, as appropriate to the situation. — Detect deviations from the desired aircraft trajectory and take appropriate action. — Contain the aircraft within the normal flight envelope. — Control the aircraft safely using only the relationship among aircraft attitude, speed and thrust. — Manage the flight path to achieve optimum operational performance. — Maintain the desired flight path during flight whilst managing other tasks and distractions. — Select the appropriate level and mode of flight guidance

		<p>systems in a timely manner, considering phase of flight and workload.</p> <ul style="list-style-type: none"> — Effectively monitor flight guidance systems, including engagement and automatic mode transitions.
Communication	Maintain effective oral, non-verbal and written communications, in normal and non-normal situations.	<ul style="list-style-type: none"> — Ensure the recipient is ready and able to receive the information. — Appropriately select what, when, how and with whom to communicate. — Convey messages clearly, accurately and concisely. — Confirm that the recipient correctly understands important information. — Listen actively, and demonstrate understanding when receiving information. — Ask relevant and effective questions. — Adhere to standard radio-telephony phraseology and procedures. — Accurately read and interpret required company and flight documentation. — Complete accurate reports, as required by operating procedures. — Correctly interpret non-verbal communication. — Use eye contact and body language that are consistent with and support verbal messages.
Leadership and teamwork	Demonstrate effective leadership and involve teamwork.	<ul style="list-style-type: none"> — Understand and agree with the crew’s roles and objectives. — Create an atmosphere of open communication and encourage team participation. — Take initiative and give directions, when required. — Admit mistakes and take responsibilities. — Anticipate and respond appropriately to other crew members’ needs. — Carry out instructions, when directed. — Communicate relevant concerns and intentions. — Give and receive feedback constructively. — Confidently intervene, when important for safety. — Demonstrate empathy and show respect and tolerance for others. — Engage others in planning and allocate activities fairly and appropriately according to abilities. — Address and resolve conflicts and disagreements in a constructive manner. — Maintain self-control in all situations.
Problem-solving and decision-making	Accurately identify risks and resolve problems. Use the appropriate decision-making processes.	<ul style="list-style-type: none"> — Seek accurate and adequate information from appropriate sources. — Identify and verify what has gone wrong and why. — Employ proper problem-solving strategies.



		<ul style="list-style-type: none"> — Persevere in working through problems without reducing safety. — Use appropriate and timely decision-making processes. — Set priorities appropriately. — Identify and consider options effectively. — Monitor review, and adapt decisions, as required. — Identify and manage risks effectively. — Improvise, when faced with unforeseeable circumstances, to achieve the safest outcome.
Situation awareness	Perceive and comprehend all of the relevant information available, and anticipate what may happen that may affect the operation.	<ul style="list-style-type: none"> — Identify and assess accurately the state of the aircraft and its systems. — Identify and assess accurately the aircraft’s vertical and lateral position, and its anticipated flight path. — Identify and assess accurately the general environment as it may affect the operation. — Keep track of time and fuel. — Maintain awareness of the people involved in or affected by the operation as well as of their capacity to perform as expected. — Anticipate accurately what may happen, plan and stay ahead of the situation. — Develop effective contingency plans based upon potential threats. — Identify and manage threats in the interest of safety of the aircraft and people. — Recognise and effectively respond to indications of reduced situation awareness.
Workload management	Manage available resources efficiently to prioritise and perform tasks in a timely manner under all circumstances.	<ul style="list-style-type: none"> — Maintain self-control in all situations. — Plan, prioritise and schedule tasks effectively. — Manage time efficiently, when carrying out tasks. — Offer and accept assistance, delegate, when necessary, and ask for help on time. — Review, monitor and cross-check actions conscientiously. — Verify that tasks are completed with the expected outcome. — Manage and recover from interruptions, distractions, variations and failures effectively.

4. New GM2 FCL.735.A is inserted as follows:

GM2 FCL.735.A Multi-crew cooperation training course — aeroplanes

MCC ADVANCED SWEEP-WING, AIRLINE STANDARD THEORETICAL AND SIMULATED OPERATIONAL TRAINING

(a) to (g) below detail guidance on the content of an airline pilot standards (APS) course. Its content should not be considered as a training syllabus. The ATO is responsible for the initial course design based on instructional systems’ design methodology, as well as for the integral evaluation and further



development of their course. Training hours are not specified as these should be determined by the relevant IR and the ATO for each course, and may vary between student groups with significantly different entry standards. However, for guidance, and with the attainment of the course objectives in mind, it is recommended that the flight simulation training device (FSTD) time per crew during practical training should be 40 hours, as set out in the table below:

Training Element	Minimum FSTD Time Per Crew
MCC TRAINING	20 hours
ADVANCED SWEEP-WING TRAINING	12 hours
ADVANCED AIRLINE-SIMULATED OPERATIONAL TRAINING	6 hours
FINAL PROGRESS ASSESSMENT	2 hours

(a) Aircraft systems technical training

The student pilot is about to undergo a significant number of training hours in an FSTD. To maximise the benefit during this time, it is essential that they understand the aircraft systems.

ATOs providing APS training should provide systems training sufficient to ensure that student pilots are capable of effective systems situational awareness (SA) when completing normal and non-normal procedures and related checklists. The standard of technical-knowledge training should be limited to this goal, unless the APS training course is part of a combined APS/type rating course. ATOs providing APS training in a combined APS/type rating course, may provide systems training up to a type rating standard.

The systems training may be delivered by any means, chosen by the ATO, that ensures knowledge transfer to the standard appropriate to the scope of the ATO's APS training course approval. This may include distance learning, CBT, and instructor-led classroom instruction or a combination of methodologies. If distance learning is utilised as an element of the course, it should be supplemented by instructor-led training as determined by the ATO's course design.

Aircraft systems knowledge at the required level should be confirmed by an assessment to be determined by the ATO's course design.

(b) Crew resource management training (CRMT) to APS

The student pilot should understand how multi-crew coordination and CRM are applied in an airline context. To impart maximum learning to the student, the standard of the CRMT content and instructor should be at airline level. CRM should be integrated into all practical exercises. Threat and error management (TEM) should be central to CRM education, with the concepts of threat anticipation, recognition and recovery to safe flight emphasised at all times. A student pilot should display competence in the CRM-related core competences set out in Table 2 of GM1 FCL.735.A. Ongoing progress assessments and the final progress assessment should confirm that the student pilot understands the CRM concepts set out in AMC1 ORO.FC.115.

(1) ATOs that are contracted by an airline to provide the APS training course should use the airline's content and utilise CRMTs standardised by the airline.



(2) APS-approved ATOs who are not contracted by an airline should provide advanced CRMT, the aim of which is that the student pilot understands the content and intent of AMC1 ORO.FC.115.

(c) Basic APS training

The content of this training is detailed in Table 1A, Sections 1 through 14 of AMC2 FCL.735.A. The student pilot should demonstrate the ability to operate as an airline flight crew member by applying the basic APS core competences set out in Table 1A, Sections 1 through 14.

It is essential that the minimum FSTD standard is met and that the MCC instructor is standardised to deliver the specific APS training course.

(d) Advanced swept-wing flying training

The student should develop flight path and energy management skills as PF and active monitoring skills as PM on a FSTD simulating a multi-engine turbine-powered swept-wing jet aeroplane. Aeroplane and airline procedures used during this training should develop the student pilot's understanding of the aeroplane flight envelope and inertia, as well as the relationship between thrust and attitude. This phase should include an introduction into upset prevention and recovery training which should build up confidence and skill. The content of this training is detailed in Table 1C of GM1 FCL.735.A above.

(e) Airline regulations, airline structures, relationships and processes training

The training should provide an insight into and understanding of the regulatory framework that an airline must operate in. The student pilot should understand the context and operational environment that applies to airline employees. Subjects should include but not be limited to:

- (1) regulation of operations and regulation of aircrew;
- (2) safety management systems (SMSs) with emphasis on pilot-reporting obligations and 'just culture';
- (3) fatigue management and fatigue risk management system (FRMS) with emphasis on the airline and pilot obligations;
- (4) flight time limitations (FTLs), including rostering and crew control functions;
- (5) flight operations planning and flight watch reporting systems;
- (6) airline maintenance department and relations with flight operations;
- (7) ground operations and relations with flight operations; and
- (8) in-flight department and relations with flight operations.

An APS training course provided by an ATO contracted by an airline may include one or more visits to the relevant airline departments. An APS-approved ATO not contracted by an airline may have a relationship with an airline and may provide its student pilots with such visit(s). The content of this training is detailed in Table 1D of AMC2 FCL.735.A above.

(f) Advanced airline-simulated operational training

The student pilot should be trained to apply the combined core competences to conduct a safe and efficient operation. They should understand what it is like to operate as a crew member in



several realistic simulated airline operations. These airline-representative scenarios should include normal and non-normal situations. Operations should run in real time according to a typical schedule. The scenarios should be constructed in an airline context to emphasise:

- (1) TEM;
- (2) CRM;
- (3) flight path and energy management; and
- (4) interaction with internal and external parties in the resolution of scenarios.

The content of this training is detailed in Table 1D of AMC2 FCL.735.A above.

(g) Progress assessments

All progress assessments should be integrated into training sessions. The final progress assessment is a training session conducted by a TRI (MPA) or synthetic flight instructor (SFI) (MPA) nominated by the ATO, during which the competences, performance indicators and standards specified in Tables 1A–1D and 2 of AMC2 FCL.735.A are evaluated to a minimum standard relative to the ATO's determined desired level of competence. This training session is not a test, check or assessment of competence.

SUBPART J — INSTRUCTORS

5. New GM2 FCL.900(c)(1) is inserted as follows:

GM2 FCL.900(c)(1) Instructor certificates

INSTRUCTION OUTSIDE THE TERRITORY OF THE MEMBER STATES

The competent authority should issue an unrestricted flight instructor (FI)(A) or FI(H) certificate to an applicant that has 100 hours of experience in flight instruction and 25 hours in solo-flight supervision.

Appendices

6. GM1 to Appendix 5 is amended as follows:

GM1 to Appendix 5 Integrated MPL training course

(...)

(d) The specific arrangement between operator and ATO which intend to join in with an MPL training programme should at least govern the following points:

- (1) pre-entry requirements (including screening and selection);
- (2) provision of the relevant documentation (operations manuals (OMs) and training manuals);
- (3) design of the training programme;
- (4) content of the operator conversion course;
- (5) training effectiveness;



- (6) provision of base training;
- (7) graduate performance data feedback from the operator to the ATO;
- (8) course evaluation and improvement; and
- (9) alignment of the grading and assessment criteria.

The ATO and operator may use their OM and training manuals to identify additional areas to be covered by the specific arrangement.

7. New GM1 to Appendix 6 is inserted as follows:

GM1 to Appendix 6 Modular training courses for the IR, Aa. IR(A)(8)

The following provides a list of learning objectives (LOs) that may be used by the examiner for the applicant's verbal demonstration of knowledge:

(a) AIR LAW:

- (1) explain the requirements for plus validity and privileges of instrument ratings;
- (2) explain why a time check has to be obtained before flight;
- (3) describe the necessary action when an aircraft experiences a communications failure;
- (4) state the responsibility of the operator when unable to utilise the published departure procedures;
- (5) explain when the 'omnidirectional method' is used for departure;
- (6) describe the solutions when omnidirectional procedures are not possible;
- (7) give reasons for establishing aircraft categories for the approach;
- (8) state the minimum obstacle clearance provided by the minimum sector altitudes (MSAs) established for an aerodrome;
- (9) describe the point of origin, shape, size and subdivisions of the area used for MSAs;
- (10) explain why a pilot should not descend below obstacle clearance altitude (OCA/Hs) which is established for precision approach procedures, non-precision approach procedures and visual (circling) procedures;
- (11) translate the following acronyms into plain language: decision altitude (DA), decision height (DH), OCA, obstacle clearance height (OCH), minimum decision altitude (MDA), minimum decision height (MDH), minimum obstacle clearance (MOC), decision altitude/height (DA/H), obstacle clearance altitude/height (OCA/H) and minimum decision altitude/height (MDA/H);
- (12) explain the relationship between the following: DA, DH, OCA, OCH, MDA, MDH, MOC, DA/H, OCA/H and MDA/H;
- (13) define the following terms: initial approach fix (IAF), intermediate fix (IF), final approach fix (FAF), missed approach point (MAPt) and turning point (TP);
- (14) state the accuracy of facilities providing track (omnidirectional radio range (VOR), ILS, non-directional beacon (NDB));



- (15) state the optimum descent gradient (preferred for a precision approach) in degrees and per cent;
- (16) name the five standard segments of an instrument APP procedure and state the beginning and end for each of them;
- (17) describe where an arrival (ARR) route normally ends;
- (18) state whether or not omnidirectional or sector ARR is possible to be made;
- (19) explain the main task of the initial APP segment;
- (20) describe the main task of the intermediate APP segment;
- (21) state the main task of the final APP segment;
- (22) name the two possible aims of a final APP;
- (23) explain the term 'final approach point' in case of an ILS approach;
- (24) state what happens if an ILS glide path (GP) becomes inoperative during the APP;
- (25) describe the main task of a missed approach procedure;
- (26) define 'MAPt';
- (27) state the pilot's reaction if upon reaching the MAPt, the required visual reference is not established;
- (28) describe what a pilot is expected to do in the event that a missed approach is initiated prior to arriving at the MAPt;
- (29) state whether the pilot is obliged to cross the MAPt at the height/altitude required by the procedure or whether they are allowed to cross the MAPt at an altitude/height greater than that required by the procedure;
- (30) describe what is meant by 'visual manoeuvring (circling)';
- (31) state the conditions to be fulfilled before descending below MDA/H in a visual manoeuvring (circling) approach;
- (32) state how the pilot is expected to behave after initial visual contact during a visual manoeuvring (circling);
- (33) describe what the pilot is expected to do if visual reference is lost while circling to land from an instrument approach;
- (34) describe the shape and terminology associated with the holding pattern;
- (35) state the bank angle and rate of turn to be used whilst flying in a holding pattern;
- (36) explain why pilots in a holding pattern should attempt to maintain tracks and how this is achieved;
- (37) describe where outbound timing begins in a holding pattern;
- (38) state where the outbound leg in a holding pattern terminates if the outbound leg is based on distance-measuring equipment (DME);
- (39) describe the three entry headings for entries into a holding pattern;



- (40) define the terms 'parallel entry', 'offset entry' and 'direct entry';
- (41) determine the correct entry procedure for a given holding pattern;
- (42) state the still-air time for flying on the outbound entry heading with or without DME;
- (43) define the following Q codes: 'QNH' and 'QFE';
- (44) define 'flight level (FL)';
- (45) state the intervals by which consecutive FLs should be separated;
- (46) describe how FLs are numbered;
- (47) define the term 'transition altitude';
- (48) define the term 'transition level';
- (49) state how the vertical position of the aircraft should be expressed at or below the transition altitude and transition level;
- (50) define the term 'transition layer';
- (51) state when the QNH altimeter setting should be made available to departing aircraft;
- (52) state how a QNH altimeter setting should be made available to aircraft approaching a controlled aerodrome for landing;
- (53) state where during the climb, the altimeter setting should be changed from QNH to 1013.2 hPa;
- (54) describe when a pilot of an aircraft intending to land at an AD should obtain the transition level;
- (55) describe when a pilot of an aircraft intending to land at an AD should obtain the actual QNH altimeter setting;
- (56) state where the altimeter settings should be changed from 1013.2 hPa to QNH during descent for landing;
- (57) state the modes and codes that the pilot should operate in the absence of any ATC directions or regional air navigation agreements;
- (58) state when the pilot should 'squawk ident';
- (59) state the transponder mode and code to indicate: a state of emergency, a communications failure, an unlawful interference;
- (60) describe the consequences of an in-flight transponder failure;
- (61) state the primary action of the pilot in the case of an unserviceable transponder before departure when no repair or replacement at this aerodrome is possible;
- (62) understand the various rules and services that apply to the various classes of airspace;
- (63) describe the aim of clearances issued by the ATC with regard to IFR, VFR or special VFR flights, and refer to the different airspaces;
- (64) explain what is meant by the expression 'clearance limit';



- (65) explain the meaning of the phrases 'cleared via flight planned route', 'cleared via (designation) departure' and 'cleared via (designation) arrival' in an ATC clearance;
- (66) list which items of an ATC clearance should always be read back by the flight crew;
- (67) explain the reason for speed control by the ATC;
- (68) explain how the change from IFR to VFR may be initiated by the PIC;
- (69) define the following terms: transition level, transition layer and transition altitude;
- (70) indicate how the vertical position of an aircraft in the vicinity of an aerodrome should be expressed at or below the transition altitude, at or above the transition level, and while climbing or descending through the transition layer;
- (71) list the six items that are normally included in a voice position report;
- (72) name the item of a position report which must be forwarded to the ATC with the initial call after changing to a new frequency;
- (73) understand the difference among the type of separation within the various classes of airspace and among the various types of flight;
- (74) state who is responsible for the avoidance of collision with other aircraft when operating in visual meteorological conditions (VMC);
- (75) explain the term 'expected approach time' and the procedures for its use;
- (76) state the reasons which may probably lead to the decision to use another take-off or landing direction than the one into the wind;
- (77) define the term 'radar vectoring';
- (78) explain the procedures for the conduct of surveillance radar approaches (SRAs);
- (79) state the mode and code of secondary surveillance radar (SSR) equipment that a pilot may operate in a (general) state of emergency, or (specifically) in case the aircraft is subject to unlawful interference;
- (80) describe the expected action of the aircraft after receiving a broadcast from air traffic services (ATS) concerning the emergency descent of another aircraft;
- (81) name the colours used for the various markings (RWY, TWY, aircraft stands, apron safety lines);
- (82) describe the application and characteristics of RWY centre line markings and threshold marking;
- (83) describe the wing bars of precision approach path indicator (PAPI) and abbreviated precision approach path indicator (A-PAPI); and
- (84) interpret what the pilot sees during approach, using PAPI, APAPI, T visual approach slope indicating system (TVASIS) and abbreviated T visual approach slope indicator system (ATVASIS);

(b) FLIGHT PLANNING AND FLIGHT MONITORING:

- (1) select the preferred airway(s) or route(s) considering:



- (i) altitudes and FLs;
 - (ii) standard routes;
 - (iii) ATC restrictions;
 - (iv) the shortest distance;
 - (v) obstacles; and
 - (vi) any other relevant data;
- (2) determine courses and distances from en route charts;
- (3) determine bearings and distances of waypoints based on radio navigation aids on en route charts;
- (4) define the following altitudes:
- (i) minimum en route altitude (MEA);
 - (ii) minimum obstacle clearance altitude (MOCA);
 - (iii) minimum off-route altitude (MORA);
 - (iv) grid minimum off-route altitude (Grid MORA);
 - (v) maximum authorised altitude (MAA);
 - (vi) minimum crossing altitude (MCA); and
 - (vii) minimum holding altitude (MHA);
- (5) extract the following altitudes from the chart(s):
- (i) MEA;
 - (ii) MOCA;
 - (iii) MORA;
 - (iv) Grid MORA;
 - (v) MAA;
 - (vi) MCA; and
 - (vii) MHA;
- (6) explain the reasons for studying standard instrument departure (SID) and standard arrival (STAR) charts;
- (7) state the reasons why the SID and STAR charts show procedures only in a pictorial presentation style which is not to scale;
- (8) interpret all data and information represented on SID and STAR charts, particularly:
- (i) routings;
 - (ii) distances;
 - (iii) courses;
 - (iv) radials;



- (v) altitudes/levels
 - (vi) frequencies; and
 - (vii) restrictions;
- (9) identify SIDs and STARs which may be relevant to a planned flight;
- (10) state the reasons why it is imperative to be familiar with instrument approach procedures and appropriate data for departure, destination and alternate airfields prior to departure;
- (11) select instrument approach procedures appropriate for departure, destination and alternate airfields;
- (12) interpret all procedures, data and information represented on instrument approach charts, particularly:
- (i) courses and radials;
 - (ii) distances;
 - (iii) altitudes, levels or heights;
 - (iv) restrictions;
 - (v) obstructions;
 - (vi) frequencies;
 - (vii) speeds and times;
 - (viii) DA/Hs and MDA/Hs;
 - (ix) visibility and RVRs; and
 - (x) approach light systems.
- (13) find COM frequencies and call signs for the following:
- (i) control agencies, service facilities, and flight information services (FISs);
 - (ii) weather information stations;
 - (iii) automatic terminal information service (ATIS);
- (14) find the frequency and/or identifiers of radio navigation aids;
- (15) complete the navigation plan with the courses, distances and frequencies taken from charts;
- (16) find standard instrument departure and ARR routes to be flown or to be expected;
- (17) determine the position of top of climb (TOC) and top of descent (TOD) considering appropriate data;
- (18) determine variation and calculate magnetic/true courses;
- (19) calculate true air speed (TAS) according to given aircraft performance data, altitude and outside air temperature (OAT);
- (20) calculate wind correction angles (WCA)/drift and ground speeds (GSs);



- (21) determine all relevant altitudes/levels, particularly MEA, MOCA, MORA, MAA, MCA, MRA and MSA;
- (22) calculate individual and accumulated times for each leg to destination and alternate airfields;
- (23) convert between volume, mass and density given in different units commonly used in aviation;
- (24) determine relevant data from the flight manual (FM), such as fuel capacity, fuel flow/consumption at different power/thrust settings, altitudes and atmospheric conditions;
- (25) calculate attainable flight time/range considering fuel flow/consumption and available amount of fuel;
- (26) calculate the required fuel considering fuel flow/consumption and required time/range to be flown;
- (27) calculate the required fuel for an IFR flight considering expected meteorological conditions and expected delays under defined conditions;
- (28) find and analyse the latest state at the departure, destination and alternate aerodromes, in particular with regard to:
 - (i) opening hours;
 - (ii) work in progress (WIP);
 - (iii) special procedures due to WIP;
 - (iv) obstructions; and
 - (v) changes of frequencies for communications, navigation aids and facilities;
- (29) find and analyse the latest en route state with regard to:
 - (i) airway(s) or route(s);
 - (ii) restricted, dangerous and prohibited areas; and
 - (iii) changes of frequencies for communications, navigation aids and facilities;
- (30) state the reasons for a fixed format of an ICAO air traffic services flight plan (ATS FPL);
- (31) determine the correct entries to complete an FPL, as well as decode and interpret the entries in a completed FPL, particularly as regards the following:
 - (i) aircraft identification (Item 7);
 - (ii) flight rules and type of flight (Item 8);
 - (iii) number and type of aircraft, and wake turbulence category (Item 9);
 - (iv) equipment (Item 10);
 - (v) departure aerodrome and time (Item 13);
 - (vi) route (Item 15);



- (vii) destination aerodrome, total estimated elapsed time and alternate aerodrome (Item 16);
 - (viii) other information (Item 18); and
 - (ix) supplementary information (Item 19);
- (32) complete the FPL using information from the following:
- (i) navigation plan;
 - (ii) fuel plan; and
 - (iii) operator's records on basic aircraft information;
- (33) explain the requirements for the submission of an ATS FPL;
- (34) explain the actions to be taken in case of FPL changes;
- (35) state the actions to be taken in case of inadvertent changes to track, TAS and time estimate, affecting the current FPL; and
- (36) explain the procedures for closing an FPL.
- (c) METEOROLOGY:
- (1) describe qualitatively and quantitatively the temperature lapse rates of the troposphere (mean value of 0.65 °C/100 m or 2 °C/1 000 ft and actual values);
 - (2) explain the characteristics of inversions and of an isothermal layer;
 - (3) explain the cooling and warming of the air on the earth or sea surfaces;
 - (4) describe qualitatively the influence of the clouds on the cooling and warming of the earth or sea surfaces and the air near those surfaces;
 - (5) explain the influence of the wind on the cooling and warming of the air near the earth or sea surfaces;
 - (6) define 'atmospheric pressure';
 - (7) list the units of measurement of the atmospheric pressure used in aviation (hPa, in.);
 - (8) describe isobars on the surface weather charts;
 - (9) explain the pressure variation with height;
 - (10) describe qualitatively the variation of the barometric lapse rate (note: the average value for the barometric lapse rate near mean sea level is 27 ft (8 m) per 1 hPa, at about 5 500 m above mean sea level (AMSL), is 50 ft (15 m) per 1 hPa);
 - (11) describe and interpret contour lines (isohypses) on a constant pressure chart;
 - (12) describe the relationship between pressure, temperature and density;
 - (13) describe the vertical variation of the air density in the atmosphere;
 - (14) describe the effect of humidity changes on the air density;
 - (15) explain the use of standardised values for the international standard atmosphere (ISA);



- (16) list the main values of ISA (mean sea level pressure, mean sea level temperature, the vertical temperature lapse rate up to 20 km, as well as height and temperature of the tropopause);
- (17) calculate the standard temperature in Celsius degrees for a given FL;
- (18) determine a standard temperature deviation based on the difference between the given OAT and the standard temperature;
- (19) define the following terms and acronyms and explain how they are related to each other: H, A, pressure A, FL, level, true A, true H, elevation, QNH, QFE and standard altimeter setting;
- (20) describe the following terms: transition A, transition level, transition layer, terrain clearance and lowest usable FL;
- (21) calculate the different readings on the altimeter when the pilot changes the altimeter setting;
- (22) illustrate with a numbered example the changes of altimeter setting and the associated changes in reading when the pilot climbs through the transition altitude or descends through the transition level;
- (23) derive the reading of the altimeter of an aircraft on the ground when the pilot uses different settings;
- (24) explain the influence of the air temperature on the distance between the ground and the level read on the altimeter as well as between two FLs;
- (25) explain the influence of pressure areas on the true altitude;
- (26) determine the true A/H for a given A/H and a given ISA temperature deviation;
- (27) describe why and how the wind changes direction and speed with height in the friction layer in the northern and southern hemisphere (rule of thumb);
- (28) describe and explain the origin and formation of mountain waves;
- (29) explain how mountain waves may be identified through their associated meteorological phenomena;
- (30) describe turbulence and gustiness;
- (31) list common types of turbulence (convective, mechanical, orographic, frontal, clear-air turbulence);
- (32) indicate the sources of atmospheric humidity;
- (33) define 'dew point';
- (34) define 'relative humidity';
- (35) describe the relationship between temperature and dew point;
- (36) estimate the relative humidity of the air based on the difference between dew point and temperature;
- (37) explain the influence of relative humidity on the height of the cloud base;



- (38) list cloud types typical for stable and unstable air conditions;
- (39) identify by shape cirriform, cumuliform and stratiform clouds;
- (40) explain the influence of inversions on vertical movements in the atmosphere;
- (41) name the factors contributing in general to the formation of fog and mist;
- (42) name the factors contributing to the formation of haze;
- (43) describe significant characteristics of orographic fog;
- (44) summarise the conditions for the dissipation of orographic fog;
- (45) list and describe the types of precipitation given in the TAF and METAR codes (drizzle, rain, snow, snow grains, ice pellets, hail, small hail, snow pellets, ice crystals, freezing drizzle, freezing rain);
- (46) assign typical precipitation types and intensities to different clouds;
- (47) describe the boundaries between air masses (fronts);
- (48) define 'front' and 'frontal surface' ('frontal zone');
- (49) define 'warm front';
- (50) describe the cloud, weather, ground visibility and aviation hazards at a warm front depending on the stability of the warm air;
- (51) explain the seasonal differences in the weather at warm fronts;
- (52) describe the structure, slope and dimensions of a warm front;
- (53) define 'cold front';
- (54) explain the seasonal differences in the weather at cold fronts;
- (55) describe the structure, slope and dimensions of a cold front;
- (56) describe the cloud, weather, ground visibility and aviation hazards in a warm sector;
- (57) describe the cloud, weather, ground visibility and aviation hazards behind the cold front;
- (58) define the term 'occlusion';
- (59) identify on a surface weather chart the typical flat pressure pattern;
- (60) describe the weather associated with a flat pressure pattern;
- (61) explain the general weather conditions under which ice accretion on airframe occurs;
- (62) indicate in which circumstances ice may form on an aircraft on the ground: air temperature, humidity, precipitation;
- (63) explain in which circumstances ice may form on an aircraft in flight: inside clouds, in precipitation, outside clouds and in the absence of precipitation;
- (64) describe the different factors influencing the intensity of icing: air temperature, amount of supercooled water in a cloud or in precipitation, amount of ice crystals in the air, speed of the aircraft, shape (thickness) of the airframe parts (wings, antennas, etc.);
- (65) define 'clear ice';



- (66) define 'rime ice';
- (67) define 'hoar frost';
- (68) state the ICAO qualifying terms for the intensity of icing;
- (69) describe in general the hazards of icing;
- (70) assess the dangers of the different types of ice accretion;
- (71) state the ICAO qualifying terms for the intensity of turbulence;
- (72) describe the effects of turbulence on an aircraft in flight;
- (73) indicate the possibilities of avoidance:
 - (i) in the flight planning: weather briefing, choice of track and altitude; and
 - (ii) during flight: choice of appropriate track and altitude;
- (74) define 'wind shear' (vertical and horizontal);
- (75) describe the conditions in which wind shear forms and how it forms (e.g. thunderstorms, squall lines, fronts, inversions, land and sea breeze, friction layer, relief);
- (76) describe the effects of wind shear on flight;
- (77) indicate the possibilities of avoidance:
 - (i) in the flight planning; and
 - (ii) during flight;
- (78) name the cloud types which indicate the development of thunderstorms;
- (79) describe the different types of thunderstorms, their location, the conditions for and the process of their development, and list their properties (air mass thunderstorms, frontal thunderstorms, squall lines, supercell storms, orographic thunderstorms);
- (80) assess the average duration of thunderstorms and their different stages;
- (81) summarise the flight hazards of a fully developed thunderstorm;
- (82) describe and assess 'St. Elmo's fire';
- (83) describe the effect of lightning strike on aircraft and flight execution;
- (84) describe practical examples of flight techniques used to avoid the hazards of thunderstorms;
- (85) describe the influence of a mountainous terrain on cloud and precipitation;
- (86) describe the effects of the foehn;
- (87) describe the influence of a mountainous area on a frontal passage;
- (88) indicate on a sketch of a mountain chain the turbulent zones (mountain waves, rotors);
- (89) describe the reduction of visibility caused by precipitation (drizzle, rain, snow);
- (90) describe the differences between ground visibility, flight visibility, slant visibility and vertical visibility when an aircraft is above or within a layer of haze or fog;



- (91) define 'ground visibility';
- (92) list the units used for visibility (m, km);
- (93) define 'RVR';
- (94) list the units used for RVR (m);
- (95) compare visibility and RVR;
- (96) define 'ceiling';
- (97) name the unit and the reference level used for information about the cloud base (ft);
- (98) define 'vertical visibility';
- (99) name the unit used for vertical visibility (ft);
- (100) interpret ground-weather radar images;
- (101) describe the basic principle and the type of information given by airborne weather radars;
- (102) describe the limits and the errors of airborne weather radar information;
- (103) interpret typical airborne weather radar images;
- (104) decode and interpret significant weather charts (low-, medium- and high-level charts);
- (105) describe the flight conditions at designated locations or along a defined flight route at a given FL based on a significant weather chart;
- (106) describe, decode and interpret the following aviation weather messages (given in written or graphical format): METAR, SPECI, TREND, TAF, SIGMET, AIRMET, GAMET, ATIS, VOLMET, special air-report, and volcanic-ash advisory information;
- (107) list in general the cases where a SIGMET and an AIRMET are issued; and
- (108) describe, decode (by using a code table) and interpret the following messages: runway state message (as written in a METAR) and GAFOR.



8. New AMC3 to Appendix 9 is inserted as follows:

AMC3 to Appendix 9 Training, skill test and proficiency check for MPL, ATPL, type and class ratings, and proficiency check for IRs

SINGLE-PILOT AEROPLANES, EXCEPT FOR HIGH-PERFORMANCE COMPLEX AEROPLANES

SINGLE-PILOT AEROPLANES, EXCEPT FOR HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				CLASS OR TYPE RATING SKILL TEST/PROFICIENCY CHECK	
	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
Manoeuvres/procedures						
SECTION 1						
1 Departure						
1.1 Pre-flight including:						
1.1.1 — documentation						
1.1.1 — mass and balance						
1.1.1 — weather briefing						
1.1.1 — NOTAM						
1.2 Pre-start checks						
1.2.1 External	P#		P			
1.2.2 Internal			P		M	
1.3 Engine starting:						
1.3.1 — normal	P---->	---->	---->		M	
1.3.1 — malfunctions						
1.4 Taxiing		P---->	---->		M	
1.5 Pre-departure checks: engine run-up (if applicable)	P---->	---->	---->		M	



SINGLE-PILOT AEROPLANES, EXCEPT FOR HIGH- PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				CLASS OR TYPE RATING SKILL TEST/PROFICIENCY CHECK	
	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
Manoeuvres/procedures						
1.6 Take-off procedure: — Normal with FM flap settings — Crosswind (if conditions are available)		p---->	---->		M	
1.7 Climbing: — Vx/Vy — turns onto headings — level off		p---->	---->		M	
1.8 ATC liaison — compliance, R/T procedure						
SECTION 2						
2 Airwork (VMC) 2.1 Straight and level flight at various airspeeds, including flight at critically low airspeed with and without flaps (including approach to VMCA when applicable)		p---->	---->			
2.2 Steep turns (360° left and right at 45° bank)		p---->	---->		M	



SINGLE-PILOT AEROPLANES, EXCEPT FOR HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				CLASS OR TYPE RATING SKILL TEST/PROFICIENCY CHECK	
	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
Manoeuvres/procedures						
2.3 Stalls and recovery: (i) clean stall (ii) approach to stall in descending turn with bank in approach configuration and power (iii) approach to stall in landing configuration and power (iv) approach to stall, climbing turn with take-off flap and climb power (single-engine aeroplane only)		P---->	---->		M	
2.4 Handling using autopilot and flight director (may be conducted in Section 3) if applicable		P---->	---->		M	
2.5 ATC liaison — compliance, R/T procedure						
SECTION 3A						
3A En route procedures for VFR						
3A.1 (see Appendix 9, B.5 (c) and (d)) Flight plan, dead reckoning and map-reading						
3A.2 Maintenance of altitude, heading and speed						
3A.3 Orientation, timing and revision of ETAs						
3A.4 Use of radio navigation aids (if applicable)						



SINGLE-PILOT AEROPLANES, EXCEPT FOR HIGH- PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				CLASS OR TYPE RATING SKILL TEST/PROFICIENCY CHECK	
	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
Manoeuvres/procedures						
3A.5 Flight management (flight log, routine checks, including fuel, systems and icing)						
3A.6 ATC liaison — compliance, R/T procedure						
SECTION 3B						
3B Instrument flight		P---->	---->		M	
3B.1* Departure IFR		P---->	---->		M	
3B.2* En route IFR		P---->	---->		M	
3B.3* Holding procedures		P---->	---->		M	
3B.4* 3D operations to DH/A of 200 ft (60 m) or to higher minima, if required by the approach procedure (autopilot may be used at the final approach segment vertical path intercept)		P---->	---->		M	
3B.5* 2D operations at MDH/A		P---->	---->		M	
3B.6* Flight exercises, including simulated failure of the compass and attitude indicator: — Rate-1 turns — recoveries from unusual attitudes	P---->	---->	---->		M	
3B.7* Failure of localiser or glideslope	P---->	---->	---->			
3B.8* ATC liaison — compliance, R/T procedure						



SINGLE-PILOT AEROPLANES, EXCEPT FOR HIGH- PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				CLASS OR TYPE RATING SKILL TEST/PROFICIENCY CHECK	
Manoeuvres/procedures				Instructor's initials, when training completed	Checked in	Examiner's initials, when test completed
	FTD	FFS	A		FFS A	
Intentionally left blank						
SECTION 4						
4 Arrival and landings						
4.1 Aerodrome arrival procedure		P---->	---->		M	
4.2 Normal landing		P---->	---->		M	
4.3 Flapless landing		P---->	---->		M	
4.4 Crosswind landing (if conditions are suitable)		P---->	---->			
4.5 Approach and landing with idle power from up to 2000 ft above the runway (single-engine aeroplanes only)		P---->	---->			
4.6 Go-around from minimum height		P---->	---->		M	
4.7 Night go-around and landing (if applicable)	P---->	---->	---->			
4.8 ATC liaison — compliance, R/T procedure						
SECTION 5						
5 Abnormal and emergency procedures (This section may be combined with Sections 1 through 4)						
5.1 Rejected take-off at a reasonable speed		P---->	---->		M	



SINGLE-PILOT AEROPLANES, EXCEPT FOR HIGH- PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				CLASS OR TYPE RATING SKILL TEST/PROFICIENCY CHECK	
	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
Manoeuvres/procedures						
5.2 Simulated engine failure after take-off (single-engine aeroplanes only)			P		M	
5.3 Simulated forced landing without power (single-engine aeroplanes only)			P		M	
5.4 Simulated emergencies: (i) fire or smoke in flight; (ii) systems' malfunctions, as appropriate	P---->	---->	---->			
5.5 Engine shutdown and restart (ME skill test only) (at a safe altitude if performed in the aircraft)	P---->	---->	---->			
5.6 ATC liaison — compliance, R/T procedure						
SECTION 6						
6 Simulated asymmetric flight 6.1* (This section may be combined with Sections 1 through 5) Simulated engine failure during take-off (at a safe altitude unless, carried out in FFS or FNPT II)	P---->	---->	---->X		M	
6.2* Asymmetric approach and go-around	P---->	---->	---->		M	
6.3* Asymmetric approach and full stop landing	P---->	---->	---->		M	



SINGLE-PILOT AEROPLANES, EXCEPT FOR HIGH- PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				CLASS OR TYPE RATING SKILL TEST/PROFICIENCY CHECK	
Manoeuvres/procedures				Instructor's initials, when training completed	Checked in	Examiner's initials, when test completed
	FTD	FFS	A		FFS A	
6.4 ATC liaison — compliance, R/T procedure						



MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES

MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				ATPL/MPL/TYPE RATING SKILL TEST OR PROF. CHECK		
Manoeuvres/procedures					Instructor's initials, when training completed	Checked in	Examiner's initials, when test completed
	OTD	FTD	FFS	A		FFS A	
SECTION 1							
1 Flight preparation 1.1 Performance calculation	P						
1.2 Aeroplane external visual inspection, location of each item, and purpose of inspection	P#			P			
1.3 Cockpit inspection		P--->	---->	---->			
1.4 Use of checklist prior to starting engines, starting procedures, radio and navigation equipment check, selection and setting of navigation and communication frequencies	P--->	---->	---->	---->		M	
1.5 Taxiing in compliance with ATC or instructions of instructor			P--->	---->			
1.6 Checks before take-off		P--->	---->	---->		M	
SECTION 2							
2 Take-offs 2.1 Normal take-offs with different flap settings, including expedited take-off			P--->	---->			
2.2* Instrument take-off; transition to instrument flight is required during rotation or immediately after becoming airborne			P--->	---->			
2.3 Crosswind take-off			P--->	---->			



MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				ATPL/MPL/TYPE RATING SKILL TEST OR PROF. CHECK		
	OTD	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
Manoeuvres/procedures							
2.4 Take-off at maximum take-off mass (actual or simulated maximum take-off mass)			P--->	---->			
2.5 Take-offs with simulated engine failure: 2.5.1* shortly after reaching V2 In aeroplanes that are not certified as transport category or commuter category aeroplanes, the engine failure should not be simulated until reaching a minimum height of 500 ft above runway end. In aeroplanes having the same performance as a transport category aeroplane regarding take-off mass and density altitude, the instructor may simulate the engine failure shortly after reaching V2.			P--->	---->			
2.5.2* Between V1 and V2			P	X		M FFS only	
2.6 Rejected take-off at a reasonable speed before reaching V1			P--->	---->X		M	
SECTION 3							
3 Flight manoeuvres and procedures 3.1 Turns with and without spoilers			P--->	---->			
3.2 Tucking under and Mach buffets after reaching the critical Mach number, and other specific flight characteristics of the aeroplane (e.g. Dutch Roll)			P--->	---->X An aircraft may not be used for this exercise.			



MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				ATPL/MPL/TYPE RATING SKILL TEST OR PROF. CHECK		
Manoeuvres/procedures	OTD	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
3.3 Normal operation of systems and controls engineer's panel	P--->	--->	--->	---->			
Normal and abnormal operations of the following systems:						M	A mandatory minimum of 3 abnormal system operations should be selected from 3.4.0 to 3.4.14 inclusive.
3.4.0 Engine (propeller, if necessary)	P--->	---->	---->	---->			
3.4.1 Pressurisation and air-conditioning	P--->	---->	---->	---->			
3.4.2 Pitot/static system	P--->	---->	---->	---->			
3.4.3 Fuel system	P--->	---->	---->	---->			
3.4.4 Electrical system	P--->	---->	---->	---->			
3.4.5 Hydraulic system	P--->	---->	---->	---->			
3.4.6 Flight control and trim system	P--->	---->	---->	---->			
3.4.7 Anti-icing/de-icing system, glare shield heating	P--->	---->	---->	---->			
3.4.8 Autopilot/flight director	P--->	---->	---->	---->		M (single pilot only)	
3.4.9 Stall warning devices or stall avoidance devices, and stability augmentation devices	P--->	---->	---->	---->			



MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				ATPL/MPL/TYPE RATING SKILL TEST OR PROF. CHECK		
Manoeuvres/procedures	OTD	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
3.4.10 Ground-proximity warning system, weather radar, radio altimeter, transponder		P-->	---->	---->			
3.4.11 Radios, navigation equipment, instruments, flight management system	P-->	---->	---->	---->			
3.4.12 Landing gear and brake	P-->	---->	---->	---->			
3.4.13 Slat and flap system	P-->	---->	---->	---->			
3.4.14 APU	P-->	---->	---->	---->			
Intentionally left blank							
3.6 Abnormal and emergency procedures:						M	A mandatory minimum of 3 items should be selected from 3.6.1 to 3.6.9 inclusive.
3.6.1 Fire drills: e.g. engine, APU, cabin, cargo compartment, flight deck, wing and electrical fires, including evacuation		P-->	---->	---->			
3.6.2 Smoke control and removal		P-->	---->	---->			
3.6.3 Engine failures, shutdown, and restart at a safe height		P-->	---->	---->			
3.6.4 Fuel dumping (simulated)		P-->	---->	---->			
3.6.5 Wind shear at take-off/landing			P	X		FFS only	
3.6.6 Simulated cabin pressure failure/emergency descent			P-->	---->			



MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				ATPL/MPL/TYPE RATING SKILL TEST OR PROF. CHECK		
	OTD	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
Manoeuvres/procedures							
3.6.7 Incapacitation of a flight crew member		P--->	---->	---->			
3.6.8 Other emergency procedures as outlined in the appropriate aeroplane flight manual (AFM)		P--->	---->	---->			
3.6.9 ACAS event	P--->	---->	---->	An aircraft may not be used.		FFS only	
3.7 Steep turns (180° to 360° left and right at 45° bank)		P--->	---->	---->			
3.8 Early recognition and counter measures on approaching stall (up to activation of stall warning device) in take-off configuration (flaps in take-off position), in cruising flight configuration and in landing configuration (flaps in landing position, gear extended)			P--->	---->			
3.8.1 Recovery from full stall or after activation of stall warning device in climb, cruise and approach configurations			P	X			
3.9 Instrument flight procedures							
3.9.1* Adherence to departure and arrival routes as well as to ATC instructions		P--->	---->	---->		M	
3.9.2* Holding procedures		P--->	---->	---->			
3.9.3* 3D operations to DH/A of 200 ft (60 m) or higher minima, if required by the approach procedure							



MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				ATPL/MPL/TYPE RATING SKILL TEST OR PROF. CHECK		
Manoeuvres/procedures	OTD	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
<p>*Note: According to the AFM, RNP APCH procedures may require the use of autopilot or flight director. The procedure to be flown manually should be chosen taking into account such limitations (for example, choose an ILS for 3.9.3.1 in case of such an AFM limitation).</p>							
3.9.3.1* Manually, without flight director			P--->	---->		M (skill test only)	
3.9.3.2* Manually, with flight director			P--->	---->			
3.9.3.3* With autopilot			P--->	---->			
<p>3.9.3.4* Manually, with one engine simulated inoperative; engine failure has to be simulated during the final approach before passing 1 000 ft above the aerodrome level until touchdown, or through the complete missed approach procedure In aeroplanes that are not certified as transport category aeroplanes (JAR/FAR 25) or as commuter category aeroplanes (SFAR 23), the approach with simulated engine failure and the ensuing go-around should be initiated in conjunction with the non-precision approach, as described in 3.9.4 below. The go-around should be initiated when reaching the published obstacle clearance height/altitude (OCH/A), however, not later than reaching an MDH/A of 500 ft above the runway threshold elevation. In aeroplanes having the same performance as a transport category aeroplane regarding take-off</p>			P--->	---->		M	



MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				ATPL/MPL/TYPE RATING SKILL TEST OR PROF. CHECK		
Manoeuvres/procedures	OTD	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
mass and density altitude, the instructor may simulate the engine failure in accordance with 3.9.3.4 above							
3.9.4* 2D operations down to MDH/A			p*->	---->		M	
<p>3.9.5 Circling approach under the following conditions:</p> <p>(a)* approach to the authorised minimum circling-approach altitude at the aerodrome in question in accordance with the local instrument approach facilities in simulated instrument flight conditions;</p> <p>followed by:</p> <p>(b) a circling approach to another runway at least 90° off centre line from the final approach used in item (a) at the authorised minimum circling-approach altitude.</p> <p>Remark: if (a) and (b) are not possible due to ATC reasons, a simulated low-visibility pattern may be followed.</p>			p*->	---->			
SECTION 4							
4 Missed-approach procedures							
4.1 Go-around with all engines operating* during a 3D operation on reaching DH			p*->	---->			
4.2 Other missed-approach procedures			p*->	---->			



MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				ATPL/MPL/TYPE RATING SKILL TEST OR PROF. CHECK		
Manoeuvres/procedures	OTD	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
4.3* Manual go-around with the critical engine simulated inoperative after an instrument approach on reaching DH, MDH or MAPt			P*->	--->		M	
4.4 Rejected landing at 15 m (50 ft) above the runway threshold, and go-around			P->	--->			
SECTION 5							
5 Landings 5.1 Normal landings* with visual reference established when reaching DA/H following an instrument approach operation			P				
5.2 Landing with simulated jammed horizontal stabiliser in any out-of-trim position			P-->	An aircraft may not be used for this exercise.			
5.3 Crosswind landings (A/C, if practicable)			P--->	--->			
5.4 Traffic pattern and landing without extended or with partly extended flaps and slats			P-->	--->			
5.5 Landing with the critical engine simulated inoperative			P-->	--->		M	



MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				ATPL/MPL/TYPE RATING SKILL TEST OR PROF. CHECK		
Manoeuvres/procedures	OTD	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
5.6 Landing with two engines inoperative: <ul style="list-style-type: none"> — aeroplanes with three engines: the centre engine and one outboard engine, as far as practicable, according to AMF data; — aeroplanes with four engines: two engines at one side 			P	X		M FFS only (skill test only)	
General remarks: special requirements should be satisfied for extension of a type rating for instrument approaches down to a DH of less than 200 ft (60 m), i.e. Cat II/III operations.							
SECTION 6							
Additional authorisation on a type rating for instrument approaches down to a DH of less than 60 m (200 ft) (CAT II/III) The following manoeuvres and procedures are the minimum training requirements to permit instrument approaches down to a DH of less than 60 m (200 ft). During the following instrument approaches and missed-approach procedures, all aeroplane equipment required for the type certification of instrument approaches down to a DH of less than 60 m (200 ft) should be used.							
6.1* Rejected take-off at minimum authorised RVR			P*->	--->X An aircraft may not be used for this exercise.		M*	



MULTI-PILOT AEROPLANES AND SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				ATPL/MPL/TYPE RATING SKILL TEST OR PROF. CHECK		
Manoeuvres/procedures	OTD	FTD	FFS	A	Instructor's initials, when training completed	Checked in FFS A	Examiner's initials, when test completed
<p>6.2* CAT II/III approaches: in simulated instrument flight conditions down to the applicable DH, using flight guidance system. Standard procedures of crew coordination (task sharing, call-out procedures, mutual surveillance, information exchange and support) should be observed.</p>			P-->	--->		M	
<p>6.3* Go-around after approaches, as indicated in 6.2, on reaching the DH. The training should also include a go-around due to (simulated) insufficient RVR, wind shear, aeroplane deviation in excess of approach limits for a successful approach and ground/airborne equipment failure prior to reaching the DH, as well as a go-around with simulated airborne equipment failure.</p>			P----	---->		M*	
<p>6.4* Landing(s) with visual reference established at DH following an instrument approach. Depending on the specific flight guidance system, an automatic landing should be performed.</p>			P--->	---->		M	

Note: CAT II/III operations should be accomplished in accordance with the applicable air operations requirements.



CLASS RATING — SEA

CLASS RATING — SEA	PRACTICAL TRAINING	XX
Manoeuvres/procedures	Instructor's initials when training completed	Examiner's initials when test completed
SECTION 1		
1 Departure		
1.1 Pre-flight including: <ul style="list-style-type: none"> — documentation — mass and balance — weather briefing — NOTAM 		
1.2 Pre-start checks: <ul style="list-style-type: none"> external/internal 		
1.3 Engine start-up and shutdown <ul style="list-style-type: none"> normal malfunctions 		
1.4 Taxiing		
1.5 Step taxiing		
1.6 Mooring: <ul style="list-style-type: none"> — beach — jetty pier — buoy 		
1.7 Engine-off sailing		
1.8 Pre-departure checks: <ul style="list-style-type: none"> engine run-up (if applicable) 		
1.9 Take-off procedure: <ul style="list-style-type: none"> — normal with AFM flap settings — crosswind (if conditions available) 		
1.10 Climbing <ul style="list-style-type: none"> — turns onto headings — level off 		
1.11 ATC liaison — compliance, R/T procedure		



SECTION 2		
2 Airwork (VFR)		
2.1 Straight and level flight at various airspeeds, including flight at critically low airspeed with and without flaps (including approach to VMCA, when applicable)		
2.2 Steep turns (360° left and right at 45° bank)		
2.3 Stalls and recovery: (i) clean stall (ii) approach to stall in descending turn with bank in approach configuration and power (iii) approach to stall in landing configuration and power (iv) approach to stall, climbing turn with take-off flap and climb power (single-engine aeroplanes only)		
2.4 ATC liaison — compliance, R/T procedure		
SECTION 3		
3 En-route procedures for VFR		
3.1 Flight plan, dead reckoning and map-reading		
3.2 Maintenance of altitude, heading and speed		
3.3 Orientation, timing and revision of ETAs		
3.4 Use of radio navigation aids (if applicable)		
3.5 Flight management (flight log, routine checks, including fuel, systems and icing)		
3.6 ATC liaison — compliance, R/T procedure		
SECTION 4		
4 Arrivals and landings		
4.1 Aerodrome arrival procedure (amphibians only)		
4.2 Normal landing		
4.3 Flapless landing		
4.4 Crosswind landing (if conditions are suitable)		



4.5 Approach and landing with idle power from up to 2000 ft above the water (single-engine aeroplanes only)		
4.6 Go-around from minimum height		
4.7 Glassy-water landing and rough-water landing		
4.8 ATC liaison — compliance, R/T procedure		
SECTION 5		
5 Abnormal and emergency procedures (This section may be combined with Sections 1 through 4)		
5.1 Rejected take-off at a reasonable speed		
5.2 Simulated engine failure after take-off (single-engine aeroplanes only)		
5.3 Simulated forced landing without power (single-engine aeroplanes only)		
5.4 Simulated emergencies: (i) fire or smoke in flight; (ii) systems' malfunctions, as appropriate		
5.5 ATC liaison — compliance, R/T procedure		
SECTION 6		
6 Simulated asymmetric flight (This section may be combined with Sections 1 through 5)		
6.1 Simulated engine failure during take-off (at a safe altitude unless carried out in FFS and FNPT II)		
6.2 Engine shutdown and restart (ME skill test only)		
6.3 Asymmetric approach and go-around		
6.4 Asymmetric approach and full stop landing		
6.5 ATC liaison — compliance, R/T procedure		



SINGLE/MULTI-PILOT HELICOPTERS

SINGLE/MULTI-PILOT HELICOPTERS		PRACTICAL TRAINING				SKILL TEST OR PROFICIENCY CHECK	
		FTD	FFS	H	Instructor's initials, when training completed	Checked in FFS H	Examiner's initials, when test completed
SECTION 1 — Pre-flight preparations and checks							
1.1	Helicopter exterior visual inspection; location of each item, and purpose of inspection			P		M (if performed in the helicopter)	
1.2	Cockpit inspection		P	---->		M	
1.3	Starting procedures, radio and navigation equipment check, selection and setting of navigation and communication frequencies	P	---->	---->		M	
1.4	Taxiing/air taxiing in compliance with instructions from ATC or an instructor		P	---->		M	
1.5	Pre-take-off procedures and checks	P	---->	---->		M	
SECTION 2 — Flight manoeuvres and procedures							
2.1	Take-offs (various profiles)		P	---->		M	
2.2	Sloping-ground or crosswind take-offs & landings		P	---->			
2.3	Take-off at maximum take-off mass (actual or simulated maximum take-off mass)	P	---->	---->			



SINGLE/MULTI-PILOT HELICOPTERS		PRACTICAL TRAINING				SKILL TEST OR PROFICIENCY CHECK	
Manoeuvres/procedures					Instructor's initials, when training completed	Checked in	Examiner's initials, when test completed
		FTD	FFS	H		FFS H	
2.4	Take-off with simulated engine failure shortly before reaching TDP or DPATO		P	---->		M	
2.4.1	Take-off with simulated engine failure shortly after reaching TDP or DPATO		P	---->		M	
2.5	Climbing and descending turns to specified headings	P	---->	---->		M	
2.5.1	180° to 360° left and right turns at 30° bank, by sole reference to instruments	P	---->	---->		M	
2.6	Autorotative descent	P	---->	---->		M	
2.6.1	Autorotative landing (SEH only) or power recovery		P	---->		M	
2.7	Landings, various profiles		P	---->		M	
2.7.1	Go-around or landing following simulated engine failure before LDP or DPBL		P	---->		M	
2.7.2	Landing following simulated engine failure after LDP or DPBL		P	---->		M	



SECTION 3 — Normal and abnormal operations of systems and procedures							
3	Normal and abnormal operations of the following systems and procedures:					M	A mandatory minimum of three items should be selected from this Section
3.1	Engine	P	----	----			
3.2	Air-conditioning (heating, ventilation)	P	----	----			
3.3	Pitot/static system	P	----	----			
3.4	Fuel System	P	----	----			
3.5	Electrical system	P	----	----			
3.6	Hydraulic system	P	----	----			
3.7	Flight control and trim system	P	----	----			
3.8	Anti-icing and de-icing system	P	----	----			
3.9	Autopilot/flight director	P	----	----			
3.10	Stability augmentation devices	P	----	----			
3.11	Weather radar, radio altimeter, transponder	P	----	----			
3.12	Area navigation system	P	----	----			
3.13	Landing-gear system	P	----	----			
3.14	APU	P	----	----			



3.15	Radio, navigation equipment, instruments, and flight management system	P	---->	---->			
SECTION 4 – Abnormal and emergency procedures							
4	Abnormal and emergency procedures					M	A mandatory minimum of three items should be selected from this Section
4.1	Fire drills (including evacuation, if applicable)	P	---->	---->			
4.2	Smoke control and removal	P	---->	---->			
4.3	Engine failures, shutdown and restart, at a safe height	P	---->	---->			
4.4	Fuel dumping (simulated)	P	---->	---->			
4.5	Tail rotor control failure (if applicable)	P	---->	---->			
4.5.1	Tail rotor loss (if applicable)	P	---->				A helicopter may not be used for this exercise.
4.6	Incapacitation of a crew member – MPH only	P	---->	---->			
4.7	Transmission malfunctions	P	---->	---->			



4.8	Other emergency procedures, as outlined in the appropriate AFM	P	---	---			
SECTION 5 – Instrument flight procedures (to be performed in IMC or simulated IMC)							
5.1	Instrument take-off: transition to instrument flight is required as soon as possible after becoming airborne	P*	---	---			
5.1.1	Simulated engine failure during departure	P*	---	---		M*	
5.2	Adherence to departure and arrival routes as well as to ATC instructions	P*	---	---		M*	
5.3	Holding procedures	P*	---	---			
5.4	3D operations to DH/A of 200 ft (60 m) or to higher minima, if required by the approach procedure	P*	---	---			
5.4.1	Manually, without flight director. Note: according to the AFM, RNP APCH procedures may require the use of autopilot or flight director. The procedure to be flown manually should be chosen taking into account such limitations (e.g.: choose an ILS for 5.4.1 in case of such an AFM limitation).	P*	---	---		M*	
5.4.2	Manually, with flight director	P*	---	---		M*	



5.4.3	With coupled autopilot	p*	---->*	---->*			
5.4.4	Manually, with one engine simulated inoperative; engine failure has to be simulated during the final approach before passing 1000 ft above the aerodrome level until touchdown, or until completion of the missed-approach procedure	p*	---->*	---->*		M*	
5.5	2D operations down to MDA/H	p*	---->*	---->*		M*	
5.6	Go-around with all engines operating on reaching DA/DH or MDA/MDH	p*	---->*	---->*			
5.6.1	Other missed-approach procedures	p*	---->*	---->*			
5.6.2	Go-around with one engine simulated inoperative on reaching DA/DH or MDA/MDH	p*				M*	
5.7	IMC autorotation with power recovery	p*	---->*	---->*		M*	
5.8	Recovery from unusual attitudes	p*	---->*	---->*		M*	
SECTION 6 — Use of optional equipment							
6	Use of optional equipment	P	---->	---->			



POWERED-LIFT AIRCRAFT CATEGORY

POWERED-LIFT AIRCRAFT CATEGORY		PRACTICAL TRAINING					SKILL TEST OR PROFICIENCY CHECK	
Manoeuvres/procedures						Instructor's initials, when training completed	Checked in	Examiner's initials, when test completed
		OTD	FTD	FFS	PL		FFS PL	
SECTION 1 — Pre-flight preparations and checks								
1.1	Powered-lift aircraft exterior visual inspection; location of each item, and purpose of inspection				P			
1.2	Cockpit inspection	P	----	----	----			
1.3	Starting procedures, radio and navigation equipment check, selection and setting of navigation and communication frequencies	P	----	----	----		M	
1.4	Taxiing in compliance with instructions from ATC or an instructor		P	----	----			
1.5	Pre-take-off procedures and checks, including power check	P	----	----	----		M	
SECTION 2 — Flight manoeuvres and procedures								
2.1	<ul style="list-style-type: none"> — Normal VFR take-off profiles; — Runway operations (STOL and VTOL), including crosswind; — Elevated heliports; — Ground-level heliports 		P	----	----		M	



POWERED-LIFT AIRCRAFT CATEGORY		PRACTICAL TRAINING					SKILL TEST OR PROFICIENCY CHECK	
Manoeuvres/procedures		OTD	FTD	FFS	PL	Instructor's initials, when training completed	Checked in FFS PL	Examiner's initials, when test completed
2.2	Take-off at maximum take-off mass (actual or simulated maximum take-off mass)		P	---->				
2.3.1	Rejected take-off: — during runway operations; — during elevated-heliport operations; — during ground-level operations		P	---->			M	
2.3.2	Take-off with simulated engine failure after passing the decision point: — during runway operations; — during elevated-heliport operations; — during ground-level operations		P	---->			M	
2.4	Autorotative descent to ground in helicopter mode (an aircraft should not be used for this exercise)	P	---->	---->			M FFS only	
2.4.1	Windmill descent in aeroplane mode (an aircraft should not be used for this exercise)		P	---->			M FFS only	



POWERED-LIFT AIRCRAFT CATEGORY		PRACTICAL TRAINING					SKILL TEST OR PROFICIENCY CHECK	
Manoeuvres/procedures		OTD	FTD	FFS	PL	Instructor's initials, when training completed	Checked in FFS PL	Examiner's initials, when test completed
2.5	<ul style="list-style-type: none"> — Normal VFR landing profiles; — runway operations (STOL and VTOL); — elevated heliports; — ground-level heliports 		P	---->	---->		M	
2.5.1	Landing with simulated engine failure after reaching the decision point: <ul style="list-style-type: none"> — during runway operations; — during elevated-heliport operations; — during ground-level operations 							
2.6	Go-around or landing following simulated engine failure before the decision point		P	---->			M	
SECTION 3 — Normal and abnormal operations of systems and procedures								
3	Normal and abnormal operations of the following systems and procedures (may be completed in an FSTD, if qualified for the exercise):						M	A mandatory minimum of three items should be selected from this Section
3.1	Engine	P	---->	---->				



POWERED-LIFT AIRCRAFT CATEGORY		PRACTICAL TRAINING					SKILL TEST OR PROFICIENCY CHECK	
Manoeuvres/procedures						Instructor's initials, when training completed	Checked in	Examiner's initials, when test completed
		OTD	FTD	FFS	PL		FFS PL	
3.2	Pressurisation and air-conditioning (heating, ventilation)	P	---->	---->				
3.3	Pitot/static system	P	---->	---->				
3.4	Fuel system	P	---->	---->				
3.5	Electrical system	P	---->	---->				
3.6	Hydraulic system	P	---->	---->				
3.7	Flight control and trim system	P	---->	---->				
3.8	Anti-icing and de-icing system, glare shield heating (if fitted)	P	---->	---->				
3.9	Autopilot/flight director	P	--->	--->				
3.10	Stall warning or stall avoidance devices and stability augmentation devices	P	---->	---->				
3.11	Weather radar, radio altimeter, transponder, ground-proximity warning system (if fitted)	P	---->	---->				
3.12	Landing gear system	P	---->	---->				
3.13	APU	P	---->	---->				



POWERED-LIFT AIRCRAFT CATEGORY		PRACTICAL TRAINING					SKILL TEST OR PROFICIENCY CHECK	
Manoeuvres/procedures						Instructor's initials, when training completed	Checked in	Examiner's initials, when test completed
		OTD	FTD	FFS	PL		FFS PL	
3.14	Radio, navigation equipment, instruments, and flight management system	P	---->	---->				
3.15	Flap system	P	---->	---->				
SECTION 4 – Abnormal and emergency procedures								
4	Abnormal and emergency procedures (may be completed in an FSTD, if qualified for the exercise)						M	A mandatory minimum of three items should be selected from this Section
4.1	Fire drills, engine, APU, cargo compartment, flight deck and electrical fires, including evacuation, if applicable	P	---->	---->				
4.2	Smoke control and removal	P	---->	---->				
4.3	Engine failures, shutdown and restart (an aircraft should not be used for this exercise), including OEI conversion from helicopter to aeroplane modes and vice versa	P	---->	---->			FFS only	
4.4	Fuel dumping (simulated, if fitted)	P	---->	---->				



POWERED-LIFT AIRCRAFT CATEGORY		PRACTICAL TRAINING					SKILL TEST OR PROFICIENCY CHECK	
Manoeuvres/procedures						Instructor's initials, when training completed	Checked in	Examiner's initials, when test completed
		OTD	FTD	FFS	PL		FFS PL	
4.5	Wind shear at take-off and landing (an aircraft should not be used for this exercise)			P			FFS only	
4.6	Simulated cabin pressure failure/emergency descent (an aircraft should not be used for this exercise)	P	---->	---->			FFS only	
4.7	ACAS event (an aircraft should not be used for this exercise)	P	---->	---->			FFS only	
4.8	Incapacitation of a crew member	P	---->	---->				
4.9	Transmission malfunctions	P	---->	---->			FFS only	
4.10	Recovery from a full stall (power on and off) or after activation of stall warning devices in climb, cruise and approach configurations (an aircraft should not be used for this exercise)	P	---->	---->			FFS only	
4.11	Other emergency procedures, as detailed in the appropriate AFM	P	---->	---->				



SECTION 5 — Instrument flight procedures (to be performed in IMC or simulated IMC)							
5.1	Instrument take-off: transition to instrument flight is required as soon as possible after becoming airborne	p*	---->*	---->*			
5.1.1	Simulated engine failure during departure after the decision point	p*	---->*	---->*		M*	
5.2	Adherence to departure and arrival routes as well as to ATC instructions	p*	---->*	---->*		M*	
5.3	Holding procedures	p*	---->*	---->*			
5.4	Precision approach down to a DH not less than 60 m (200 ft)	p*	---->*	---->*			
5.4.1	Manually, without flight director	p*	---->*	---->*		M* (Skill test only)	
5.4.2	Manually, with flight director	p*	---->*	---->*			
5.4.3	With use of autopilot	p*	---->*	---->*			
5.4.4	Manually, with one engine simulated inoperative; engine failure has to be simulated during the final approach before passing the outer marker (OM) and continued either until touchdown, or until completion of the missed-approach procedure	p*	---->*	---->*		M*	



5.5	Non-precision approach down to the MDA/H	p*	---->*	---->*			M*	
5.6	Go-around with all engines operating on reaching DA/DH or MDA/MDH	p*	---->*	---->*				
5.6.1	Other missed-approach procedures	p*	---->*	---->*				
5.6.2	Go-around with one engine simulated inoperative on reaching DA/DH or MDA/MDH	p*					M*	
5.7	IMC autorotation with power recovery to land on a runway in helicopter mode only (an aircraft should not be used for this exercise)	p*	---->*	---->*			M* FFS only	
5.8	Recovery from unusual attitudes (depending on the quality of the FFS)	p*	---->*	---->*			M*	



SECTION 6 — Additional authorisation on a type rating for instrument approaches down to a DH of less than 60 m (200 ft) (CAT II/III)								
6	<p>Additional authorisation on a type rating for instrument approaches down to a DH of less than 60 m (200 ft) (CAT II/III).</p> <p>The following manoeuvres and procedures are the minimum training requirements to permit instrument approaches down to a DH of less than 60 m (200 ft). During the following instrument approaches and missed-approach procedures, all powered-lift aircraft equipment required for the type certification of instrument approaches down to a DH of less than 60 m (200 ft) should be used.</p>							
6.1	Rejected take-off at minimum authorised RVR		P	---				M*
6.2	ILS approaches in simulated instrument flight conditions down to the applicable DH, using a flight guidance system. Standard procedures of crew coordination (SOPs) should be observed.		P	---	---			M*



6.3	Go-around after approaches, as indicated in 6.2, on reaching the DH. The training should also include a go-around due to (simulated) insufficient RVR, wind shear, aircraft deviation in excess of approach limits for a successful approach and ground/airborne equipment failure prior to reaching the DH, as well as a go-around with simulated airborne equipment failure.		P	---->	---->		M*	
6.4	Landing(s) with visual reference established at DH following an instrument approach. Depending on the specific flight guidance system, an automatic landing should be performed.		P	---->			M*	
Section 7 — Optional equipment								
7	Use of optional equipment		P	---->	---->			



AIRSHIP CATEGORY

AIRSHIP CATEGORY		PRACTICAL TRAINING					SKILL TEST OR PROFICIENCY CHECK	
Manoeuvres/procedures						Instructor's initials, when training completed	Checked in	Examiner's initials, when test completed
		OTD	FTD	FFS	As		FFS As	
SECTION 1 — Pre-flight preparations and checks								
1.1	Pre-flight inspection				P			
1.2	Cockpit inspection	P	---->	---->	---->			
1.3	Starting procedures, radio and navigation equipment check, selection and setting of navigation and communication frequencies		P	---->	---->		M	
1.4	Off-mast procedure and ground manoeuvring			P	---->		M	
1.5	Pre-take-off procedures and checks	P	---->	---->	---->		M	
SECTION 2 — Flight manoeuvres and procedures								
2.1	Normal VFR take-off profiles			P	---->		M	
2.2	Take-off with simulated engine failure			P	---->		M	
2.3	Take-off with heaviness > 0 (heavy T/O)			P	---->			
2.4	Take-off with heaviness < 0 (light T/O)			P	---->			
2.5	Normal climb procedure			P	---->			



AIRSHIP CATEGORY		PRACTICAL TRAINING					SKILL TEST OR PROFICIENCY CHECK	
Manoeuvres/procedures		OTD	FTD	FFS	As	Instructor's initials, when training completed	Checked in	Examiner's initials, when test completed
							FFS As	
2.6	Climb to pressure height			P	---->			
2.7	Recognising of pressure height			P	---->			
2.8	Flight at or close to pressure height			P	---->		M	
2.9	Normal descent and approach			P	---->			
2.10	Normal VFR landing profile			P	---->		M	
2.11	Landing with heaviness > 0 (heavy Ldg.)			P	---->		M	
2.12	Landing with heaviness < 0 (light Ldg.)			P	---->		M	
	Intentionally left blank							
SECTION 3 — Normal and abnormal operations of systems and procedures								
3	Normal and abnormal operations of the following systems and procedures (may be completed in an FSTD, if qualified for the exercise):						M	A mandatory minimum of three items should be selected from this Section
3.1	Engine	P	---->	---->	---->			
3.2	Envelope pressurisation	P	---->	---->	---->			
3.3	Pitot/static system	P	---->	---->	---->			



AIRSHIP CATEGORY		PRACTICAL TRAINING					SKILL TEST OR PROFICIENCY CHECK	
		OTD	FTD	FFS	As	Instructor's initials, when training completed	Checked in FFS As	Examiner's initials, when test completed
	Manoeuvres/procedures							
3.4	Fuel system	P	----	----	----			
3.5	Electrical system	P	----	----	----			
3.6	Hydraulic system	P	----	----	----			
3.7	Flight control and trim system	P	----	----	----			
3.8	Ballonet system	P	----	----	----			
3.9	Autopilot/flight director	P	----	----	----			
3.10	Stability augmentation devices	P	----	----	----			
3.11	Weather radar, radio altimeter, transponder, ground-proximity warning system (if fitted)	P	----	----	----			
3.12	Landing gear system	P	----	----	----			
3.13	APU	P	----	----	----			
3.14	Radio, navigation equipment, instruments, and flight management system	P	----	----	----			
	Intentionally left blank							



SECTION 4 — Abnormal and emergency procedures								
4	Abnormal and emergency procedures (may be completed in an FSTD, if qualified for the exercise)						M	A mandatory minimum of three items should be selected from this Section
4.1	Fire drills, engine, APU, cargo compartment, flight deck and electrical fires, including evacuation, if applicable	P	----	----	----			
4.2	Smoke control and removal	P	----	----	----			
4.3	Engine failures, shutdown and restart in particular phases of flight, including multiple engine failure	P	----	----	----			
4.4	Incapacitation of a crew member	P	----	----	----			
4.5	Transmission/gearbox malfunctions	P	----	----	----		FFS only	
4.6	Other emergency procedures, as outlined in the appropriate AFM	P	----	----	----			
SECTION 5 — Instrument flight procedures (to be performed in IMC or simulated IMC)								
5.1	Instrument take-off: transition to instrument flight is required as soon as possible after becoming airborne	P*	----	----	----			
5.1.1	Simulated engine failure during departure	P*	----	----	----		M*	



5.2	Adherence to departure and arrival routes as well as to ATC instructions	p*	--->*	--->*	--->*		M*	
5.3	Holding procedures	p*	--->*	--->*	--->*			
5.4	Precision approach down to a DH not less than 60 m (200 ft)	p*	--->*	--->*	--->*			
5.4.1	Manually, without flight director	p*	--->*	--->*	--->*		M* (Skill test only)	
5.4.2	Manually, with flight director	p*	--->*	--->*	--->*			
5.4.3	With use of autopilot	p*	--->*	--->*	--->*			
5.4.4	Manually, with one engine simulated inoperative; engine failure has to be simulated during the final approach before passing the OM and continued either until touchdown, or until completion of the missed-approach procedure	p*	--->*	--->*	--->*		M*	
5.5	Non-precision approach down to the MDA/H	p*	--->*	--->*	--->*		M*	
5.6	Go-around with all engines operating on reaching DA/H or MDA/H	p*	--->*	--->*	--->*			
5.6.1	Other missed-approach procedures	p*	--->*	--->*	--->*			
5.6.2	Go-around with one engine simulated inoperative on reaching DA/H or MDA/H	p*					M*	



5.7	Recovery from unusual attitudes (depending on the quality of the FFS)	P*	---->*	---->*	---->*		M*		
SECTION 6 — Additional authorisation on a type rating for instrument approaches down to a DH of less than 60 m (200 ft) (CAT II/III)									
6	<p>Additional authorisation on a type rating for instrument approaches down to a DH of less than 60 m (200 ft) (CAT II/III)</p> <p>The following manoeuvres and procedures are the minimum training requirements to permit instrument approaches down to a DH of less than 60 m (200 ft). During the following instrument approaches and missed-approach procedures, all airship equipment required for the type certification of instrument approaches down to a DH of less than 60 m (200 ft) should be used.</p>								
6.1	Rejected take-off at minimum authorised RVR		P	---->			M*		
6.2	ILS approaches in simulated instrument flight conditions down to the applicable DH, using a flight guidance system. Standard procedures of crew coordination (SOPs) should be observed.		P	---->			M*		



6.3	Go-around after approaches, as indicated in 6.2, on reaching the DH. The training should also include a go-around due to (simulated) insufficient RVR, wind shear, aircraft deviation in excess of approach limits for a successful approach and ground/airborne equipment failure prior to reaching the DH, as well as a go-around with simulated airborne equipment failure.		P	---->			M*	
6.4	Landing(s) with visual reference established at DH following an instrument approach. Depending on the specific flight guidance system, an automatic landing should be performed.		P	---->			M*	
SECTION 7 – Optional equipment								
7	Use of optional equipment		P	---->				

3.2.2. AMC/GM to Part-ARA

1. GM1 ARA.GEN.105 is amended as follows:

GM1 ARA.GEN.105 Definitions

The following provides a list of acronyms used throughout this Annex:

- (A) aeroplane
- (H) helicopter
- A/C aircraft
- ACAS airborne collision avoidance system
- AD airworthiness directive
- AIS aeronautical information service



ALARP	as low as reasonably practicable
AM	accountable manager
AeMC	aero-medical centre
AMC	Acceptable Means of Compliance
AME	aero-medical examiner
APP	approach
APU	auxiliary power unit
ARA	authority requirements for aircrew
ATC	air traffic control
ATO	approved training organisation
ATPL	airline transport pilot licence
BITD	basic instrument training device
BPL	balloon pilot licence
Bpm	beats per minute
CAT	category
CBT	computer-based training
CC	cabin crew
CFI	chief flying instructor
Cm	centimetres
CM	compliance monitoring
CMP	compliance monitoring programme
CMS	compliance monitoring system
COP	code of practice
CPL	commercial pilot licence
CRM	crew resource management
CS	Certification Specifications
CS-FSTD(A)	Certification Specifications for aeroplane flight simulation training devices
CS-FSTD(H)	Certification Specifications for helicopter flight simulation training devices
CTKI	chief theoretical-knowledge instructor
dB	decibel
DG	dangerous goods
DH	decision height
DPATO	defined point after take-off



DPBL	decision point before landing
EC	European Community
ECG	electrocardiogram
ENT	ear, nose and throat
EOG	electro-oculography
ERP	emergency response plan
ETOPS	extended-range operations with twin-engine aeroplanes
FANS	future air navigation system
FATO	final approach and take-off area
FD	flight director
FEV ₁	forced expiratory volume in 1 second
FFS	full flight simulator
FMECA	failure mode, effects and criticality analysis
FMGC	flight management and guidance computer
FMS	flight management system
FNPT	flight navigation and procedures trainer
FSTD	flight simulation training device
Ft	feet
FTD	flight training device
FTE	full time equivalent
FTI	flight test instructor
FVC	forced vital capacity
GM	guidance material
GMP	general medical practitioner
GPS	global positioning system
HEMS	helicopter emergency medical service
HF	human factors
Hg	mercury
HHO	helicopter hoist operation
HT	head of training
HUD/HUGS	head up display / head up guidance system
Hz	Herz
IATA	International Air Transport Association



ICAO	International Civil Aviation Organisation
IFR	instrument flight rules
IGE	in ground effect
ILS	instrument landing system
IMC	instrument meteorological conditions
IOS	instructor operating station
IR	implementing Rule
IR	instrument rating
Kg	kilogram
LAPL	light-aircraft pilot licence
LDP	landing decision point
LIFUS	line flying under supervision
LVO	low-visibility operation
LVTO	low visibility take-off
MCC	multi-crew cooperation
MMEL	master minimum equipment list
MPA	multi-pilot aeroplane
MPL	multi-crew pilot licence
NVIS	night vision imaging system
M	metre
Mm	millimetre
OGE	out of ground effect
OPC	operator proficiency check
ORA	organisation requirements for aircrew
ORO	organisation requirements for air operations
OSD	operational suitability data
OTD	other training device
PBN	performance-based navigation
PF	pilot flying
PIC	pilot-in-command
PM	pilot monitoring
POM	proof of match
PPL	private pilot licence



QTG	qualification test guide
ROD	rate of descent
RVR	runway visual range
RWY	runway
SMM	safety management manual
SOP	standard operating procedure
SPL	sailplane pilot licence
TAWS	terrain awareness warning system
TDP	take-off decision point
TRE	type rating examiner
TRI	type rating instructor
TWY	taxiway
VDR	validation data roadmap
VFR	visual flight rules
ZFTT	zero-flight-time training

2. AMC2 ARA.GEN.200(a)(2) is replaced by the following:

AMC2 ARA.GEN.200(a)(2) Management system
QUALIFICATION AND TRAINING — INSPECTORS

(a) Qualification

All inspectors should receive training in the following areas:

- (1) auditing techniques, as relevant to the particular duties and responsibilities of the inspector;
- (2) safety management systems (SMSs);
- (3) CMSs;
- (4) the requirements of Regulation (EU) No 1178/2011 related to their duties, in particular Annex VII (Part-ORA) and Annex VI (Part ARA) thereto; and
- (5) ICAO Annexes and guidance material relevant to their duties.

Additional qualification criteria:

- (1) inspectors conducting sampling of training flights in aircraft or FSTD sessions should hold or have held a pilot licence and relevant ratings and certificates appropriate to the level of the training conducted in the ATO;
- (2) inspectors conducting sampling of training flights in aircraft as a member of the flight crew should hold a pilot's licence and relevant ratings and certificates appropriate to the level of the training conducted;



- (3) inspectors conducting sampling of theoretical-knowledge instruction should have a practical background in aviation in the areas relevant to the training provided and have undergone a training course in instructional techniques; and
- (4) inspectors not involved in activities referred to in (1)–(3) above should have a relevant background in aviation related to their duties.

(b) Initial training programme

The initial training programme for inspectors should include, as appropriate to their role, current knowledge of, as well as experience and skills in at least all of the following:

- (1) air law — organisation and structure;
- (2) Regulation (EC) No 216/2008, as well as its implementing regulations and related AMC/GM;
- (3) the Chicago Convention, as well as relevant ICAO Annexes and guidance;
- (4) relevant national aviation and administrative legislation;
- (5) the applicable requirements and procedures (including ‘inspector’s code of conduct’ and correct formulation of findings);
- (6) management systems, including assessment of SMSs and CMSs, as well as auditing, risk assessment and reporting techniques;
- (7) competency-based training, including Appendix E to ICAO Doc 9841 ‘Manual on the Approval of Flight Crew Training Organisations’ and ICAO Doc 9868 ‘Procedures for Air Navigation Services — Training’);
- (8) HF training (including ‘just culture’ in aviation and conflict management);
- (9) performance-based oversight;
- (10) rights and obligations of inspecting personnel of the competent authority;
- (11) ‘on-the-job’ training;
- (12) the relevant Annexes to Regulation (EU) No 965/2012; and
- (13) suitable technical training appropriate to the role and tasks of the inspector, in particular for those areas requiring approvals.

(c) Recurrent training programme

The recurrent training programme should reflect, at least, changes in aviation legislation and industry. It should also cover the specific needs of the inspectors and the competent authority, and include at least the following:

- (1) recurrent training of the standardisation inspections as a team member;
- (2) licence proficiency check(LPC)/OPC on appropriate aircraft type/class (if applicable);
- (3) instructor refresher seminar (if applicable);
- (4) audit techniques course for regulators (refresher course); and
- (5) SMS refresher course.



3. New GM2 ARA.GEN.200(a)(2) is inserted as follows:

GM2 ARA.GEN.200(a)(2) Management system

- (a) The content of the initial training programme for inspectors referred to in AMC2 ARA.GEN.200(a)(2)(b)(3) and (6) may be selected from the following documents, as relevant to the particular duties and responsibilities of the inspector:
- (1) ICAO Annex 1 'Personnel Licensing';
 - (2) ICAO Annex 19 'Safety Management';
 - (3) ICAO Doc 9841 'Manual on the Approval of Flight Crew Training Organisations';
 - (4) ICAO Doc 9868 'Procedures for Air Navigation Services — Training';
 - (5) ICAO Doc 9859 'Safety Management Manual'; and
 - (6) ICAO Doc 9379 'Manual of Procedures for Establishment and Management of a States Personnel Licensing System'.
- (b) A minimum of activities should be performed according to the initial training programme:
- (1) observations; and
 - (2) inspection as a team member and release inspection.

4. New GM3 ARA.GEN.200(a)(2) is inserted as follows:

GM3 ARA.GEN.200(a)(2) Management system

The meaning of 'relevant ratings and certificates appropriate to the level of the training conducted in the ATO', as used in AMC2 ARA.GEN.200(a)(2), is explained below:

- the range of activities in an ATO may vary from instructions for the simple single-engine aircraft to type training for CS-25-certified multi-pilot aircraft;
- in the context of the general approval of the ATO, experience in similar types or classes of aircraft is acceptable;
- the inspector has the instructional experience in the same or similar types or the same class of aircraft intended to be flown within the ATO (e.g. type rating to assess type training programmes); and
- the experience in large CS-25 aircraft will not, for example, equip the inspector to assess the training programme in an ATO operating only SEP (land) aircraft; similarly, experience as a PPL instructor will not necessarily equip the inspector to assess a type training course for a CS-25 aircraft; in both cases, additional appropriate training in the applicable environment is necessary.



5. New AMC1 ARA.GEN.320 is inserted as follows:

AMC1 ARA.GEN.320 Procedure to change the competent authority

The procedure established by the competent authority should cover both cases for a change of competent authority and describe how the competent authority:

- takes over the oversight of the pilot; and
- transfers the records and relevant information to another competent authority.

In case there is more than one competent authority in the Member State, the procedure should also cover the coordination between those competent authorities.

6. New AMC to Appendix IV to Annex VI (Part-ARA) is inserted as follows:

AMC to Appendix IV to Annex VI (Part-ARA) Flight simulation training device qualification certificate— FSTD SPECIFICATIONS — PAGE 2

[Competent authority]

FSTD QUALIFICATION CERTIFICATE: [LETTER CODE-UNIQUE IDENTIFICATION CODE]

FSTD SPECIFICATIONS

A.	Type or variant of aircraft					AEROPLANE
B.	FSTD qualification level					
C.	Primary reference document					
D.	Visual system					
E.	Motion system					
F.	Engine fit					
G.	Instrument fit					
H.	Additional capabilities					
I.	Restrictions or limitations					
J.	Guidance information on training, testing and checking considerations					
CAT I	RVR	m	DH	ft		
CAT II	RVR	m	DH	ft		
CAT III (lowest minimum)	RVR	m	DH	ft		
LVTO	RVR	m				
Recency						
IFR training/check						/
Type rating						
Proficiency checks						
Autocoupled approach						
Autoland/roll-out guidance						/
ACAS I/II,	ACAS ver				/	
Wind shear / Wind shear warning system / predictive wind shear						/ /
WX-radar						



HUD/HUGS/EVS	/ /
FANS/CPDLC	
GPWS/TAWS	/
RNP APCH LNAV/VNAV/LPV	/ /
RNP AR APCH	
ETOPS capability	
Steep approach	
Smoke	
Other	

Date of issue:

AEROPLANE

Signed:

For the Member State/EASA

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[Competent authority]

FSTD QUALIFICATION CERTIFICATE: [LETTER CODE-UNIQUE IDENTIFICATION CODE]

FSTD SPECIFICATIONS

A.	Type or variant of aircraft		HELICOPTER
B.	FSTD qualification level		
C.	Primary reference document		
D.	Visual system		
E.	Motion system		
F.	Engine fit		
G.	Instrument fit		
H.	Additional capabilities		
I.	Restrictions or limitations		
J.	Guidance information on training, testing and checking considerations		
CAT I	RVR	m	DH ft
CAT II	RVR	m	DH ft
LVTO	RVR	m	
Recency			
IFR training/check			/
Type rating			
Proficiency checks			
Autocoupled approach			
ACAS I/II,	ACAS ver		/
WX-radar			
GPWS/TAWS			
Airborne radar approach (ARA)			
Night vision imaging system (NVIS)			
Ditching/emergency floats			/



Ship landing/rig landing/elevated-platform landing/confined area	/ /
Search and rescue (SAR)/helicopter emergency medical service (HEMS)/hoist	/ /
Load lifting/cargo sling	/
RNP APCH LNAV/VNAV/LPV	/ /
RNP AR APCH	
Smoke	
Other	

Date of issue:

HELICOPTER

Signed:

For the Member State/EASA

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7. New GM to Appendix IV to Annex VI (Part-ARA) is inserted as follows:

GM to Appendix IV to Annex VI (Part-ARA) Flight simulation training device qualification certificate — FSTD SPECIFICATIONS — PAGE 2

The LETTER CODE-UNIQUE IDENTIFICATION CODE is the same reference as in the FSTD qualification certificate — page 1 (Appendix IV to Annex VI (Part-ARA)).

(a) Visual system

The following information should be provided:

- (1) visual manufacturer;
- (2) image generator model;
- (3) type of projectors: CRT, LCD, LCoS, LCoS-laser, DLP-LED;
- (4) the field of view in degrees; and
- (5) collimated/non-collimated.

In case no visual system is installed, 'None' should be inserted into the field.

(b) Motion system

The following information should be provided:

- (1) motion manufacturer;
- (2) strokes' length active during training;
- (3) technology: hydraulic, electric, electric pneumatic, electric hydraulic; and
- (4) degrees of freedom.

In case no motion system is installed, 'None' should be inserted into the field.

(c) 'J. Guidance information for training, testing and checking considerations' (see FSTD qualification certificate p. 2) provides the FSTD evaluation team's guidance on the capabilities of the FSTD to support each training area.

The considerations should be:

- (1) YES: the FSTD fully supports the required training in the area;



- (2) YES (PARTIALLY): the FSTD may support part of the required training in the area;
- (3) N/a: the consideration of the evaluation team is not applicable because:
 - (i) the aircraft is not capable to support the required training;
 - (ii) the FSTD is not equipped with the required option; and
 - (iii) the type of FSTD is not capable to support the required training; and
- (4) NO: the FSTD is not to be used for training, testing and/or checking in the training area; a limitation/restriction should be provided.

3.2.3. AMC/GM to Part-ORA

1. GM1 ORA.GEN.005 is deleted.
2. GM1 ORA.GEN.130(a) is amended as follows:

GM1 ORA.GEN.130(a) Changes to organisations

GENERAL

- (a) Typical examples of changes, requiring prior approval, that may affect the certificate or the terms of approval are listed below:

(...)

3. New GM1 ORA.GEN.130(c) is inserted as follows:

GM1 ORA.GEN.130(c) Changes to organisations

GENERAL

Typical examples of changes not requiring prior approval are listed below:

- (a) the list of aircraft used;
- (b) the list of FSTDs used; and
- (c) the list of instructors.

It is recommended that lists of changes not requiring prior approval are included as annexes to the ATO documentation.

4. New AMC1 ORA.ATO.305(b) is inserted as follows:

AMC1 ORA.ATO.305(b) Classroom instruction

Classroom instruction delivered by an instructor to a student may include appropriate videoconferencing.



4. Impact assessment (IA)

N/a (see Section 2.3. above).



5. References

5.1. Affected regulations

Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 311, 25.11.2011, p. 1)

5.2. Related regulations

Commission Regulation (EU) No 965/2012 of 28 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EU) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1).

5.3. Affected CS, AMC and GM

- Decision N° 2011/016/R of the Executive Director of the European Aviation Safety Agency of 15 December 2011 on Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council 'Acceptable Means of Compliance and Guidance Material to Part-FCL'
- Decision N° 2012/006/Directorate R of the Executive Director of the Agency of 19th April 2012 on Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council 'Acceptable Means of Compliance and Guidance Material to Part-ARA'
- Decision N° 2012/007/Directorate R of the Executive Director of the Agency of 19th April 2012 on Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council 'Acceptable Means of Compliance and Guidance Material to Part-ORA'

5.4. Reference documents

Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1).



6. Appendices

N/a

