CAAS
Civil Aviation Authority of Singapore

Advisory Circular

MULTI-CREW PILOT LICENCE (MPL) TRAINING COURSE

GENERAL
Advisory Circulars (ACs) are issued by the Director-General of Civil Aviation (DGCA) from time to time to provide practical guidance or certainty in respect of the statutory requirements for aviation safety. ACs contain information about standards, practices and procedures acceptable to CAAS. An AC may be used, in accordance with section 3C of the Air Navigation Act (Cap. 6) (ANA), to demonstrate compliance with a statutory requirement. The revision number of the AC is indicated in parenthesis in the suffix of the AC number.

PURPOSE
This AC provides the Acceptable Means of Compliance (AMC) and information to guide an Aviation Training Organisation (ATO) that intends to develop and implement an MPL training course leading to the issuance of a Multi-Crew Pilot Licence (Aeroplanes) [MPL(A)] by CAAS. Singapore Air Operator Certificate (AOC) holders who intend to carry out an MPL training course in partnership with an ATO and individuals wishing to pursue a career with a Singapore air operator through the MPL route may refer to this AC for information.

APPLICABILITY
This AC is applicable to an ATO which intends to carry out an MPL training course in partnership with an AOC holder.

RELATED REGULATIONS
This AC relates specifically to the ANO, SASP D, SASP 2 and SASP 10.

CANCELLATION
This AC supersedes AC FCL-9(1) dated 6 March 2020.

EFFECTIVE DATE
This AC is effective from 23 July 2021.

OTHER REFERENCES
- ICAO Annex 1, ICAO Procedures for Air Navigation Services – Training (PANS-TRG) (Doc 9868)

1   INTRODUCTION

1.1   The MPL, a professional pilot licence, qualifies a person to operate as a co-pilot in a multi-engine multi-crew aircraft. This provides a means for ATO and Singapore air operators to train pilots directly to operate in the airline operational environment.

1.2   The MPL training methodology in this AC is based on ICAO Annex 1 and PANS-TRG. It emphasises extensive training in flight simulators, with actual aircraft flying mainly being conducted in the initial stage of the MPL training course so as to develop core pilot flying skills in the trainee. Training is competency-based to enable trainees to achieve the required standard in all the competencies under the adapted competency model for the issue of the MPL. The training syllabus is broken down into a list of tasks by phase of flight. Competency-based training requires continuous evaluation of the pilots' performance to determine if they have achieved the final competency standards while performing the tasks.

1.3   At the end of the MPL training course, the trainee is assessed on the knowledge, skills and attitudes underpinning the competencies required to perform as the Pilot-in-command under the supervision (PIC U/S) of the Captain, and as a co-pilot in an air transport aeroplane certified for operation with a minimum crew of two pilots, under VFR and IFR, day and night flying. Upon satisfactory completion of the MPL training course, the trainee will be issued with an MPL(A). An MPL(A) may be upgraded to an ATPL subsequently upon the holder satisfying the ATPL requirements. An MPL holder is not allowed to conduct single-pilot commercial operations.

2   MPL TRAINING REQUIREMENTS

2.1   The ATO intending to conduct MPL training should also review and be consistent with the following MPL training requirements:

(a)   MPL training course conducted in partnership with a Singapore AOC holder, as set out in SASP Part 10

(b)   Authorised Flight Examiners (AFE) requirements for the conduct of the test leading to the grant of the MPL, as set out in SASP Part 7

(c)   Instructor requirements for instructors in an approved MPL course, as set out in SASP Part 3 and Part 10

(d)   Application requirements for an MPL(A), as set out in SASP Part 2

3   COMPETENCY-BASED TRAINING AND ASSESSMENT FRAMEWORK

3.1   An ATO should develop the competency-based training and assessment (CBTA) for MPL based on the adapted competency model[1]. The relevant list of competencies applicable to MPL is contained in **ICAO Doc 9868(3rd Edition), 2020, Part II, Section 1, Appendix 1 to Chapter 1**, which is based on the ICAO competency framework[2] for

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[1] The adapted competency model is a group of competencies with their associated description and performance criteria adapted from an ICAO competency framework that an organisation uses to develop competency-based training and assessment for a given role.
[2] The ICAO competency framework for aeroplane pilots consists of a selected group of competencies, with its associated description and Observable Behaviours (OBs), applicable to all aeroplane pilot licences and/or ratings.

aeroplane pilots. The ATO should develop the required performance criteria[3] relevant to each competency as part of the adapted competency model. The adapted competency model is part of the MPL training course for CAAS's approval.

3.2 An MPL trainee should be assessed on an ongoing basis during training and would need to achieve the final competency standard described under the adapted competency model through performance of a list of tasks.

3.3 The list of tasks by phase of flight to be included in the training syllabus is listed below. Full details of the tasks, including the sub-tasks, is contained in **ICAO Doc 9868(3rd Edition), 2020, Part II, Section 1, Appendix 2 to Chapter 1**.

   (a) perform aeroplane ground and pre-flight operations;

   (b) perform take-off;

   (c) perform climb;

   (d) perform cruise;

   (e) perform descent;

   (f) perform approach;

   (g) perform landing; and

   (h) perform after-landing and post-flight operations.

3.4 The ATO should develop an assessment plan which provides the process and tools for assessing the performance of a trainee at different stages during training, and a training plan which describes the training required to achieve the competencies. It includes the composition and structure, syllabus, milestones, lesson plans and schedule for the training.

3.5 The ATO may refer to **ICAO Doc 9868(3rd Edition), 2020, Part I, Attachment C to Chapter 2** for guidance on the design of a CBTA framework.

3.6 The competencies to be achieved by a trainee includes the demonstration of individual and team countermeasures to threats and errors to avoid undesired aircraft states. The ATO needs to include Threats and Error Management (TEM) into the training plan. Refer to **ICAO Doc 9868(3rd Edition), 2020, Part II, Section 1, Chapter 6** for guidance on TEM.

4   MPL TRAINING COURSE

4.1 An ATO that is interested in conducting an MPL training course should write in to CAAS, Attention: Head (Personnel Licensing), with its proposal. The ATO will need to develop the course in partnership with a Singapore AOC holder, given that the advanced training phase includes training the trainees in accordance with the participating air operator's Standard Operating Procedures (SOP).

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[3] Statements used to assess whether the required levels of performance have been achieved for a competency. A performance criterion consists of an observable behaviour, condition(s) and a competency standard.

4.2 ATOs that intend to conduct an MPL training course should be familiar with both ab-initio and type-rating training. Consequently, the ATO will need to satisfactorily demonstrate to CAAS that it has a proven track record in conducting ab-initio and type-rating training. ATOs with only experience in conducting ab-initio training should partner with another ATO that has experience conducting type-rating training, or vice versa, in order to offer a comprehensive MPL training course with the partnering Singapore air operator. In such a scenario, there must be a lead organisation identified to be responsible for the overall conduct of the entire MPL training course.

4.3 In line with the "proof-of-concept" methodology adopted by ICAO, and in view of the developmental nature of the first MPL course in each ATO-Airline partnership, the initial approval from CAAS for this first MPL training course would be provisional. CAAS would evaluate the results from the first MPL course in each ATO-Airline partnership before granting an approval to allow for subsequent re-runs of the course. The evaluation process of each provisional MPL course will extend beyond the training stage and into the operational phase i.e. the Initial Operating Experience (IOE) with the partnering Singapore air operator. This includes observing these pilots during their line and proficiency checks (after the MPL(A) has been issued).

4.4 The ATO and AOC holder involved in MPL training should have in place a data collection and analysis mechanism for student performance tracking and continuous course improvement. There should also be an on-going evaluation of the training plan and of the students to ensure that training remains relevant, training standards can be met and corrective actions are taken should the evaluation indicate a need to do so.

MPL TRAINING SCHEME

4.5 The ATO should design the training in accordance with the MPL training scheme below and develop further details such as course syllabus and schedule for each phase of training.

MPL Training Scheme Minimum 240 hours of training including PF and PM*					
Phase of training		Training Items	Flight and simulated flight training media – Minimum level requirement		Ground training media
Adapted Competency Model	**Advanced** Type rating training within an airline-oriented environment	• TEM and CRM • Landing training • All weather scenarios • LOFT • Abnormal procedures • Normal procedures • Upset prevention and recovery**	Aeroplane: Turbine Multi-engine Multi-crew certified	At least 6 take-offs and landings as PF	• E-learning • Part-task trainer • Classroom
			FSTD: Type VII	PF/PM	
	Intermediate Application of multi-crew operations in a high-performance, multi-engine turbine aeroplane	• TEM and CRM • LOFT • Abnormal procedures • Normal procedures • Multi-crew • Instrument Flight	FSTD: Type VI	PF/PM	

	Basic Introduction of multi-crew operations and instrument flight	• TEM and CRM • PF/PM complement • IFR cross-country • Instrument Flight	FSTD: Types IV or V	PF/PM	
	Core Flying Skills Specific basic single pilot training	• TEM and CRM • VFR cross-country • Solo flight • Night Flight*** • Basic Instrument Flight • Upset prevention and recovery** • Principles of Flight • Cockpit procedures	Aeroplane: Single engine (or multi-engine as appropriate) FSTD: Types I or III, Type II may be used for certain basic instrument flight training tasks	PF	

*PF – Pilot Flying; PM – Pilot Monitoring.
** UPRT is provided in modules starting with an on-aeroplane module in the Core flying skills phase, and completed with at least one FSTD training module during the type rating training.
*** Night flying experience should be gained on-airplane, which would be in the Core flying skills phase.

4.6   The four training phases are described as follows:

    (a)   **Phase 1 — Core Flying Skills**
    Specific basic single pilot training in a single-engine aeroplane. The trainees are required to pass a PPL(A) flight test conducted by an AFE as part of this phase.

    (b)   **Phase 2— Basic**
    Introduction of multi-crew operations and instrument flight. Any generic SOPs used should be congruent with the philosophy of the airline's SOPs.

    (c)   **Phase 3 — Intermediate**
    Application of multi-crew operations to a multi-engine turbine aeroplane. Introduction of the airline's operational procedures.

    (d)   **Phase 4 — Advanced**
    Type-rating training within an airline-oriented environment which takes into consideration the OEM's type rating requirements for the applicable aircraft type.

4.7   The trainee should have received flight instruction in order to achieve the final competency standard in all the competencies under the adapted competency model, for the issue of the MPL. Each phase of training in the flight instruction syllabus shall compose of instruction in the underpinning knowledge as well as in the practical training segments.

4.8   The trainees are expected to receive theoretical knowledge instruction at the ATPL level (which can include classroom work, interactive video, slide/tape presentation, learning carrels, computer based training, and other media as approved by CAAS, in suitable proportions).

4.9   The number of take-offs and landings to be completed in the aeroplane during the Advanced phase of the training course is stated in SASP Part 10.

FLIGHT TESTS

4.10 The ATO should refer to the SASP Part 2 for the MPL Flight Test and Instrument Rating Test that an applicant of the MPL(A) must undertake. Details of the tests can be found in the following forms:

(a) MPL/Aircraft Rating Test (FC32A)

(b) Instrument Rating Test (FC27)

5   TRANSITION

5.1 The ATO should revise its MPL training course that may be ongoing on or after 1 October 2021 to align with the adapted competency model as described in this AC FCL-9(2).