**OPERATIONS MANUAL (OM) Guidance**

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| --- | --- |
| **Scope** | **Operations Manual (OM) published as a guidance in Word format, based on AMC1 ORA.ATO.230(b).** |
| **Who is concerned** | **Training organisations wishing to establish a manual system in order to become an Approved Training Organisation (ATO).** |
| **Valid from** | **05.09.2023** |
| **Purpose** | **The purpose of this guidance is to assist an Approved Training Organisation (ATO) with guidance/information to compile their manual system. It covers the major aspects of the required structure and content of an Operations Manual (OM) and has been developed on the basis of the CAAT.** |

|  |  |
| --- | --- |
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| **Prepared by** | **PEL/TO** |
| **Released by** | **PEL Manager** |
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**Disclamer**

**The information provided solely represent a possible means of how to provide the required information. An organisation must add further information or adapt the guidance to their specific needs. Demonstration of compliance must be done by submitting to CAAT a compliance matrix to Part ORA and Part NCO, including a reference to regulation articles and relevant AMCs.**

**The content of this guidance is typically established for ATO under TCAR PEL part ORA and TCAR OPS Part NCO, either for Aeroplane or Helicopter including instrument flight.**

**The first pages of this Word guidance are to be deleted by the organisation when adapting this guidance.**

**Text shown in *blue* *italic* indicates where the organisation needs to provide its own specific information or data.**

**In addition, all references to manuals, chapters and sub-chapters are shown in blue and are to be verified to ensure compliance with the ATO specific and own documentation.**

# Cover Page

ATO’S LOGO

**ATO’S NAME**

**OPERATIONSMANUAL (OM)**

**ISSUE NO. XX/REVISION NO. XX**

**APPROVED BY**

*CAAT’S STAMP*

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**(NAME OF CAAT-DG)**

**DATE of APPROVAL**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Volume no….**

***Second page***

ATO’S LOGO

**ATO’S NAME**

**OPERATIONS MANAUL (OM)**

ISSUE NO. XX/REVISION NO. XX

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| --- | --- | --- | --- |
| **Prepared by** | Head of Training | *Original Signature* | DD MMM YYYY |
| **Reviewed by** | CMM | *Original Signature* |  |
| **Accepted by** | Accountable Manager | *Original Signature* |  |

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CAAT’s Stamp

**DISTRIBUTION LIST**

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| 01 | CAAT | Hard Copy  Electronic File | PEL Office |
| 02 | Accountable Manager |  |  |
| 09 | Library |  | Library |

This document should be made available to all personnel involved in the Approved Training Organisation. This does not mean that all personnel have to be in receipt of a manual but key personnel should have reasonable access to one. The following is a typical list of those who require access to the documents and is for *guidance only.*

*01 – CAAT*

*02 – Accountable Manager*

*03 – CMM*

*04 – Safety Manager*

*05 – Head of Training*

*06 – Chief Flight Instructor (if any)*

*07 – Chief Theoretical Knowledge Instructor (if any)*

*08 – Maintenance Manager*

*09 – Administration*

*10 – Library*

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# **List of Abbreviations**

**The following abbreviations are used within this manual:**

| Abbreviation | Definition |
| --- | --- |
| (A) | Aeroplane |
| A/C | Aircraft |
| ACM | Accountable Manager |
| AeMC | Aero-medical Centres |
| AFIS | Aerodrome flight information service |
| AFM | Aircraft Flight Manual |
| AI | Airspace Infringement |
| AIP | Aeronautical Information Publication |
| AMC | Acceptable Means of Compliance |
| AMDT | Amendment |
| AME | Aero Medical Examiner |
| AOC | Air Operator Certificate |
| APP | Appendices |
| ARM | Armed |
| Art. | Article |
| ASD | Accelerate Stop Distance |
| ATC | Air Traffic Control |
| ATIR | Air Traffic Incident Report |
| ATIS | Automatic terminal information service |
| ATO | Approved Training Organisation |
| ATS | Air Traffic Service |
| ATT | Attachment |
| AVGAS | Aviation gasoline |
| CAM | Continuing Airworthiness Manager |
| CDL | Configuration Deviation List |
| CG | Centre of Gravity |
| CL | Certification Leaflet |
| CoA | Certificate of Airworthiness |
| COM | Communications |
| CPL | Commercial Pilot Licence |
| CR | Class Rating |
| CRI | Class Rating Instructor |
| CRM | Crew Resource Management |
| CV | Curriculum Vitae |
| D | Difference Training |
| dd.mm.yyyy | Date format - Day-Month-Year |
| DDL | Deferred Defect List |
| e.g. | for example |
| ELT | Emergency Locator Transmitter |
| ENR | En route |
| FATO | Final Approach and Take-Off Area |
| FCL | Flight Crew Licence |
| FDP | Flight Duty Period |
| FI | Flight Instructor |
| Ft | feet |
| FTI | Flight Test Instructor |
| GEN | General |
| GM | Guidance Material |
| GND | Ground |
| HIGE | Hovering in Ground Effect |
| HIL | Hold Item List |
| HOGE | Hovering out of Ground Effect |
| HT | Head of Training |
| ICAO | International Civil Aviation Organisation |
| ID | Identity Document |
| IFR | Instrument Flight Rules |
| IR | Instrument Rating |
| IRI | Instrument Rating Instructor |
| kg | Kilogram |
| km | Kilometre |
| kt | Knots |
| LAPL | Light Aeroplane Pilot Licence |
| LD | Landing Distance |
| LDG | Landing |
| LM | Landing Mass |
| LoA | Log of Abbreviations |
| LoAPP | List of Appendices |
| LoC | List of Effective Chapters |
| LoR | Log of Revisions |
| MCCI | Multi Crew Coordination Instructor |
| MEL | Minimum Equipment List |
| METAR | Meteorological Air Report |
| MHz | Megahertz |
| MMEL | Master Minimum Equipment List |
| NM | Nautical Miles |
| No. | Number |
| NOTAM | Notice To Airmen |
| OBST | Obstacle |
| OEI | One Engine Inoperative |
| OM | Operations Manual |
| OMM | Organisation’s Management Manual |
| OPR | Operating |
| ORO | Organisation Requirements for Air Operations |
| PED | Portable Electronic Device |
| PIC | Pilot in Command |
| POH | Pilot’s Operating Handbook |
| PPL | Private Pilot Licence |
| PPR | Prior permission required |
| RAC | Rules of the air and air traffic control |
| RCC | Rescue Coordination Centre |
| REV | Revision |
| ROC | Rate of climb |
| SAR | Search and rescue |
| SDR | Special Drawing Rights |
| SEP | Single Engine Piston |
| SFI | Synthetic Flight Instructor |
| SIGMET | Significant Meteorological information |
| STBY | Stand-by |
| STI | Synthetic Training Instructor |
| T/O | Take-off |
| TAF | Terminal Aerodrome Forecast |
| TAS | True Air Speed |
| TBD | To Be Defined |
| TKI | Theoretical Knowledge Instructor |
| TM | Training Manual |
| TMG | Touring Motor Glider |
| TOM | Take-off Mass |
| TOR | Take-off Run |
| TRI | Type Rating Instructor |
| VFR | Visual Flight Rules |
| VMC | Visual Meteorological Conditions |
| ZFM | Zero Fuel Mass |

# **Introduction**

This Approved Training Organization’s (ATO) Operations Manual (OM) of *ATO* Name takes into account all aspects of the ATO. It contains instructions to enable personnel to perform their duties and gives guidance to students on how to comply with course requirements. It is available to all staff and students.

It has been established and will be maintained in full compliance with applicable national regulation, TCAR PEL Parts and TCAR OPS relevant parts and related Acceptable Means of Compliance (AMC) and Guidance Material (GM). Refer to OMM, Chapter 1.6 «Relevant Standards and Requirements».

The OM contains no information contrary to any approved documentation and any amendment

of such approved documentation is correctly reflected in it. Where a conflict of regulation or

procedure is noted between the Regulating Authority and this Manual, it is accepted that the

need to comply with the ‘Authority’ cannot be overridden.

# **Operations Manual Part A (OM Part A)**

## A list and description of all parts/volumes in the Operations Manual

|  |  |  |
| --- | --- | --- |
| OM | Operations Manual | **Part A** - describes in addition to the OMM the essential basics of the ATO, including general requirements, policies, procedures, instructions and guidelines for safe and effective flight training.  **Part B** - describes the technical part in the ATO, such as handling and operation of the aircraft (procedures, use of communication and navigation equipment) and the appropriate documents (checklists, MEL), defines operational limits and describes emergency procedures.  **Part C** - describes flight operation, especially the training routes or areas. Special emphasis is laid on flight planning including performance and fuel calculation, mass and balance and weather minima for flights with and without instructor.  **Part D** - regulates the different responsibilities for training, refresher and proficiency checks as well as the ATO staff standard evaluation. |

## Administration (function and management)

ATO’s can chose to develop this chapter of the OM or to draft a separate document regarding TCAR PEL ORA-GENrequirements.

In this case, refer to OMM Chapter 3 «Organisational Structures, Duties, Responsibilities and Accountabilities».

## Responsibilities (all management and administrative staff)

ATO’s can chose to develop this chapter of the OM or to draft a separate document regarding TCAR PEL ORA-GENrequirements.

In this case, refer to OMM Chapter 3 «Organisational Structures, Duties, Responsibilities and Accountabilities».

This Approved Training Organisation Management Manual (ATO-OMM) for *ATO Name* takes into account all aspects of the organisation, such as philosophies, policies, processes, guidelines and responsibilities and includes Safety and Compliance Management.

It has been developed in compliance with TCAR PEL relevant parts and related Acceptable Means of Compliance (AMC) and Guidance Material (GM). Refer to OMM, Chapter 1.6 «Relevant Standards and Requirements».

## Student discipline and disciplinary action

If disciplinary action is to be taken, the Head of Training may follow the process mentioned below:

|  |  |
| --- | --- |
| **Discipline** | Expectations of student’s behaviour are:   * compliance with the procedures; * following the instructions from instructor, OM and TM; * understanding and applying time management, taking into account of unforeseen situations; * appropriate judgement, learning interests and commitment; * accurate preparation for each training session; * clarifying doubts or confusions; * providing information as early as possible if a lesson cannot be attended; * remaining in good health (influence of alcohol, narcotics, drugs, medicines, blood donation, smoking, diving, ...). * … |

| **Step** | | **Remarks** | | **Action** |
| --- | --- | --- | --- | --- |
| Identification | | Possible inadmissible behaviours are:   * irresponsible attitude * clear and distinct lack of attitude * violation of legal requirements and/or provisions of the organisation’s documentation * any other behaviour not consistent with the qualities required of a pilot * any behaviour or attitude that endangers safety * influence of alcohol or drugs * medication whether prescribed or not, unless approval has been given by an Aero-Medical Examiner (AME) * ...   Unsatisfactory performance;   * Continued failed tests and examinations; * Continued learning disabilities or heavy difficulties; * Long term interruption(s) of the applicable training course; * Repeated absences without communication; * Continued missing interests and commitment * … | | Detection  Report by third party  Self-declaration |
| **Root cause** | **Classification** |
| Analysis of the ATO system | Procedure | Was the procedure clearly and correctly defined?  Was the task, procedure or action understood? | Failure of the provided provision, procedure and guideline | Review and correct provisions and procedures  Preventive action and awareness |
| Training | Was the learning subject including objective, instructional method and technique complete, accurate and appropriately defined? | Review the training effectiveness and enhance the training course standard.  Refer to TM Part 1, Chapter 1.10. «Training effectiveness» |
| Analysis of student discipline and performance | Inadmissible behaviour or violation | Was the action intended?  Were the results as intended? | Sabotage or malevolent act | Severe sanction required  Exclusion;  Regress;  Initiate legal action; |
| Was the violated procedure understood?  Knowingly violated? | Reckless violation | Final Warning and impose actions |
| Could this happen to anybody else?  Did it already occur? | Negligent/careless error | Provide additional explanation and/or instruction |
| Unsatisfactory performance | Refer to:  TM Part 4, Chapter 4.6 «Review procedures»;  TM Part 2, Chapter 2.5 «Student progress»;  TM Part 1, Chapter 1.9 «Assessments, tests and examinations» | | Suspend student from training if:  tests and examinations are failed continuously;  any remedial training remains unsatisfactory;  the learning interest and commitment of the student does not improve;  … |
| For reporting, refer to the reporting scheme, OMM Chapter 6 «Feedback and reporting system» and hazard identification and risk management | | | | |

## Approval/authorisation of flights

*The registration for the flight training is a basic approval for dual training flights.* Solo flights require a special «flight authorisation» issued by the responsible flight instructor. This authorisation includes full details of the intended training flight and the limits thereof.

*Insert a comprehensive reference to the solo flight authorisation form.*

The authorisation must be signed before each solo flight. Before signing it, the instructor has to check that the student:

* has a valid pilot license or a student pilot license (SPL)
* has a valid Medical;
* is able to apply basic navigation;
* can use R/T communication and operate the required systems and equipment;
* is able to divert to an alternate; and
* knows and understands the intended flight programme and training targets.

A FI with restricted privileges is not allowed to sign the flight authorisation for:

* the first solo flight by day or by night; and
* the first solo navigation/cross-country flight by day or by night.

In this case, the supervising flight instructor of the FI with restricted privileges shall issue the authorisation.

If the student has not done any flights within the last *2 weeks*, a flight at dual control is mandatory first.

The Flight Assignment has to be carried out by the student during the specific flight.

For weather limitations, refer to OM Chapter C.5 «Weather Minima (students - at various stages of training».

CAAT guidance material First solo flight guidance should be considered.

## Preparation of flying programme

The flying programme is to be considered as the daily course of flight activity. For the coordination and monitoring of flight instructors, students and aircraft scheduling and flight training operations and the daily flight activity, the following process applies:

| **Step** | **Remark** | **Responsible** | **Tool** |
| --- | --- | --- | --- |
| Entry data | * Appointment Schedule * Aircraft * Student * Instructor * Training Session * … | *Flight Instructor* | *Training Organisation Planning Excel-File*  *I://Org/Planning/...* |
| Monitoring/Supervising | Maintain and update data   * Modification * Annulment * Termination * … | *Administration* |
| Poor weather conditions   * Verify the need to reduce the maximum number of aircraft for the defined areas. * Limit number of aircraft or reroute to another area. * Inform instructors, students and administration * *…* | *Head of Training* |
| Store Data | * Archive * … | *Head of Training* |

*Describe here your own means for planning and monitoring the daily flying programme by mentioning the agenda including timetable, aircraft registration, nature of reservation (flight, maintenance, etc.), student, instructor, Training area etc.*

These means may consist of a simple paper agenda up to a sophisticated electronic application.

### Restriction of numbers of aircraft in poor weather

The maximum number of aircraft within training areas and traffic patterns are limited. The maximum number is to be reduced during poor weather conditions and/or flights might be delayed or rerouted to another training area.

|  |  |  |  |
| --- | --- | --- | --- |
| **Condition** | **Traffic Pattern** | **Training Area xy** | **Training Area xy** |
| Normal weather | X | X | X |
| Poor weather conditions and special weather phenomena | X | X | X |
| FI with restricted privileges | For an FI with restricted privileges the above-mentioned numbers of aircraft are decreased by X. | | |

## Crew composition and Command of Aircraft

ATO must describe crew composition during training session, student evaluation session or Skill test and proficiency check.

ATO must describe process to nominate PIC on ATO aircrafts, how this nomination is maintained or revalidated and who responsible of the nomination.

|  |  |  |
| --- | --- | --- |
| **Nature of Flight** | **PIC** | **Provision** |
| Dual Instructional Flight | Instructor | Valid licence, medical, instructor rating including associated rating  Listed on the current instructor table |
| Solo Flight | Student | Valid Student Pilot Licence (SPL)  Valid Medical  Written authorisation for student solo flight  FCL 055 before first solo cross-country flight |
| Check Flight | Applicant | Applicant performs the function as PIC under the evaluation and supervision of the Instructor/Examiner acting as safety pilot |

## Responsibilities of pilot-in-command (PIC)

*Describe here Pilot in command responsibilities and authority as per:*

NCO.GEN.105 Pilot in command responsibilities and authority.

In addition:

**NCO.GEN.110 Compliance with laws, regulations and procedure**

PIC responsibility to be familiar and to comply with national and international aviation legislation and agreed aviation practices and procedures in those areas/States where operations are conducted.

**NCO.GEN.135 Documents, manuals and information to be carried:**

PIC must ensure that the aircraft’s documentation is complete and carried on board.

**NCO.GEN.125 Portable electronic devices**:

PIC must ensure that no portable electronic device (PED) being used, including an electronic flight bag (EFB), which could adversely affect the performance of the aircraft systems and equipment or the ability of the flight crew members to operate the aircraft.

Being familiar with the provisions of the ATO manuals;

Ensuring that all training and flight briefings are completed before each flight and all persons on board are fully briefed, including about emergency equipment and procedures.

## Carriage of passengers

*Describe here ATO policy regarding carriage of passengers.*

The carriage of any other persons, not having a direct interest in the flight, shall be arranged in a restrictive manner and accepted by the head of training.

In addition to Head of Training acceptance, the instructor as well as the student must agree to accept the passenger. A boarding card must be issued by the ATO.

The following person are considered as crew members:

Student on training, CAAT inspector on duty may be carried on dual instructional flight, Examiner during skill test, proficiency check or assessment of competence.

**NCO.OP.150 Carriage of passengers:**

The pilot-in-command shall ensure that, prior to and during taxiing, take-off and landing, and whenever deemed necessary in the interest of safety, each passenger on board occupies a seat or berth and has his/her safety belt or restraint device properly secured.

**NCO.OP.130 Passenger briefing:**

The pilot-in-command shall ensure that before or, where appropriate, during the flight, passengers are given a briefing on emergency equipment and procedures.

A pilot in command carrying passenger(s) must comply with the provisions of **FCL.060 Recent experience.**

**NCO.OP.180 Simulated situations in flight**

The following table summarises the carriage of passengers:

|  |  |  |
| --- | --- | --- |
| **Nature of flight** | **Passengers allowed** | |
| **Yes** | **No** |
| Dual instructional flight | X |  |
| Student solo flight (flight on which a student pilot is the sole occupant of an aircraft) |  | X |
| Flights with abnormal or emergency procedure training, including critical manoeuvres |  | X |
| Training with Maximum Operating Mass | X |  |

### Title of Transport

*Describe here the content of the boarding card (if any)*

## Aircraft documentation

### Technical Log System and Journey Log

*Describe here your technical log system, journey log or equivalent used.*

**NCO.GEN.150 Journey log**

### Documents to be carried on Board

**NCO.GEN.135 Documents, manuals and information to be carried.**

*Describe here the list of documents, manuals and information shall be carried on each flight:*

|  |  |
| --- | --- |
| **Aircraft Blue Booklet** | * The Registration Certificate * The Airworthiness Certificate or Permit to Fly * Airworthiness Review Certificate or the Inspection Confirmation * The third-party Liability Insurance Certificate for aircraft * The insurance certificate in respect of liability for passengers, if applicable * Extract of the AOC, if applicable * The scope of utilisation of the aircraft in commercial operation, if applicable * The noise certificate, if applicable * The certificate for aero-towing of gliders, if applicable * The aircraft radio station operating licence issued by CAAT, if applicable * The list of specific approval, if applicable |
| **Aircraft Documentation**  **Manufacturer provided Documents** | * Current AFM, POH * Journey Log Book/Technical Log or equivalent, including Maintenance Release or equivalent * Checklists * MEL and CDL, if applicable * Hold Item List (HIL) or Deferred Defect List (DDL) |
| **Planning and Operational Documents** | * Operational/Navigation Flight Plan including Fuel Planning * Mass and Balance Documentation * Details of the filed ATS flight plan, if applicable * Current Weather Information and Forecast * NOTAM’s and DABS |
| **AIP**  **VFR Manual & Guide**  **Other commercially produced Route and Aerodrome Information and Documentation** | * Current and suitable aeronautical charts for the route of the proposed flight and all routes along which it is reasonable to expect that the flight may be diverted * Procedures and visual signals information to use by intercepting and intercepted aircraft * Any other documentation that may be pertinent to the flight or is required by the States concerned with the flight |
| **ATO and pilot’s relevant documents** | * Operations Manual of the ATO * Pilot’s Licence or Student Pilot Licence ) * Temporary Permission to act as pilot (if applicable) * Medical * ID or Passport * Syllabus * Pilot’s Logbook * Authorisation for Student Solo Flight |

* The Pilot in Command shall make these documents available within a reasonable time frame when requested by the competent authority (CAAT or the respective national authority).
* In case of loss or theft of one of the listed documents, the operation may continue until the flight reaches its destination or a place where replacement documents can be provided.

*Describe here conditions to retain documents and information at the aerodrome or operating site.*

## Retention of documents

Refer to OMM Chapter 9 «Record keeping».

**ORA.GEN.220 Record keeping**

## Flight crew qualification records (licences and ratings)

**TCAR PEL part FCL relevant chapters**

*Describe here the process regarding flight crew qualification records.*

The validity of the instructor’s licence, ratings, medical certificate and qualifications are monitored as well as student data, entry qualifications and training progress. Individual records for instructors and students are maintained.

Instructors only get or are to accept a training assignment, if they have the necessary and valid licence, instructor certificate, rating and medical certificate for the respective training.

The assigned instructor shall ensure that the student meets the prerequisites, has the necessary licence, rating and medical certificate, as applicable, for the intended training.

### Instructor’s records

|  |  |  |
| --- | --- | --- |
| Folder | * Contract/Agreement * Copy of ID or Passport * Copy of Licence and Ratings * Copy of Medical * Personal Data File * Training/Checking/Assessment Evidence * Competence and Skill Records * Correspondence * Feedback * ... | Administration Office |

#### Processes for monitoring instructor’s licence and qualifications

| **Step** | **Task** | **Frequency** | **Responsibility** |
| --- | --- | --- | --- |
| Data collection | * Establish instructor file | Upon employment/ contracting | Administration |
| Verification | * Check file for accurateness and completeness | Prior to starting any instructional task | Head of Training |
| Supervision and  Staff Training | * Organise/conduct training and checking/assessment according to training plan (staff training) and expiry dates | Plan yearly  Individual training, checking and assessment according to expiry date | Head of Training |
| File Management | * Amend and revise file timely according to revalidation or renewal and upon receiving evidence; and * Medical, Licences and Qualifications validity changes, as applicable | Continuously | Head of Training |
| Monitoring/Supervising Training Organisation Instructor Supervision in compliance with OM part D  Excel-File  (I://Org/Supervision/...) | * Maintain and update data * Supervision of data * Monitor advisory system for expiry dates | Continuously and prior to instructional assignment Latest advisory marker | Administration |
| Closing | Store file according to Record Keeping OMM, Chapter 9 «Record Keeping» | Leaving organisation | Head of Training |

### Student’s records

|  |  |  |
| --- | --- | --- |
| Folder | * Copy of ID or Passport * Copy of Medical * Personal Data File/Registration * Results of Progress Tests * Copy of Theory Exam Results * Copy of Radiotelephony Exam Results * Copy of LPC Exam Results * Correspondence * Feedback * *...* | Administration Office |
| Current Training Documentation | * Syllabus * Progress Log * Flight Assignment for Student solo Flight * Lessons and Briefings Working Paper * *...* | Student |

#### for monitoring student’s licence and qualifications

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Task** | **Frequency** | **Responsibility** |
| Student’s pre-requisites | * Verification that the student meets all the pre-requisites for the intended training | First enquiry | Head of Training |
| Data collection | * Establish student file | Upon registration | Administration |
| Verification | * Check student file for accurateness and completeness | Prior to starting training | Head of Training |
| File Management | * Amend and revise file in accordance with student progress; and * Medical, Licences and Qualifications validity changes, as applicable | Continuously | Instructor |
| (I://Org/Supervision/...) | * Amend and revise depending of students on activity in the ATO * Provide to the CAAT on demand | Continuously | Head of Training |
| Closing | * Store file according to Record Keeping OMM, Chapter 9 «Record Keeping and Archiving» | Completion of Training  Training stop | Head of Training |

## Revalidation (medical certificates and ratings)

TCAR PEL part FCL relevant charters

Applicable Medical regulation

The Head of Training is responsible that only instructors with valid licence and qualifications are assigned for flight training. However, instructors hold the ultimate responsibility for the validity of their licence, ratings and certificates.

The following process specifies the action to be taken:

| **Step** | **Task** | **Tool** | **Responsibility** |
| --- | --- | --- | --- |
| Notification | *Informs the instructor that a rating or the medical expires (within 3 months)* | * *Instructor Supervision Excel-File* * *(I://Org/Supervision/...)* * *E-Mail* * *…* | *Administration* |
| Organisation | *Makes appointment with Examiner or AeMC/AME* | * *Telephone/by the best practicable means* * *CAAT Examiner-List* * *List of AeMC/AME* | *Instructor* |
| Conducted by | *Performs revalidation*   * *Proficiency check* * *Medical examination* * *1h training flight, required minimum flight experience, application for revalidated rating (SEP/TMG only)* * *Assessment of competency* * *...* | | *Instructor* |
| Administration and Notification of CAAT | *Submission of the forms and documents related to the conducted check/examination* | * *CAAT administrative requirements, forms and documents* * *CAAT homepage* | *Examiner*  *AME* |
| Reception of the new Licence or Certificate | *Check for correctness and completeness.*  *Sign where required* | * *Licence* * *Certificate* | *Instructor* |
| Information | *Informs Head of Training*  *Submission of the relevant copy* | * *Copy of new Licence/Medical* | *Instructor* |
| File Management | *Amend and revise Instructor Supervision Excel-File timely according to revalidation or renewal and upon receiving evidence/copy* | * *Instructor Supervision Excel-File* * *(I://Org/Supervision/...)* | *Administration* |

## Flying duty period and flight time limitations (Instructors)

*Note: CAAT is close to issue a regulation regarding Flight time limitation for instructors and students in ATOs.*

*Chapter A.14 to A.17 will have to be filled as soon as the new rules will be available*

**Overview relation: Duty/Duty Period/Flight Time and Flight Duty Period**

*Note: CAAT is close to issue a regulation regarding Flight time limitation for instructors and students in ATOs.*

*Chapter A.14 to A.17 will have to be filled as soon as the new rules will be available*

*Describe here restrictions for instructors that cannot be exceeded not be exceeded:*

**Note:** Instructors must have sufficient time allocated to prepare next mission and perform administrative tasks e.g. filling student training records

**Unforeseen circumstances - instructor’s/pilot in command’s discretion**

Under unforeseen circumstances the instructor/pilot in command may modify the limits on duty period, flying hours or rest requirements by complying with the following:

**Recording of duty, flight duty and rest periods**

The instructor and student must ensure that all record relevant data are in compliance with the flight time limitations by using the “*FTL record form*”.

Copies of these records shall be delivered to the Head of Training on a monthly basis.

Where a flight instructor is engaged in more than one organisation and/or operator, the instructor concerned shall maintain a personal record, including:

* Flight times;
* Start, duration and end of each duty period and/or flight duty period; and
* Rest periods and days free from all duties.

The instructor shall make such records available to all the concerned organisations/operators.

## Flying duty period and flight time limitations (Students)

*Note: CAAT is close to issue a regulation regarding Flight time limitation for instructors and students in ATOs.*

*Chapter A.14 to A.17 will have to be filled as soon as the new rules will be available*

## Rest periods (Instructors)

*Note: CAAT is close to issue a regulation regarding Flight time limitation for instructors and students in ATOs.*

*Chapter A.14 to A.17 will have to be filled as soon as the new rules will be available*

## Rest periods (Students)

*Note: CAAT is close to issue a regulation regarding Flight time limitation for instructors and students in ATOs.*

*Chapter A.14 to A.17 will have to be filled as soon as the new rules will be available*

## Pilot’s log books

*Describe the log book form used by the organisation.*

FCL.050 Recording of flight time

*For example:*

*The organisation uses paper format and provides/sells to students the official means provided by CAAT.*

At the beginning of a training course, the instructor explains to the assigned student:

* the format and content of the pilot log book and how relevant data and information are to be entered;
* the significance of the log book and its content as evidence;
* the importance of the use of ink or indelible pencil with a proper and clear handwriting;
* the relevance to make entries as soon as practicable after any flight undertaken;
* the importance to carry the pilot log book during all flights or at least during all solo cross-country flights;
* the requirement to present the pilot log book for inspection upon request by an authorised representative of CAAT or other national aviation authority (competent authority);
* acts which are considered as violation against the provisions, notably the entry of false information in the pilot log book and the prosecution thereof according to CAAT regulation for falsification of documents.

The instructor regularly checks the accuracy and completeness of the student’s entries.

On completion of a course of training the instructor signs off the respective training.

*For digital format, insert a traceable reference to the applicable user manual of the concerned application. As the student may still have paper format, the following guidance may still apply:*

|  |  |
| --- | --- |
| **Nature of Flight** | **Endorsement Text/Stamp** |
| Variants of a class rating – difference training (D) | * Difference training to ... (aircraft type and variant) successfully completed * Location and date * Instructor data * Signature |
| Variants of a class rating – familiarisation training | * Familiarisation training to ... (subject, aircraft type and variant) successfully completed * Location and date * Instructor data, if/as applicable * Signature |
| ... | ... |
| Training flight for class rating touring motor glider or single engine piston | * CAAT Examiner Guide TCAR PEL Part FCL AEROPLANE / HELICOPTER |
| Completion of a course of training for licence issue or rating |
| ... | * ... |

## Flight planning (general)

No flight shall commence without a complete and adequate planning for the intended flight.

Both, the instructor/examiner and the student/applicant, must be familiar with the planning and the actual data as relevant for the intended flight.

### Flight preparation instructions

*Describe here the requirements regarding flight preparation with reference to:*

**NCO.OP.135 Flight preparation,**

**NCO.POL.110 Performance - general**

* Refer to OM chapter C.1Performance (legislation, take-off, route, landing etc.)

### Minimum flight altitudes.

*Describe here* *the method of determination and application of minimum altitudes including:*

- a procedure to establish the minimum altitudes/flight levels for visual flight rules (VFR) flights including at night; and

- a procedure to establish the minimum altitudes/flight levels for instrument flight rules (IFR) flights.

**NCO.SPEC.130 Minimum obstacle clearance altitudes — IFR flights**

* Refer to OM chapter C.2.6 «Minimum Safe Altitude».

### Criteria and responsibilities for determining the adequacy of aerodromes to be used.

*Describe here* *the method of determination and application for the adequacy of aerodromes to be used with reference to:*

**TCAR OPS Part DEF**

**NCO.OP.100 Use of aerodromes and operating sites**

The pilot-in-command shall only use aerodromes and operating sites that are adequate for the type of aircraft and operation concerned.

* Refer to OM chapter **C.2.3 Selection and use of aerodromes, planning minimas**

### Methods and responsibilities for establishing aerodrome operating minima.

Reference should be made to procedures for the determination of the visibility and/or runway visual range (RVR) and for the applicability of the actual visibility observed by the pilots, the reported visibility and the reported RVR

**NCO.OP.110 Aerodrome operating minima — aeroplanes and helicopters**

**NCO.OP.111 Aerodrome operating minima — 2D and 3D operations**

**NCO.OP.112 Aerodrome operating minima — circling operations with aeroplanes**

**NCO.OP.113 Aerodrome operating minima — onshore circling operations with helicopters**

**NCO.OP.115 Departure and approach procedures — aeroplanes and helicopters**

**NCO.OP.116 Performance‐based navigation — aeroplanes and helicopters**

### Presentation and application of aerodrome and en-route operating minima.

*Describe here* *the way to use minima box in the IFR approach charts including explanation for CDFA approach.*

### Interpretation of meteorological information.

*Describe here* *the explanatory material on the decoding of meteorological (MET) forecasts and MET reports relevant to the area of operations, including the interpretation of conditional expressions*

### Determination of the quantities of fuel, lubricant and other consumable carried.

**NCO.OP.125 Fuel/energy and oil supply — aeroplanes and helicopters**

**AMC1 NCO.OP.125(b) Fuel/energy and oil supply — aeroplanes and helicopters**

**AMC2 NCO.OP.125(b) Fuel/energy and oil supply — aeroplanes and helicopters**

**GM1 NCO.OP.125(b) Fuel/energy and oil supply — aeroplanes and helicopters**

**GM2 NCO.OP.125(b) Fuel/energy and oil supply — aeroplanes and helicopters**

*Describe here* *the methods by which the quantities of fuel (fuel policy), oil and water methanol to be carried are determined and monitored in-flight. ATO Safety management system (SMS) case study should be necessary.*

This section should also include instructions on the measurement and distribution of the fluid carried on board. Such instructions should take account of all circumstances likely to be encountered on the flight, including the possibility of in-flight re-planning and of failure of one or more of the aircraft’s power plants. The system for maintaining fuel and oil records should also be described.

Aircraft type specific,

* information and data for fuel consumption;
* detailed instruction on how to use the provided data;
* unit of fuel measurement; and
* for some helicopters, if a fuel icing protection is required below a certain temperature

are to be found in the manual provided by the manufacturer. Refer to the «List of aircraft used for training» column «Operations Manual Part B Reference».

For the applicable fuel calculation form, refer to *AppXY «Fuel calculation form».*

Both, the instructor/examiner and the student/applicant are familiar with the fuel calculation and the actual fuel data of the aircraft used.

As part of the pre-flight planning, the pilot in command/student shall make a careful calculation of the amount of fuel required specific to the intended flight session. In addition, the following shall be taken into consideration:

* the correct and consistent application of the fuel consumption data including associated unit of measurement as applicable for the concerned aircraft;
* In computing the fuel required including to provide for contingency, the following shall be taken into consideration:
* forecast meteorological conditions;
* anticipated ATC routings and traffic delays;
* procedures for loss of pressurisation or failure of one engine while en-route, where applicable; and
* any other condition that may delay the landing of the aircraft or increase fuel and/or oil consumption.

Nothing shall preclude amendment of a flight plan in-flight, in order to re-plan the flight to another destination, provided that all requirements can be complied with from the point where the flight is re-planned.

As part of the briefing, the instructor shall evaluate the student’s fuel calculation prior to commencing the flight.

The following *table and methodology are an example to facilitate the determination of fuel quantities.*

|  |  |
| --- | --- |
| Item | Definitions |
| Taxi fuel | Fuel expected to be used for taxiing, with a standard allowance specified for each type of aircraft. |
| Trip fuel | Fuel used for take-off, climbing, cruising, descent and the arrival procedure until landing at the destination aerodrome, given the day’s conditions, with a standard allowance for the arrival procedure specified for each type of aircraft. |
| Contingency fuel | Fuel required to compensate for unforeseen factor:  The higher of the following two values: - 5% of the trip fuel, - A standard allowance specified for each type of aircraft. |
| Alternate fuel | Fuel required, given the day’s conditions, to perform the missed approach procedure, cruising (at normal cruising speed), descent and the arrival procedure up until landing at the alternate aerodrome that would require the greatest quantity of fuel; a standard allowance for the arrival procedure is specified for each type of aircraft |
| Final reserve fuel | A standard allowance is specified for each type of aircraft. |
| Additional Fuel | Only for flights with no alternate aerodrome: a standard allowance is specified for each type of aircraft. |
| Extra fuel | Fuel to take into account anticipated delays or specific operational constraints |

*Rules for standard allowance should be determined by the ATO, the related values should be reported in* OM part B chapter B.2.5 Flight planning.

Standard allowances for the relevant aeroplane

|  |  |
| --- | --- |
| Item | Standard allowances |
| Taxi fuel |  |
| Arrival procedure |  |
| Contingency fuel |  |
| Alternate fuel |  |
| Final reserve fuel |  |
| Additional Fuel |  |

*Describe here* *ATO rules (if any) regarding minimum quantities on board.*

e.g; No flight may be undertaken with a quantity of fuel less than what is required for one hour of flying.  
Solo flights: A minimum quantity of extra fuel corresponding to 30 minutes cruising must be carried on all solo flights.

* Refer to B.2.5 Flight planning Fuel policy for the relevant aircraft.
* Refer to OM chapter C.2.5 **« Oil quantity ».**

### Mass and centre of gravity.

**NCO.POL.105 Weighing**

*Describe here* *the general principles of mass and centre of gravity including the following:*

definitions;

methods, procedures and responsibilities for preparation and acceptance of mass and centre of gravity calculations;

the policy for using standard and/or actual masses;

the method for determining the applicable passenger, baggage and cargo mass;

the applicable passenger and baggage masses for various types of operations and aircraft type;

general instructions and information necessary for verification of the various types of mass and balance documentation in use;

last-minute changes procedures;

specific gravity of fuel, oil and water methanol;

seating policy/procedures;

for helicopter operations, standard load plans.

* Refer to **C.3 Loading (load sheets, mass, balance and limitations)**
* Refer to **B.2.6 Mass and balance for the relevant aircraft**

### Air traffic services (ATS) flight plan.

*Describe here* *procedures and responsibilities for the preparation and submission of the ATS flight plan. Factors to be considered include the means of submission for both individual and repetitive flight plans.*

* Refer to OM chapter C..2.1 «Air traffic services (ATS) flight plan».

### Operational flight plan.

*Describe here* *procedures and responsibilities for the preparation and acceptance of the operational flight plan.*

The use of the operational flight plan should be described, including samples of the operational flight plan formats in use.

### Operator’s aircraft technical log.

*Describe here* *the responsibilities and the use of the operator’s aircraft technical log should be described, including samples of the format used.*

### Ground handling instructions.

*Describe here the applicable* *ground handling instructions.*

### Fuelling procedures.

*Describe here fuelling procedures,*

Generalities

And if relevant:

**NCO.OP.145 Refuelling with passengers embarking, on board or disembarking**

**NCO.OP.147 Refuelling with engine(s)and/or rotors turning – helicopters**

### De-icing and anti-icing on the ground.

*Describe here the de-icing and anti- icing policy and procedures for aircraft on the ground.*

These should include descriptions of the types and effects of icing and other contaminants on aircraft whilst stationary, during ground movements and during take-off. In addition, a description of the fluid types used should be given, including the following:

proprietary or commercial names,

characteristics,

effects on aircraft performance,

hold-over times,

precautions during usage.

Flight Procedures:

**NCO.OP.165 Ice and other contaminants — ground procedures**

### Navigation Procedures.

*Describe here all operational procedures in chronologic order and navigation procedures, relevant to the type(s) and area(s) of operation.*

For training purpose it’s a good practice to provide students guidance on the way to operate ATO aircrafts.

Special consideration should be given to:

standard navigational procedures, including policy for carrying out independent cross-checks of keyboard entries where these affect the flight path to be followed by the aircraft; and

required navigation performance (RNP),

in-flight re-planning;

procedures in the event of system degradation.

This chapter should also include guidance to the following items:

Use of radio aids,

Use of automation,

Requirement to consider a stabilized approach,

Criteria for the continuation of the approach or o trigger a go-around,

The approach tracking criteria for the continuation of the approach or to trigger a go-around.

**NCO.GEN.115 Taxiing aeroplanes**

**NCO.GEN.120 Rotor engagement-helicopter**

**NCO.OP.116 Performance-based navigation — aeroplanes and helicopters**

**NCO.OP.120 Noise abatement procedures — aeroplanes and helicopters**

**NCO.OP.140 Transport of dangerous goods**

*Should be prohibited by the ATO*

**NCO.OP.155 Smoking on board — aeroplanes and helicopters**

**NCO.OP.160 Meteorological conditions**

**NCO.OP.170 Ice and other contaminants — flight procedures**

**NCO.OP.175 Take‐off conditions — aeroplanes and helicopters**

**NCO.OP.180 Simulated situations in flight**

**NCO.OP.190 Use of supplemental oxygen**

**NCO.OP.195 Ground proximity detection**

**NCO.OP.200 Airborne collision avoidance system (ACAS II)**

**NCO.OP.205 Approach and landing conditions — aeroplanes and helicopters**

**NCO.OP.210 Commencement and continuation of approach — aeroplanes and *helicopters***

### Altimeter setting procedures.

*Describe here* *policy regarding altimeter setting in different flight phases.*

**NCO.OP.101 Altimeter check and settings**

### Policy and procedures for in-flight fuel management.

*Describe here*  *the method and documentation for*:

* In flight fuel management
* Minimum fuel quantity to divert
* abnormal situation management

**NCO.OP.185 In-flight fuel/energy management**

### Adverse and potentially hazardous atmospheric conditions.

Procedures for operating in, and/or avoiding, adverse and potentially hazardous atmospheric conditions, including the following:

* Thunderstorms,
* icing conditions,
* turbulence,
* windshear,
* jet stream,
* volcanic ash clouds,
* heavy precipitation,
* sand storms,
* mountain waves,
* significant temperature inversions.

### Wake turbulence

Wake turbulence separation criteria, taking into account aircraft types, wind conditions and runway/final approach and take-off area (FATO) location. For helicopters, consideration should also be given to rotor downwash.

### Use of the minimum equipment and configuration deviation list(s).

Note: It is not mandatory for ATOs to develop MEL for aircraft used for training. In this case:

A flight shall not be commenced when any of the aeroplane instruments, items of equipment or functions required for the intended flight are inoperative or missing.

Nevertheless, it’s a good practice, when training commercial pilots, to develop student decision making. The use of MEL is a part of Knowledge and attitude to be developed during CPL course.

Refer to the «List of aircraft used for training» column «Operations Manual Part B Reference» to identify aircraft for which a specific MEL is provided.

A Minimum Equipment List (MEL) provides guidance to the pilot in command/instructor when particular equipment is inoperative and enables the pilot in command/instructor to determine whether a flight session may be commenced or continued from any intermediate stop.

Refer to: **NCO.GEN.105 Pilot‐in‐command responsibilities and authority § (a) (7) and (8)**

The MEL takes into consideration the aircraft specific equipment, configuration, scope of utilisation and conditions for the serviceability relevant to the scope of the training activity.

The provisions of the MEL are applicable until the aircraft first moves by its own power, after which, it is down to the pilot in command’s/instructor’s judgement whether a flight session should continue if the failure of an unserviceable item becomes apparent after a flight has commenced.

Generally, the MEL is based on a Master Minimum Equipment List (MMEL), developed by the Type Certificate Holder and approved by the Certification Authority. The following conditions apply:

The MEL and any amendment thereto shall be notified to the Office of Civil Aviation Authority of Thailand (CAAT) prior to use and will not deviate from the Aircraft Flight Manual (AFM) limitations or emergency procedures or from any applicable airworthiness directives and will not be less restrictive than the MMEL, if applicable.

For NCO **aircraft** refer to:

**NCO.GEN.155 Minimum equipment list**

**NCO.IDE.A.105 Minimum equipment for flight**

### Briefing scheme.

As part of the briefing, the instructor shall evaluate the student’s flight planning prior to commencing a flight. A complete and adequate flight planning shall include at least:

|  |  |
| --- | --- |
| **Organisation** | * Mission definition * Aircraft status * Sunrise/Sunset – OPR hours * Current charts and maps/ AIP/ VFR/IFR Manual/Other commercially produced route and aerodrome / operating site information * ... |
| **Navigation** | * VFR/IFR navigation flight plan * Flight announcement * ATC flight plan * NOTAMs * DABS * GNSS constellation status |
| **Weather** | * METAR * TAF * GAFOR * Significant Weather Chart * Wind Chart * GAMET * SIGMET * SNOWTAM * Weather Radar * Webcam * ... |
| **Airport** | * PPR – Aerodrome / operating site condition of availability * Ground services incl. Fuel * ... |

|  |  |
| --- | --- |
| **Performance** | * Elevation/Density * Mass and Balance   **Runway**   * available length * surface * strength * condition   **Take-off**   * Ground roll * T/O distance * Climb performance   **Landing**   * LDG distance * Ground roll   **Missed approach**   * Climb performance   **Fuel**   * Trip * Reserve * Alternate * Additional * ... |

**Documentation used by the ATO to support flight planning should be inserted.**

## Safety (general)

It is everyone’s responsibility to provide a safe and secure operation. Adherence to the safety policy, established operating policies, procedures and instructions as published in the organisation’s documentation, including the use of the reporting schemes, and an in-depth knowledge of comprehensive emergency response procedures are essential aspects for a safe and secure operation.

The purpose of the safety management of the organisation is to maintain and, where practicable, improve safety levels in all its activities, and to minimise its contribution to the risk of an aircraft accident, incident as far as is reasonably practical. The **Flight Safety Manual (FSM)** is one of the tools developed by The ATO for this purpose.

Besides the responsibility of the training organisation's management, instructors are an important driving force to demonstrate their commitment to safety, to promote safety in an everyday activity during training and to operate any aircraft.

### Equipment

All instructors/pilot in command shall operate the aircraft according to the respective OM part B, flight manual (AFM)/pilot’s operating handbook (POH) and where applicable, for specific equipment, manufacturer provided operating instructions. The equipment should always be used to the fullest and optimum capacity and must be handled with care.

The instructor/pilot in command shall ensure that instruments and equipment required for the execution of a flight are installed in the aircraft and are operative, unless operation with inoperative equipment is permitted by the minimum equipment list (MEL) or list of deficiencies (refer also to OM, Part B, Chapter **B.2.9 Minimum equipment list**

. The utmost care as described in the relevant checklist/procedure should be taken.

### Emergency Equipment

In accordance with the pre-flight procedure for the concerned aircraft, the emergency equipment is to be checked for availability and serviceability.

*The standard emergency equipment of the organisation’s training aircraft consists of:*

|  |  |
| --- | --- |
| **Equipment** | **Check if available** |
| *Fire Extinguisher*  **NCO.IDE.A/H.160** | *Check that located in the designated place;*  *Check easy accessibility;*  *Check pressure gauge reading or indicator in the operable range or position;*  *Check expiry date/last inspection.* |
| *Emergency escape equipment*  *(e.g. emergency safety hammer)* | *Check that correctly fitted and secured;*  *Check that easy accessible.* |
| *First Aid Kit*  **NCO.IDE.A/H.145** | *Check that correctly fitted and secured;*  *Check the seal* |
| *independent portable light for each crew member station;*  **NCO.IDE.A/H 115** | *Check that correctly fitted and secured;*  *Check functionality.* |
| *Supplemental Oxygen*  **NCO.IDE.A/H.155** | *Check that correctly fitted and secured;*  *Check functionality;*  *Check amount of oxygen.* |
| ...Flight over water  **NCO.IDE.A/H.175** | ... *Check that located in the designated place;*  *Check easy accessibility;*  *Check expiry date/last inspection.* |

### Emergency Locator Transmitter (ELT) accidental activation

After each flight, the ELT has to be checked for an accidental activation by selecting frequency 121.5 MHz or 406 MHz on the respective radio equipment. In case of an accidental activation unless otherwise instructed by the manufacturer operating manual:

reset ELT or switch the ELT off;

then switch back to position ARM;

in case of a PLB, switch off the transmitter according to the user manual;

call Bangkok RCC.

**NCO.IDE.A.170 Emergency locator transmitter (ELT)**

### Radio Communication and listening watch

Pilots are required to hold a radio telephony operator's licence as evidence that they are able to master the standard ICAO phraseology for communication with air traffic control. In addition, they also have to demonstrate that they possess the necessary proficiency in the languages used in flight radio communication by complying with FCL.055 requirements.

Student pilots license (SPL) holder without a radio telephony certificate shall be guided and trained by the instructor according to the stage of the course of training and supervised during solo flight.

Student pilots license (SPL) holder must comply with FCL 055 before first solo cross-country flight.

### Policy on the disposition of communication equipment

The following general setting may be applied on aircraft equipped with two independent radio communication transceivers:

|  |  |  |  |
| --- | --- | --- | --- |
| **COM 1** | | **COM 2** | |
| Frequency in Use | Frequency STBY | Frequency in Use | Frequency STBY |
| *Active Air – Ground Frequency* | *Previous/Next Air –Ground Frequency* | *121.5* | *ATIS* |

### Aircraft equipped with one radio communication transceiver

The following general setting may be applied on aircraft equipped with one single radio communication transceiver:

|  |  |
| --- | --- |
| **COM 1** | |
| Frequency in Use | Frequency STBY |
| *Active Air – Ground Frequency* | *Previous/Next Air –Ground Frequency* |

### Listening Watch

Where an aircraft is equipped with radio communication equipment, the pilot in command/instructor/student shall ensure that a listening watch is maintained.

VFR flights operating in uncontrolled airspace shall maintain continuous air-to-ground voice communication watch on the appropriate communication frequency.

IFR and VFR flights operating in controlled airspaces shall establish continuous two-way communication with the appropriate air traffic control unit on the respective communication channel/frequency.

### Pilot’s position reports and broadcast

A pilot is to make a position report whenever it is reasonably necessary to do so to avoid a collision, or the risk of a collision, with another aircraft. A position report includes:

aircraft call sign or aircraft call sign “solo” (when student pilot is flying solo);

type of aircraft;

position of the aircraft; and

the pilot’s intentions.

In addition to the position reports, pilots should listen to other broadcasts to increase situational awareness.

### Recommended broadcasts in the vicinity of non-controlled aerodromes

In the vicinity of a non-controlled aerodrome, pilots must make a broadcast whenever it is reasonably necessary to avoid a collision, or the risk of a collision, with another aircraft:

|  |  |  |  |
| --- | --- | --- | --- |
| **Phase of Flight** | **Radio Broadcast** | **Example** | Refer also to Official VFR Guide to Basic AIP, Chapter RAC 1.3 |
| Aircraft first moving for a flight | Immediately before, or during, taxiing | HS-ABC taxiing to holding point runway 10 |
| At the holding area of the active runway | prior to lining up on the active runway | HS-ABC ready for departure runway 10 |
| In take-off position | when starting the take-off roll | HS-ABC taking off runway 10 |
| Inbound of a non-controlled aerodrome | 5 minutes, or further, from the aerodrome with an estimated time of arrival for the aerodrome | HS-ABC position sample-village 5000 ft for landing in model aerodrome |
| Overhead and ready to join the circuit | Immediate before joining the circuit | HS-ABC overhead, will join downwind runway 20  HS-ABC base runway 20  HS-ABC final runway 20 |
| flight through the vicinity of, but not land at, a non-controlled aerodrome | When the aircraft enters the vicinity of the aerodrome | HS-ABC overhead 4500 ft, crossing direction sample village |

### Occurrence Reporting

The main target of the occurrence reporting system is to avoid any re-occurrence and to learn from reported events.

All persons involved in the organisation or in civil aviation are to report any occurrence endangering or potentially endangering aviation safety. The following two reporting systems are in place within the organisation:

Mandatory reporting; and

Voluntary reporting.

ORA.GEN.160 and AMC1 ORA.GEN.160 Occurrence reporting

**Definitions**

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| **Incident** | «Incident» means an occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation; |
| **Serious incident** | «Serious incident» means an incident involving circumstances indicating that there was a high probability of an accident and is associated with the operation of an aircraft, which in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down. |
| **Accident** | «Accident» means an occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:  a person is fatally or seriously injured as a result of:  being in the aircraft, or,  direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or,  direct exposure to jet blast,  except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or  the aircraft sustains damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes) or minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike; or  the aircraft is missing or is completely inaccessible; |
| **Hazard** | Condition or object with the potentialof causing injuries to personnel, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function. |
| **ATIR** | Air Traffic Incident Reports result from incidents in connection with ATC services.  Refer to AIP Thailand. |
| **Occurrences** | Occurrences are incidents that pose a significant risk to aviation safety |

**Mandatory reporting**

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| **Accident and Serious Incident** | ⇨ Refer to 1.20.10.3  «Reporting of a serious incident or accident» |

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| **Laser attack** | ⇨ Refer to 1.20.10.4.1  «Specific report for laser attack» |

| **Reportable occurrences** | ⇨ Refer to 1.20.10.4  «Occurrence reporting» |
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| **ก. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ดำเนินการเดินอากาศทุกประเภท และผู้ทำการบินทั่วไปด้วย**  **เครื่องบินที่มีใบสมควรเดินอากาศแบบมาตรฐานที่มีมวลรวมวิ่งขึ้นสูงสุดเกินกว่า 5,700 กิโลกรัม**  **หรือมีความจุที่นั่งเกินกว่า 9 ที่นั่ง หรือเครื่องบินที่ติดตั้งเครื่องยนต์แบบกังหันไอพ่น (Turbojet**  **Engine) อย่างน้อยหนึ่งเครื่องยนต์**  **1. Air Operation**  **1.1Flight preparation**  Use of incorrect data or erroneous entries into equipment used for navigation or  performance calculations which has or could have endangered the aircraft, its  occupants or any other person.  **1.2 Aircraft preparation and handling on ground**  (1) Loading and use of contaminated or incorrect type of fuel or other essential  fluids (including oxygen, nitrogen, oil, and portable water).  (2) Missing, incorrect or inadequate de-icing/anti-icing treatment.  (3) Incorrect handling or loading of passengers, baggage, mail or cargo, likely to  have a significant effect on aircraft mass and/ or balance ( including significant  errors in loadsheet calculations).  (4) Boarding equipment removed leading to endangerment of aircraft occupants.  (5) Incorrect stowage or securing of baggage, mail or cargo likely in any way to  endanger the aircraft, its equipment or occupants or to impede emergency  evacuation.  (6) Non-compliance with required aircraft ground handling and servicing  procedures, especially in de-icing, refueling or loading procedures, including  incorrect positioning or removal of equipment.  (7) Significant spillage during fueling operations.  (8) Loading of incorrect fuel quantities likely to have a significant effect on aircraft  endurance, performance, balance or structural strength.  (9) Failure, malfunction or defect of ground equipment used for ground handling,  resulting into damage or potential damage to the aircraft (for example: tow bar or  GPU (Ground Power Unit).  (10) Damage to aircraft by ground handling equipment or vehicles including previously  unreported damage.  (11) Under fueling.  **1.3 Take-off and landing**  (1) Taxiway or runway excursion.  (2) Actual or potential taxiway or runway incursion.  (3) Final Approach and Take-off Area (FATO) incursion.  (4) Take-off and landing or attempted take-off and landing on a closed or engaged  runway.  (5) Any rejected take-off.  (6) Inability to achieve required or expected performance during take-off, initial climb,  go-around or landing.  (7) Actual or attempted take- off, approach or landing with incorrect configuration  setting.  (8) Tail, blade/wingtip or nacelle strike during take-off or landing.  (9) Approach continued against air operators stabilized approach criteria.  (10) Continuation of an instrument approach below published minimums with adequate  visual references.  (11) Precautionary or forced landing.  (12) Undershoot or overshoot.  (13) Hard landing.  **1.4 Any phase of flight**  (1) Loss of control.  (2) Aircraft upset, exceeding normal pitch attitude, bank angle or airspeed  inappropriate for the conditions.  (3) Level bust.  (4) Activation of any flight envelop protection, including stall warning, stick shaker, stick  pusher and automatic protections.  (5) Unintentional deviation of airspeed, intended or assigned track or altitude that  result in the activation of a deviation notification.  (6) Exceedance of aircraft flight manual limitation.  (7) Operation with incorrect altimeter setting.  (8) Jet blast or rotor and prop wash occurrences which have or could have endangered  the aircraft, its occupants or any other person.  (9) Misinterpretation of automation mode or of any flight deck information provided  to the flight crew which has or could have endangered the aircraft, its occupants  or any other person.  (10) Dangerous goods accident, incident, undeclared or misdeclared dangerous goods,  or dangerous goods occurrence as defined in the ICAO Technical Instructions for  the Safe Transport of Dangerous Goods by Air.  (11) Evacuation of crew and/or passengers.  (12) Operation of aircraft that deviate from aircraft equipage or operations approval  required by applicable regulations.  **1.5 Other types of occurrences**  (1) Unintentional release of cargo or other externally carried equipment.  (2) Loss of situational awareness ( including environmental, mode and system  awareness, spatial disorientation, and time horizon).  (3) Any occurrence where the human performance has directly contributed to or could  have contributed to an accident or a serious incident.  (4) Inadvertent slide deployment. | |
| **2. TECHNICAL OCCURRENCES**  **2.1 Structure and systems**  (1) Loss of any part of the aircraft structure in flight.  (2) Loss of a system.  (3) Loss of redundancy of a system.  (4) Leakage or spillage of oil, fuel or other fluid which resulted or could resulted in a  fire hazard or possible hazardous contamination of aircraft structure, systems or  equipment, or which has or could have endangered the aircraft, its occupants or  any other person.  (5) Fuel system malfunctions or defects, which had an effect on fuel supply and/ or  distribution.  (6) Malfunction or defect of any indication system when this results in misleading  indications to the crew.  (7) Abnormal functioning of flight controls such as asymmetric or stuck/jammed flight  controls ( for example: lift ( flap/ slat) , drag ( spoilers) , attitude control ( ailerons,  elevators, rudder) devices).  (8) Failure of or significant damage to aircraft primary structure.  (9) Blown tire or wheel failure.  (10) An aircraft component that causes fires, accumulation or circulation of smoke,  vapour, or toxic or noxious fumes in the crew compartment or passenger cabin  during flight, whether the related fire-warning system properly operated.  (11) An unintended landing gear extension or retraction, or opening or closing of landing  gear doors during flight.  (12) Aircraft components or systems malfunctions that result in taking emergency  actions during flight except action to shut down an engine.  (13) Any abnormal vibration or buffering caused by a structural or system malfunction,  defect, or failure.  **2.2 Propulsion ( including engines, propellers and rotor systems) and auxiliary power**  **units (APUs)**  (1) Failure or significant malfunction of or damage to any part including disintegration  of any internal or external part of the engine not classified as an accident.  (2) Failure or significant malfunction of controlling of a propeller, rotor or powerplant.  (3) Damage to or failure of main/tail rotor or transmission and/or equivalent systems.  (4) Flameout, in- flight shutdown of any engine or APU when required ( for example:  ETOP (Extended range Twin engine aircraft Operations), MEL (Minimum Equipment  List)).  (5) Engine operating limitation exceedance, including overspeed or inability to control  the speed of any high-speed rotating component (for example: APU, air starter, air  cycle machine, air turbine motor, propeller or rotor).  (6) Failure or malfunction of any part of an engine, powerplant, APU or transmission  resulting in any one or more of the following:  (a) thrust-reversing system failing to operate as commanded;  (b) inability to control power, thrust or rpm (revolutions per minute);  (c) non-containment of components/debris;  (d) Abnormal aircraft or engine vibration.  **2.3 Other technical occurrences**  (1) Each interruption to a flight, unscheduled change of aircraft en route, or  unscheduled stop or diversion from a route, caused by known or suspected  technical difficulties or malfunctions.  (2) Propeller featuring in flight. | |
| **3. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT**  **(applicable for the organizations that scope of their SMS include these activities)**  3.1 Serious structural damage (for example: cracks, permanent deformation, delamination,  debonding, burning, excessive war, or corrosion) found during maintenance of the  aircraft or component.  3.2 Serious leakage or contamination of fluids (for example: hydraulic, fuel, oil, gas or other  fluids).  3.3 Failure or malfunction of any part of an engine or powerplant and/ or transmission  resulting in any one or more of the following:  (1) non-containment of components/debris;  (2) failure of the engine mount structure.  3.4 Damage, failure or defect of propeller, which could lead to in- flight separation of the  propeller or any major portion of the propeller and/ or malfunctions of the propeller  control.  3.5 Damage, failure or defect of main rotor gearbox/ attachment, which could lead to  in flight separation of the rotor assembly and/or malfunctions of the rotor control.  3.6 Significant malfunction of a safety- critical system or equipment including emergency  system or equipment during maintenance testing or failure to activate these systems  after maintenance.  3.7 Incorrect assembly or installation of components of the aircraft found during an  inspection or test procedure not intended for that specific purpose.  3.8 Wrong assessment of a serious defect, or serious non- compliance with MEL and  Technical logbook procedures.  3.9 Serious damage to Electrical Wiring Interconnection System (EWIS).  3.10 Any defect in a life- controlled critical part or engine causing retirement before  completion of its full life.  3.11 Use of products, components or materials, from unknown, suspect origin, or  unserviceable critical components.  3.12 Misleading, incorrect or insufficient applicable maintenance data or procedures that  could lead to significant maintenance errors, including language issue.  3.13 Incorrect control or application of aircraft maintenance limitations or scheduled  maintenance.  3.14 Releasing an aircraft to service form maintenance in case of any non-compliance which  endangers the flight safety.  3.15 Serious damage caused to an aircraft during maintenance activities due to incorrect  maintenance or use of inappropriate or unserviceable ground support equipment that  requires additional maintenance actions.  3.16 Identified burning, melting, smoke, arcing, overheating or fire occurrences.  3.17 Any occurrence where the human performance, including fatigue of personnel, has  directly contributed to or could have contributed to an accident or a serious incident.  3.18 Significant malfunction, reliability issue, or recurrent recording quality issue affecting a  flight recorder system (such as a flight data recorder system, a data link recording system  or a cockpit voice record system) or lack of information needed to ensure the  serviceability of a flight record system. | |
| **4. INTERACTION WITH AIR NAVIGATION SERVICES AND AIR TRAFFIC MANAGEMENT**  4.1 Unsafe ATC (Air Traffic Control) clearance.  4.2 Prolonged loss of communication with ATS (Air Traffic Service) or ATM Unit.  4.3 Conflicting instructions from different ATS Units potentially leading to a loss of separation.  4.4 Misinterpretation of radio- communication which has or could have endangered the  aircraft, its occupants or any other person.  4.5 Intentional deviation from ATC instruction which has or could have endangered the  aircraft, its occupants or any other person.  4.6 Airspace infringement including unauthorized penetration of airspace. | |
| **5. EMERGENCIES AND OTHER CRITICAL SITUATIONS**  5.1 Any event leading to the declaration of an emergency (‘Mayday’ or ‘PAN call”).  5.2 Any burning, melting, smoke, fumes, arcing, overheating, fire or explosion.  5.3 Contaminated air in the cockpit or in the passenger compartment which has or could  have endangered the aircraft, its occupants or any other person.  5.4 Failure to apply the correct non-normal or emergency procedure by the flight or cabin  crew to deal with an emergency.  5.5 Use of any emergency equipment or non-normal procedure affecting in-flight or landing  performance.  5.6 Failure of any emergency or rescue system or equipment which has or could have  endangered the aircraft, its occupants or any other person.  5.7 Uncontrollable cabin pressure.  5.8 Critically low fuel quantity or fuel quantity at destination below required final reserve  fuel.  5.9 Any event requiring the emergency use of oxygen including the use of crew oxygen  system by the crew.  5.10 Incapacitation of any member of the flight or cabin crew that results in the reduction  below the minimum certified crew complement.  5.11 Crew fatigue impacting or potentially impacting their ability to perform safely their flight  duties. | |
| **6. EXTERNAL ENVIRONMENT AND METEOROLOGY**  6.1 A collision or a near collision on the ground or in the air, with another aircraft, terrain or  obstacle including vehicle.  6.2 ACAS/TCAS RAs (Airborne/Traffic Collision Avoidance System, Resolution Advisory).  6.3 Activation of ground collision system such as EGPWS or GPWS ( Enhanced / Ground  Proximity Warning System) / TAWS (Terrain Awareness and Warning System).  6.4 Wildlife strike including bird strike.  6.5 Foreign object damage/debris (FOD).  6.6 Unexpected encounter of poor runway surface conditions.  6.7 Wake-turbulence encounters.  6.8 Interference with the aircraft by firearms, fireworks, flying kites, laser illumination, high  powered lights, lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar  means.  6.9 A lightning strike which resulted in damage to the aircraft or loss or malfunction of any  aircraft system.  6.10 A hail encounter which resulted in damage to the aircraft or loss or malfunction of any  aircraft system.  6.11 Severe turbulence encounter or any encounter resulting in injury to occupants or  deemed to require a ‘turbulence check’ of the aircraft.  6.12 A significant wind shear or thunderstorm encounter which has or could have endangered  the aircraft, its occupants or any other person.  6.13 Icing encounter resulting in handling difficulties, damage to the aircraft or loss or  malfunction of any aircraft system.  6.14 Volcanic ash encounter.  6.15 A collision in airside area between a vehicle and another vehicle, equipment, building,  person or an object resulting in injury or damage to the property. | |
| **ข. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยสถาบันฝึกอบรมด้านการบินที่มีการปฏิบัติการบิน**  **1. AIR OPERATIONS**  1.1 Unintentional loss of control.  1.2 Landing outside of intended landing area.  1.3 Inability or failure to achieve required aircraft performance expected in normal conditions  during take-off, climb or landing.  1.4 Runway incursion.  1.5 Runway excursion.  1.6 Any flight which has been performed with an aircraft which was not airworthy, or for  which flight preparation was not completed, which has or could have endangered  the aircraft, its occupants or any other person.  1.7 Unintended flight into IMC ( Instrument meteorological Conditions) conditions of aircraft  not IFR ( Instrument flight rules) certified, or a pilot not qualified for IFR, which has or  could have endangered the aircraft, its occupants or any other person.  1.8 Operation of aircraft that deviate from aircraft equipage or operations approval required  by applicable regulations.  **2. TECHNICAL OCCURRENCES**  2.1 Abnormal severe vibration (for example: aileron or elevation ‘flutter’, or of propeller).  2.2 Any flight control not function correctly or disconnected.  2.3 A failure or substantial deterioration of the aircraft structure.  2.4 A loss of any part of the aircraft structure or installation in flight.  2.5 A failure of an engine, rotor, propeller, fuel system or other essential system.  2.6 Leakage of any fluid which resulted in a fire hazard or possible hazardous contamination  of aircraft structure, systems or equipment, or risk to occupants.  **3. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT**  **(applicable for the organizations that scope of their SMS include these activities)**  3.1 Serious structural damage ( for example: cracks, permanent deformation, delamination,  debonding, burning, excessive war, or corrosion) found during maintenance of the aircraft  or component.  3.2 Serious leakage or contamination of fluids (for example: hydraulic, fuel, oil, gas or other  fluids).  3.3 Failure or malfunction of any part of an engine or powerplant and/ or transmission  resulting in any one or more of the following:  (1) non-containment of components/debris;  (2) failure of the engine mount structure.  3.4 Damage, failure or defect of propeller, which could lead to in- flight separation of the  propeller or any major portion of the propeller and/ or malfunctions of the propeller  control.  3.5 Damage, failure or defect of main rotor gearbox/attachment, which could lead to in-flight  separation of the rotor assembly and/or malfunctions of the rotor control.  3.6 Significant malfunction of a safety- critical system or equipment including emergency  system or equipment during maintenance testing or failure to activate these systems  after maintenance.  3.7 Incorrect assembly or installation of components of the aircraft found during an  inspection or test procedure not intended for that specific purpose.  3.8 Wrong assessment of a serious defect, or serious non-compliance with MEL and Technical  logbook procedures.  3.9 Serious damage to Electrical Wiring Interconnection System (EWIS).  3.10 Any defect in a life- controlled critical part causing retirement before completion of its  full life.  3.11 The use of products, components or materials, from unknown, suspect origin, or  unserviceable critical components.  3.12 Misleading, incorrect or insufficient applicable maintenance data or procedures that  could lead to significant maintenance errors, including language issue.  3.13 Incorrect control or application of aircraft maintenance limitations or scheduled  maintenance.  3.14 Releasing an aircraft to service form maintenance in case of any non-compliance which  endangers the flight safety.  3.15 Serious damage caused to an aircraft during maintenance activities due to incorrect  maintenance or use of inappropriate or unserviceable ground support equipment that  requires additional maintenance actions.  3.16 Identified burning, melting, smoke, arcing, overheating or fire occurrences.  3.17 Any occurrence where the human performance, including fatigue of personnel, has  directly contributed to or could have contributed to an accident or a serious incident.  3.18 Significant malfunction, reliability issue, or recurrent recording quality issue affecting  a flight recorder system ( such as a flight data recorder system, a data link recording  system or a cockpit voice record system) or lack of information needed to ensure the  serviceability of a flight record system.  **4. INTERACTION WITH AIR NAVIGATION SERVICE AND AIR TRAFFIC MANAGEMENT**  4.1 Interaction with air navigation services (for example: incorrect service provided, conflicting  communications or deviation from clearance) which has or could have endangered the  aircraft, its occupants or any other person.  4.2 Airspace infringement including unauthorized penetration of airspace.  **5. EMERGENCIES AND OTHER CRITICAL SITUATIONS**  5.1 Any occurrence leading to an emergency call.  5.2 Fire, explosion, smoke, toxic gases or toxic fumes in the aircraft.  5.3 Incapacitation of the pilot leading to inability to perform any duty.  **6. EXTERNAL ENVIRONMENT AND METEOROLOGY**  6.1 A collision on the ground or in the air, with another aircraft, terrain or obstacle including  vehicle.  6.2 A near collision, on the ground or in the air, with another aircraft, terrain or obstacle  including vehicle requiring an emergency avoidance maneuver to avoid a collision.  6.3 Wildlife strike including bird strike.  6.4 Interference with the aircraft by firearms, fireworks, flying kites, laser illumination,high  powered lights lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar  means.  6.5 A lightning strike resulting in damage to or loss of functions of the aircraft.  6.6 Severe turbulence encounter which resulted in injury to aircraft occupants or in the need  for a post-flight turbulence damage check of the aircraft.  6.7 Icing including carburetor icing which has or could have endangered the aircraft, its  occupants or any other person. | |
| **ค. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ดำเนินการหน่วยซ่อม**  1.1 Serious structural damage (for example: cracks, permanent deformation, delamination,  debonding, burning, excessive war, or corrosion) found during maintenance of the  aircraft or component.  1.2 Serious leakage or contamination of fluids (for example: hydraulic, fuel, oil, gas or other  fluids).  1.3 Failure or malfunction of any part of an engine or powerplant and/ or transmission  resulting in any one or more of the following:  (1) non-containment of components/debris;  (2) failure of the engine mount structure.  1.4 Damage, failure or defect of propeller, which could lead to in- flight separation of the  propeller or any major portion of the propeller and/ or malfunctions of the propeller  control.  1.5 Damage, failure or defect of main rotor gearbox/ attachment, which could lead to inflight  separation of the rotor assembly and/or malfunctions of the rotor control.  1.6 Significant malfunction of a safety- critical system or equipment including emergency  system or equipment during maintenance testing or failure to activate these systems  after maintenance.  1.7 Incorrect assembly or installation of components of the aircraft found during an  inspection or test procedure not intended for that specific purpose.  1.8 Wrong assessment of a serious defect, or serious non- compliance with MEL and  Technical logbook procedures.  1.9 Serious damage to Electrical Wiring Interconnection System (EWIS).  1.10 Any defect in a life- controlled critical part causing retirement before completion of its  full life.  1.11 The use of products, components or materials, from unknown, suspect origin, or  unserviceable critical components.  1.12 Misleading, incorrect or insufficient applicable maintenance data or procedures that  could lead to significant maintenance errors, including language issue.  1.13 Incorrect control or application of aircraft maintenance limitations or scheduled  maintenance.  1.14 Releasing an aircraft to service form maintenance in case of any non-compliance which  endangers the flight safety.  1.15 Serious damage caused to an aircraft during maintenance activities due to incorrect  maintenance or use of inappropriate or unserviceable ground support equipment that  requires additional maintenance actions.  1.16 Identified burning, melting, smoke, arcing, overheating or fire occurrences.  1.17 Any occurrence where the human performance, including fatigue of personnel, has  directly contributed to or could have contributed to an accident or a serious incident.  1.18 Significant malfunction, reliability issue, or recurrent recording quality issue affecting  a flight recorder system ( such as a flight data recorder system, a data link recording  system or a cockpit voice record system) or lack of information needed to ensure  the serviceability of a flight record system. | |
| **ง. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ดำเนินงานสนามบินสาธารณะ**  **1. AIRCRAFT- AND OBSTACLE-RELATED OCCURRENCES**  1.1 A collision or near collision, on the ground or in the air, between an aircraft and another  aircraft, terrain or obstacle including vehicle.  1.2 A collision in airside area between a vehicle and another vehicle, equipment, building,  person or an object resulting in injury or damage to the property.  1.3 Wildlife strike including bird strike.  1.4 Taxiway or runway excursion.  1.5 Actual or potential taxiway or runway incursion.  1.6 Final Approach and Take-off Area (FATO) incursion or excursion.  1.7 Aircraft or vehicle failure to follow clearance, instruction or restriction while operating  on the movement area of an aerodrome ( for example wrong runway, taxiway or  restricted part of an aerodrome).  1.8 Undershoots or overshoots.  1.9 Landing or take-off on a taxiway.  1.10 Foreign object on the aerodrome movement area which has or could have endangered  the aircraft, its occupants or any other person.  1.11 Presence of obstacles on the aerodrome or in the vicinity of the aerodrome which are  not published in the AIP (Aeronautical Information Publication) or by NOTAMN (Notice  to Airmen) and/or that are not marked or lighted properly.  1.12 Push-back, power-back or taxi interference by vehicle, equipment or person.  1.13 Passengers or unauthorized person left unsupervised on apron.  1.14 Jet blast, rotor down wash or propeller blast effect.  1.15 Declaration of an emergency (‘Mayday’ or ‘PAN’ call).  **2. DEGRADATION OR TOTAL LOSS OF SERVICES OR FUNCTIONS**  2.1 Loss or failure of communication between:  ( 1) Aerodrome, vehicle or other ground personnel and air traffic services unit or apron  management service unit;  (2) Apron management service unit and aircraft, vehicle or air traffic service unit.  2.2 Significant failure, malfunction or defect of aerodrome equipment or system which has  or could have endangered the aircraft or its occupants.  2.3 Significant deficiencies in aerodrome lighting, marking or signs.  2.4 Failure of the aerodrome emergency alerting system.  2.5 Rescue and firefighting services not available according to applicable requirements.  **3. OTHER OCCURRENCES**  3.1 Fire, smoke, explosions in aerodrome facilities, vicinities and equipment which has or  could have endangered the aircraft, its occupants or any other person.  3.2 Absence of reporting of a significant change in aerodrome operating conditions which  has or could have endangered the aircraft, its occupants or any other person.  3.3 Significant spillage during fueling operations.  3.4 Failure to handle poor runway surface conditions.  3.5 Any occurrence where the human performance has directly contributed to or could  have contributed to an accident or a serious incident.  3.6 Dangerous good accident and incident as defined in the ICAO Technical Instructions for  the Safe Transport of Dangerous Goods by Air which resulted or could have resulted in  the safety or led to an unsafe condition in aerodrome operation. | |
| **จ. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ให้บริการการจัดการจราจรทางอากาศ และผู้ให้บริการระบบสื่อสาร**  **ระบบช่วยการเดินอากาศ และระบบติดตามอากาศยาน**  **1. AIRCRAFT-RELATED OCCURRENCES**  1.1 A collision or a near collision on the ground or in the air, between an aircraft and another  aircraft, terrain or obstacle, including near-controlled flight into terrain (near CFIT).  1.2 Separation minima infringement.  1.3 Inadequate separation.  1.4 ACAS/TCAS RAs. (Airborne/Traffic Collision Avoidance System, Resolution Advisory).  1.5 Wildlife strike including bird strike.  1.6 Taxiway or runway excursion.  1.7 Actual or potential taxiway or runway incursion.  1.8 Final Approach and Take-off Area (FATO) incursion.  1.9 Aircraft deviation from ATC clearance.  1.10 Aircraft deviation from applicable air traffic management (ATM) regulation:  (1) aircraft deviation from applicable published ATM procedures;  (2) airspace infringement including unauthorized penetration of airspace;  (3) operation of aircraft that deviate from aircraft equipage or operations approval  required by applicable regulations.  1.11 Call sign confusion related occurrences.  **2. DEGRADATION OR TOTAL LOSS OF SERVICE FUNCTIONS**  2.1 Inability to provide ATM services or to execute ATM functions:  (1) inability to provide air traffic services or to execute air traffic services functions;  (2) inability to provide airspace management services or to execute airspace  management functions;  (3) inability to provide air traffic flow management and capacity services or to execute  air traffic flow management and capacity functions.  2.2 Missing or significantly incorrect, corrupted, inadequate or misleading information from  any support service, including relating to poor runway surface conditions.  2.3 Failure of communication service.  2.4 Failure of surveillance service.  2.5 Failure of data processing and distribution function or service.  2.6 Failure of navigation service.  2.7 Failure of ATM system security which had or could have a direct negative impact on the  safe provision of service.  2.8 Significant ATS sector/ position overload leading to a potential deterioration in service  provision.  2.9 Incorrect receipt or interpretation of significant communications, including lack of  understanding of the language used, when this had or could have a direct negative  impact on the safe provision of service.  2.10 Prolonged loss of communication with an aircraft or with other ATS unit.  **3. OTHER OCCURRENCES**  3.1 Declaration of an emergency (‘Mayday” or ‘PAN’ call).  3.2 Significant external interference with Air Navigation Services (for example radio broadcast  stations transmitting in the FM band, interfering with ILS ( instrument landing system) ,  VOR (VHF Omni Directional Radio Range) and communication).  3.3 Interference with an aircraft, an ATS unit or a radio communication transmission  including by firearms, fireworks, flying kites, laser illumination, high-powered lights lasers,  Remotely Piloted Aircraft Systems, model aircraft or by similar means.  3.4 Fuel dumping.  3.5 Fatigue impacting or potentially impacting the ability to perform safely the air navigation  or air traffic duties.  3.6 Any occurrence where the human performance has directly contributed to or could  have contributed to an accident or a serious incident. | |
| **ฉ. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ได้รับใบอนุญาตผลิตอากาศยาน และส่วนประกอบสำคัญของ**  **อากาศยาน**  Products, parts or appliances released from the production organization with deviations from  applicable design data that could lead to a potential unsafe condition as identified with the  holder of the type-certificate or design approval. | |
| **ช. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ได้รับใบรับรองแบบอากาศยาน และส่วนประกอบสำคัญของ**  **อากาศยาน**  Any failure, malfunction, defect or other occurrence related to a product, part, or appliance  which has resulted in or may result in an unsafe condition. | |
| **ซ. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ทำการบินตามประเภทของการใช้อากาศยานในการปฏิบัติการของตน**  **- เครื่องบินและเฮลิคอปเตอร์**  **1. AIR OPERATIONS**  1.1 Unintentional loss of control.  1.2 Landing outside of intended landing area.  1.3 Inability or failure to achieve required aircraft performance expected in normal  conditions during take-off, climb or landing.  1.4 Runway incursion.  1.5 Runway excursion.  1.6 Final Approach and Take-off Area (FATO) incursion or excursion.  1.7 Any flight which has been performed with an aircraft which was not airworthy, or for  which flight preparation was not completed, which has or could have endangered the  aircraft, its occupants or any other person.  1.8 Unintended flight into IMC (Instrument meteorological Conditions) conditions of aircraft  not IFR ( Instrument flight rules) certified, or a pilot not qualified for IFR, which has or  could have endangered the aircraft, its occupants or any other person.  1.9 Operation of aircraft that deviate from aircraft equipage or operations approval required  by applicable regulations.  1.10 Unintentional release of cargo or other externally carried equipment.  **2. TECHNICAL OCCURRENCES**  2.1 Abnormal severe vibration (for example: aileron or elevation ‘flutter’, or of propeller).  2.2 Any flight control not function correctly or disconnected.  2.3 A failure or substantial deterioration of the aircraft structure.  2.4 A loss of any part of the aircraft structure or installation in flight.  2.5 A failure of an engine, rotor, propeller, fuel system or other essential system.  2.6 Leakage of any fluid which resulted in a fire hazard or possible hazardous contamination  of aircraft structure, systems or equipment, or risk to occupants.  **3. INTERACTION WITH AIR NAVIGATION SERVICE AND AIR TRAFFIC MANAGEMENT**  3.1 Interaction with air navigation services ( for example: incorrect service provided,  conflicting communications or deviation from clearance) which has or could have  endangered the aircraft, its occupants or any other person.  3.2 Airspace infringement including unauthorized penetration of airspace.  **4. EMERGENCIES AND OTHER CRITICAL SITUATIONS**  4.1 Any occurrence leading to an emergency call.  4.2 Fire, explosion, smoke, toxic gases or toxic fumes in the aircraft.  4.3 Incapacitation of the pilot leading to inability to perform any duty.  **5. EXTERNAL ENVIRONMENT AND METEOROLOGY**  5.1 A collision on the ground or in the air, with another aircraft, terrain or obstacle including  vehicle.  5.2 A near collision, on the ground or in the air, with another aircraft, terrain or obstacle  including vehicle requiring an emergency avoidance maneuver to avoid a collision.  5.3 Wildlife strike including bird strike.  5.4 Interference with the aircraft by firearms, fireworks, flying kites, laser illumination, high  powered lights lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar  means.  5.5 A lightning strike resulting in damage to or loss of functions of the aircraft.  5.6 Severe turbulence encounter which resulted in injury to aircraft occupants or in the  need for a post-flight turbulence damage check of the aircraft.  5.7 Icing including carburetor icing which has or could have endangered the aircraft, its  occupants or any other person. | |
| **- เครื่องร่อน (Sailplanes/Gliders)**  **1. AIR OPERATIONS**  1.1 Unintentional loss of control.  1.2 An occurrence where the sailplane pilot was unable to release either the winch cable  or the aerotow rope and had to do so using emergency procedures.  1.3 Any release of the winch cable or the aerotow rope if the release has or could have  endangered the sailplane, its occupants or any other person.  1.4 In the case of a powered sailplane, an engine failure during take-off.  1.5 Operation of aircraft that deviate from aircraft equipage or operations approval required  by applicable regulations.  1.6 Any flight which has been performed with a sailplane which was not airworthy, or for  which an incomplete flight preparation has or could have endangered the sailplane, its  occupants or any other person.  **2. TECHNICAL OCCURRENCES**  2.1 Abnormal severe vibration (for example: aileron or elevator ‘flutter’, or of propeller).  2.2 Any flight control not functioning correctly or disconnected.  2.3 A failure or substantial deterioration of the sailplane structure.  2.4 A loss of any part of the sailplane structure or installation in flight.  2.5 Blown tire or wheel failure.  **3. INTERACTION WITH AIR NAVIGATION SERVICE AND AIR TRAFFIC MANAGEMENT**  3.1 Interaction with air navigation services ( for example: incorrect services provided,  conflicting communications or deviation from clearance) which has or could have  endangered the sailplane, its occupants or any other person.  3.2 Airspace infringements including unauthorized penetration of airspace.  **4. EMERGENCIES AND OTHER CRITICAL SITUATIONS**  4.1 Any occurrence leading to an emergency call.  4.2 Any situation where no safe landing area remains available.  4.3 Fire, explosion, smoke, or toxic gases or fumes in the sailplane.  4.4 Incapacitation of the pilot leading to inability to perform any duty.  **5. EXTERNAL ENVIRONMENT AND METEOROLOGY**  5.1 A collision on the ground or in the air, with an aircraft, terrain or obstacle including  vehicle.  5.2 A near collision, on the ground or in the air, with an aircraft, terrain or obstacle including  vehicle requiring an emergency avoidance maneuver to avoid a collision.  5.3 Interference with the sailplane by firearms, fireworks, flying kites, laser illumination, high  powered lights lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar  means.  5.4 A lightning strike resulting in damage to the sailplane. | |
| **อากาศยานเบากว่าอากาศประเภทบอลลูนและนาวาอากาศ (Lighter-than-air vehicles : Balloon and Airship)**  **1. AIR OPERATIONS**  1.1 Any flight which has been performed with a lighter- than- air vehicle which was not  airworthy, or for which an incomplete flight preparation has or could have endangered  the lighter-than-air vehicle, its occupants or any other person.  1.2 Unintended permanent extinction of the pilot light.  1.3 Operation of aircraft that deviate from aircraft equipage or operations approval required  by applicable regulations.  **2. TECHNICAL OCCURRENCES**  2.1 Failure of any of the following parts or controls: dip tube on fuel cylinder, envelope  pulley, control line, tether rope, valve seal leak on burner, valve seal leak on fuel  cylinder, carabiner, damage to fuel line, lifting gas valve, envelope or ballonet, blower,  pressure relief valve (gas balloon), winch (tethered gas balloons).  2.2 Significant leakage or loss of lifting gas (for example: porosity, unseated lifting gas valves).  **3. INTERACTION WITH AIR NAVIGATION SERVICE AND AIR TRAFFIC MANAGEMENT**  3.1 Interaction with air navigation services ( for example: incorrect services provided,  conflicting communications or deviation from clearance) which has or could have  endangered the lighter-than-air vehicle, its occupants or any other person.  3.2 Airspace infringement including unauthorized penetration of airspace.  **4. EMERGENCIES AND OTHER CRITICAL SITUATIONS**  4.1 Any occurrence leading to an emergency call.  4.2 Fire, explosion, smoke or toxic fumes in the lighter-than-air vehicle (beyond the normal  operation of the burner).  4.3 Lighter-than-air vehicle's occupants ejected from basket or gondola.  4.4 Incapacitation of the pilot leading to inability to perform any duty.  4.5 Unintended lift or drag of ground crew, leading to fatality or injury of a person.  **5. EXTERNAL ENVIRONMENT AND METEOROLOGY**  5.1 A collision or near collision on the ground or in the air, with an aircraft, terrain or obstacle  including vehicle which has or could have endangered the lighter- than- air vehicle, its  occupants or any other person.  5.2 Interference with the lighter- than- air vehicle by firearms, fireworks, flying kites, laser  illumination, high powered lights lasers, Remotely Piloted Aircraft Systems, model  aircraft or by similar means.  5.3 Unexpected encounter of adverse weather conditions which has or could have  endangered the lighter-than-air vehicle, its occupants or any other person. | |

**Reporting of a serious incident or accident**

|  |  |  |  |
| --- | --- | --- | --- |
| **Responsibility** | **Notification to** | **Dispatch time** | **Means/Address** |
| Pilot in Command  or  any person directly involved in, or becoming aware of an accident or serious incident | Air Traffic Control | Immediately | Current frequency |
| Bangkok SRR | Phone:  (from abroad: +66 xxx xxxxx) |
| Head of Training | Initial notification:  by best practicable means  *Phone:*  Written report:  Reporting/Analysis Form  E-Mail: |
| Head of Training | Activation of the organisation’s emergency response Plan | Immediately | Refer to OMM Chapter 7 «Emergency Response Plan» |
| CAAT | Within 72 Hours of becoming aware of the occurrence, unless exceptional circumstances prevent this | **Aviation Safety Reporting**  [Safetyreport@caat.or.th](file:///C:\Users\User\Documents\Natchanon\P'Arm%20work\Assigned\Safetyreport@caat.or.th) |
|  |
| Safety Manager | As soon as practicable | Phone:  E-Mail: |
| ⇨ Refer to OMM, Chapter 6.2.2 «Follow-up process for handling occurrence reports» | | | |

**Occurrence Reporting**

|  |  |  |  |
| --- | --- | --- | --- |
| **Responsibility** | **Notification to:** | **Dispatch time:** | **Means/Address** |
| Pilot in Command/  Instructor | Local broadcast  or  Air Traffic Control | Immediately | Current frequency |
| If an aerodrome is affected:  Aerodrome Operator  Airport Authority | Ground frequency  Office of the aerodrome concerned |
| Head of Training | As soon as practicable | Initial notification:  by best practicable means  *Phone:*  Written report:  Reporting/Analysis Form  *E-Mail:* |
| Head of Training | CAAT | Within 72 Hours of becoming aware of the occurrence, unless exceptional circumstances prevent this | **Aviation Safety Reporting**  [Safetyreport@caat.or.th](file:///C:\Users\User\Documents\Natchanon\P'Arm%20work\Assigned\Safetyreport@caat.or.th) |
|  |
| Safety Manager | As soon as practicable | Reporting/Analysis Form |
| ⇨ Refer to OMM, Chapter 6.2.2 «Follow-up process for handling occurrence reports» | | | |

**Specific report for laser attack**

|  |  |  |  |
| --- | --- | --- | --- |
| **Responsibility** | **Notification to:** | **Dispatch time:** | **Address:** |
| Pilot in Command/  Instructor | Local broadcast  or  Air Traffic Control | Immediately | Current frequency |
| Police |  |
|  |  |
| Head of Training | As soon as practicable | Initial notification:  by best practicable means  *Phone:*  Written report:  Reporting/Analysis Form  *E-Mail:* |
| Head of Training | CAAT | Within 72 Hours of becoming aware of the occurrence, unless exceptional circumstances prevent this | **Aviation Safety Reporting**  [Safetyreport@caat.or.th](file:///C:\Users\User\Documents\Natchanon\P'Arm%20work\Assigned\Safetyreport@caat.or.th) |
|  |
| Safety Manager | As soon as practicable | Phone:  E-Mail: |
| ⇨ Refer to OMM, Chapter 6.2.2 «Follow-up process for handling occurrence reports» | | | |

**Voluntary reporting**

|  |  |  |
| --- | --- | --- |
| **Responsibility** | **Notification to:** | **Address:** |
| Any employee/freelance of the organisation, instructors and students | Safety Manager / Head of Training | Written report:  Reporting/Analysis Form  E-Mail: |
| ⇨ Refer to OMM, Chapter 6.2.2 «Follow-up process for handling occurrence reports» | | |

# **Operations Manual Part B (OM Part B)**

Notes: Aircraft type specific operating procedures and technical details of aircraft used for training can be found in the manual provided by the manufacturer as stated on the list of aircraft used for training. Together with other documents, such as normal checklists, abnormal/emergency checklists and other documents used for the operation of the aircraft they constitute the Operations Manual Part B.

Aircraft are to be operated in accordance with the relevant aircraft flight manual (AFM) and other manuals provided by the manufacturer, such as POH including associated checklists and aircraft type specific operating procedures provided by the training organisation. A Training organisation may also develop its own OM Part B based on manufacturer documentation, following the recommended summary shown behind. In all cases ATO must demonstrate compliance with the latest version of AFM.

Where any conflict is found between the documentation provided by the training organisation and those provided by the manufacturer, the content of the Aircraft Flight Manual (AFM) prevails. Any conflict found, is to be reported without delay to the Head of Training (HT) according to OM Chapter A.20.10 «Occurrences Reporting».

It is the responsibility of the organisation, that instructors are supplied with the latest version of the aircraft type specific information (Operations Manual Part B) or parts thereof as relevant to their field of activity.

The latest version of the relevant aircraft type specific information (Operations Manual Part B) is made available to students during their course of studies.

Part B recommended summary:

**• 00 - General informations and units of measurement**

**• 01 - Limitations  
• 02 - Normal operating procedures  
• 03 - Abnormal and emergency procedures**

**• 04 Performance  
• 05 - Flight planning  
• 06 - Mass and balance  
• 07 - Loading  
• 08 - Configuration deviation list  
• 09 - Minimum equipment list  
• 10 - Survival and emergency equipment including oxygen**

**• 11 - Emergency evacuation procedure**  
**• 12 - Aircraft systems**

## Aircraft used for training

Refer to the App XY «*List of aircraft used for training*»

ATO aircrafts related OM part B should be contained in a separate document.

For the applicable aircraft type specific documentation, refer to the «Operations Manual Part B » of the concerned aircraft type e.g.:

DA 40

C 152

C 172

DA 42

## General informations and units of measurement

Different units of measurements are used for the various aircraft types. For conversion tables, refer to VFR Manual Thailand, VFR Guide, Chapter GEN 1-4.

### Limitations

Aircraft are to be operated in compliance with the terms of its Certificate of Airworthiness (CoA), Scope of Utilisation and within the limitations contained in the Aircraft Flight Manual (AFM) and/or other manuals provided by the manufacturer, such as the Pilot’s Operating Handbook (POH) Should any limitation be exceeded, the fact is to be recorded in the technical log system (or equivalent) and reported without delay in accordance with OM Chapter A.20.10 «Occurrence reporting».

If any structural or engine operating limitation is exceeded, the aircraft is to be landed as soon as practicable and/or not to be flown until maintenance check/action is carried out and the aircraft is released for service again.

**ATO can define for training purpose, as “ATO rules”, more stringent limitations than required by TCAR OPS Part NCO.**

e.g. cross wind limitation for solo flight….

### Normal operating procedures

The correct completion of normal checklists is essential for safe operation during all phases of flight and an effective method for preventing omissions of actions or inappropriate actions.

For this purpose, ATO should provide detailed instruction on how to use call out and execute a normal checklist, refer to the introductory text of the aircraft type specific normal checklist and the explanatory text provided by the manufacturer. ATO must refer to normal checklists contained in the relevant Aircraft Flight Manual (AFM) and/or other manuals provided by the manufacturer, such as the Pilot’s Operating Handbook (POH).

ATO should include scheme for specific normal flight sequences as take off, circuits……..

Safety critical aspects of system and aircraft configuration settings should be cross-checked with normal checklists. Normal checklist actions are intended to check and verify actions that were accomplished from memory in accordance with the defined flow pattern.

Time and workload management are key factors in the initiation and effective conduct of normal checklists. Normal checklists should be accomplished in a timely manner during low workload periods within the concerned phase of flight to prevent any rush or interruption that could impact the safety purpose of the normal checklists.

Following an interruption of a checklist flow element, the pilot in command/student should restart the checklist element flow, as a measure to prevent any item from being omitted and to ensure that the actions already completed are re-verified.

For the aircraft type specific normal checklist, refer to the «List of aircraft used for training» column «Operations Manual Part B Reference».

### Abnormal and emergency procedures

ATO should provide detailed instruction on how to use call out and execute an Abnormal and emergency checklist, refer to the introductory text of the aircraft type specific normal checklist and the explanatory text provided by the manufacturer.

For the aircraft type specific abnormal and emergency checklist, refer to the «List of aircraft used for training» column «Operations Manual Part B Reference».

ATO must refer to abnormal and emergency checklists contained in the relevant Aircraft Flight Manual (AFM) and/or other manuals provided by the manufacturer, such as the Pilot’s Operating Handbook (POH). ATO should include scheme for specific abnormal or emergencies flight sequences as flapless landing, engine fire at take off.

In addition, ATO should provide guidance for Decision-making and Emergency Management:

Emergency or abnormal situations are often very time critical and complex and cause high stress levels and workload.

An emergency situation is a situation in which the safety of the aircraft or of persons on board or on the ground is endangered.

An abnormal situation is one in which it is no longer possible to continue the flight using normal procedures but the safety of the aircraft or persons on board or on the ground are not in danger.

Emergency or abnormal situations may develop as a result of one or more factors within or outside an aircraft, for example:

* Fire on board the aircraft;
* Aircraft technical failure (e.g. engine failure, landing gear malfunction);
* Shortage of fuel;
* Loss of situational awareness;
* Worsening weather;
* Aircraft damage (e.g. as a result of collision, bird strike or extreme weather);
* ...

An emergency or abnormal situation may result in a situation where it will be impossible to continue the flight as planned, resulting in one or more of the following outcomes:

* Loss of altitude;
* Diversion to a nearby aerodrome;
* Forced landing;
* ...

Whenever confronted with an emergency or abnormal situation, the highest priority lies in the control and successful flying and navigating of the aircraft. Therefore, it is vital that such situations are handled in a structured manner. A common methodology is used for:

Aeroplanes:

|  |  |  |
| --- | --- | --- |
|  | **P** – Power | Check or set power according to situation; |
| **P** – Performance | Check Configuration (propeller, gear and flaps) according to given situation. |

Helicopters:

|  |  |  |
| --- | --- | --- |
|  | **R** – Rotor RPM |  |
| **P** – Power | Check or set power according to situation; |
| **P** – Performance | Check Configuration (propeller, gear and flaps) according to given situation. |

As first step, the guideline PP resp. RPP shall ensure, that first measures are taken in regard to aircraft performance in order to clear obstacles and to stabilise the aircraft in regard to aircraft altitude, speed and track.

When the aircraft is stabilised and clear of all obstacles, the analysis and the decision-making process can be started using the well-known:

Analyse / Action:

|  |  |  |
| --- | --- | --- |
|  | **A** – Analyse | Check instruments and warnings, try to identify source of trouble; analyse different possible actions, decide; |
| **A** – Action | According to AFM or safe best practice. |

FORDEC guideline:

|  |  |  |
| --- | --- | --- |
|  | **F** acts | Situation shall be analysed, carefully, taking into account all available information; |
| **O** ptions | Search for options (e.g.: divert, landing, continue back to home base); |
| **R** isks | Evaluate options for risk and benefit; |
| **D** ecide | Decide which option to choose; |
| **E** xecue | Take the actions for the option chosen; |
| **C** heck | Monitor the situation carefully. If the situation changes for any reason start again with the situation catch. |

### Performance

ATO must refer to performance chapter contained in the relevant Aircraft Flight Manual (AFM) and/or other manuals provided by the manufacturer, such as the Pilot’s Operating Handbook (POH).

ATO can define ATO rules to increase Part NCO requirements:

Example:

ATO (name of ATO) rules for Take-off:

TOD X 1,20 ≤ TODA, TOR X 1,20 ≤ TORA

In addition, for MEP aeroplane:

ASD ≤ ASDA  
Wet runway: Increase by X %

ATO (name of ATO) rules for Landing: LDX1.2≤LDA  
Wet runway = increase by XX%

### Flight planning

**See also OM Chapter A.19 «Flight Planning»**

ATO must refer to flight planning elements contained in the relevant Aircraft Flight Manual (AFM) and/or other manuals provided by the manufacturer, such as the Pilot’s Operating Handbook (POH).

**Fuel policy for the relevant aircraft**

Standard allowances for the relevant aeroplane

|  |  |
| --- | --- |
| Item | Standard allowances |
| Taxi fuel |  |
| Arrival procedure |  |
| Contingency fuel |  |
| Alternate fuel |  |
| Final reserve fuel |  |
| Additional Fuel |  |

Reminder of ATO rules regarding minimum quantities on board

e.g; No flight may be undertaken with a quantity of fuel less than what is required for one hour of flying.  
Solo flights: A minimum quantity of extra fuel corresponding to 30 minutes cruising must be carried on all solo flights.

**Performances table:**

Power setting

distance/time/consumption

Crusing performance table

Descent

Time consumption holding

For MEP: One engine inoperative cruse performance

### Mass and balance

ATO must refer to Mass and balance elements contained in the relevant Aircraft Flight Manual (AFM) and/or other manuals provided by the manufacturer, such as the Pilot’s Operating Handbook (POH).

**A list of ATO aircrafts of the same model containing: Empty weight, empty weight moment and date of weighting**

### Loading

ATO should describe loading process.

### Configuration deviation list

Reserved

### Minimum equipment list

ATO should insert specific aircraft MEL if any.

For detailed instruction on how to use a Minimum Equipment List, refer to the preamble and the subchapters of the relevant MEL.

### Survival and emergency equipment including oxygen

ATO should describe of Survival and emergency equipment including oxygen for the relevant aircraft.

### Emergency evacuation procedures

ATO should describe:

- instructions for crew and passengers in case of emergency evacuation

- emergency evacuation procedures

### Aircraft systems

ATO must refer to aircraft systems description contained in the relevant Aircraft Flight Manual (AFM) and/or other manuals provided by the manufacturer, such as the Pilot’s Operating Handbook (POH).

**Annexes: QRH**

In addition, ATO should make available:

QRH for normal procedures

QRH for abnormal and emergency procedures

QRH parameters

QRH mass and balance sheet

# **Operations Manual Part C (OM Part C)**

## Performance (legislation, take-off, route, landing etc.)

**NCO.POL.110 Performance - general**

**B.2.4 Performance relevant airceaft**

No aircraft shall be operated unless prior to each flight, the performance of the aircraft for the conditions to be expected for the intended flight, at the place of departure, the intended destination and the intended route, are in compliance with the aircraft flight manual (AFM).

Both, the instructor/examiner and the student/applicant are familiar with the performance calculation and the actual data of the aircraft used.

As part of the briefing, the instructor shall evaluate the student’s performance calculation prior to commencing the flight.

The following data has to be available when calculating the performance of the aircraft:

General meteorological conditions, in particular special weather phenomena, wind and temperature, for the time between the estimated time of departure and the estimated time of arrival, actual take-off mass, airport elevation, runway length, runway characteristics, runway condition and actual landing mass.

For airport elevation, runway length and runway characteristics, refer to VFR Manual Thailand, «Aerodromes».

To facilitate some calculation, rule of thumb may be applied, but it may not replace any calculation supplied in any of the documentation provided by the manufacturer.

At least the following performance data has to be calculated before each flight:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Aeroplanes** | | **VFR** | | **IFR** | |
| **Phases of flight** | **Required calculations** | **Single engine** | **Multi engine** | **Single engine** | **Multi engine** |
| **Take-off** | Take-off run (TOR) | X | X | X | X |
| Accelerate stop distance (ASD) (where available) | (X) | (X) | (X) | (X) |
| Take-off distance/performance (50 ft OBST) | X | X | X | X |
| Climb performance/rate of climb (ROC) | X | X | X | X |
| Climb performance/rate of climb (ROC) one engine inoperative (OEI) |  | X |  | X |
| Minimum climb gradient in %. |  |  | X | X |
| **En-route** | True air speed (TAS) | X | X | X | X |
| Service ceiling one engine inoperative (OEI) |  | X |  | X |
| **Landing** | Landing distance/performance (50 ft OBST) flaps normal operation | X | X | X | X |
| Landing distance/performance (50 ft OBST) flaps malfunction (where available) | (X) | (X) | (X) | (X) |
| Landing distance (LD) and landing ground roll | X | X | X | X |
| Climb performance/rate of climb (ROC) during missed approach |  |  | X | X |
| Climb performance/rate of climb (ROC) one engine in-operative (OEI) missed approach |  |  |  | X |
| Minimum climb gradient in % |  |  | X | X |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Helicopters** | | **VFR** | | **IFR** | |
| **Phases of flight** | **Required calculations** | **Single engine** | **Multi engine** | **Single engine** | **Multi engine** |
| **Take off** | Climb performance/rate of climb (ROC) | X | X | X | X |
| Climb performance/rate of climb (ROC) one engine inoperative (OEI) |  | X |  | X |
| Take off decision point (TDP) |  | X |  | X |
| Minimum climb gradient in % |  |  | X | X |
| **En route** | VNE at current temperature at planned altitude | X | X | X | X |
| Service ceiling one engine inoperative (OEI) |  | X |  | X |
| True air speed (TAS) | X | X | X | X |
| **Landing** | Hovering in ground effect (HIGE) | X | X | X | X |
| Hovering out of ground effect (HOGE) | (X) | (X) | (X) | (X) |
| Landing decision point (LDP) |  | X |  | X |
| Climb performance/rate of climb (ROC) during missed approach / Go Around | X | X | X | X |
| Climb performance/rate of climb (ROC) one engine in-operative (OEI) missed approach / Go Around |  | X |  | X |
| Minimum climb gradient in % |  |  | X | X |

## Flight planning (fuel, oil, minimum safe altitude, navigation)

For provisions related to flight planning in general:

* Refer to OM Chapter A.19 «Flight planning (general)»

### Completion of a navigation flight plan

The basic principles of air navigation include the process of planning, recording and controlling the movement of aircraft from one place to another.

A navigation flight plan should be compiled and used for VFR en-route and for all IFR flights. During flight, all navigation data are to be utilised and the associated entries in the navigation flight plan form are to be made concurrent with the progress of the flight.

For the applicable flight plan form, refer to *AppXY* «*Navigation flight plan VFR*» *and/or AppXY* «*Navigation flight plan IFR*».

The compiling of navigation data and the associated completion of a navigation flight plan is a major part of the flight-planning phase. The completion of a navigation flight plan includes the following main steps:

* Selection of aerodromes / operating sites and planning of the route and compiling the navigation data;
* Calculation of the amount of fuel required;
* Calculation of mass and balance;
* Calculation of performance data;
* Preparation of an ATC flight plan if required.
* Refer to OM Chapter A.19.9 «Air traffic services (ATS) flight plan».

### Submission of an Air Traffic Services (ATS) flight plan

**NCO.GEN.130 Information on emergency and survival equipment carried**

This chapter should give guidance to student regarding the way to fill and submit an ATS flight plan

For procedures related to the submission of an ATS flight plan, refer to:

* AIP Thailand, ENR 1.10 «Flight Planning»;
* AIP Thailand, VFR Manual, VFR RAC 1; or
* other commercially produced Route and Aerodrome Information and Documentation.

### Selection and use of aerodromes, planning minimas

* Refer to OM Chapter A.19.5 «Presentation and application of aerodrome and en-route operating minima»

As a requisite for the intended flight, the planning includes the selection of adequate destination and, if required, alternate aerodromes.

Before commencing a flight, the instructor and student/pilot in command shall ascertain by every reasonable means available that the space based and ground facilities, including communication facilities and navigation aids available and directly required on such a flight, are suitable and available for the intended flight and the safe operation of the aircraft. The instructor and student/pilot in command shall ensure that sufficient means are available to navigate and land at the destination aerodrome or at any destination alternate aerodrome in the case of loss of capability for the intended approach and landing operation. Associated with weather condition and determination of minimum fuel quantity required, the selection of aerodromes should take into account the following definitions and provisions:

|  |  |  |
| --- | --- | --- |
| **1** | **General Policy** | **NCO.OP.100 Use of aerodromes and operating sites**  The pilot-in-command shall only use aerodromes and operating sites that are adequate for the type of aircraft and operation concerned. |
| **2** | **Adequate aerodrome**  **TCAR OPS Part DEF** | Means an aerodrome on which the aircraft can be operated, taking into account the applicable performance requirements, runway characteristics and course of training provided |
| **3** | **Weather-permissible aerodrome**  **TCAR OPS Part DEF** | Means an adequate aerodrome where, for the anticipated time of use, weather report, or forecasts, or any combination thereof, indicate that the weather conditions will be at or above the required aerodrome operating minima, and the runway surface condition reports indicate that a safe landing will be possible |

**NCO.OP.160 Meteorological conditions**

(a)  The pilot-in-command shall only commence or continue a VFR flight if the latest available meteorological information indicates that the meteorological conditions along the route and at the intended destination at the estimated time of use will be at or above the applicable VFR operating minima.

(b)  The pilot-in-command shall only commence or continue an IFR flight towards the planned destination aerodrome if the latest available meteorological information indicates that, at the estimated time of arrival, the meteorological conditions at the destination or at least one destination alternate aerodrome are at or above the applicable aerodrome operating minima.

(c)  If a flight contains VFR and IFR segments, the meteorological information referred to in (a) and (b) shall be applicable as far as relevant.

|  |
| --- |
| **Destination aerodrome** |
| **NCO.OP.142 Destination aerodromes — instrument approach operations**  The pilot-in-command shall only select an aerodrome as a destination alternate aerodrome if either:  (a)  an IAP that does not rely on GNSS is available either at the destination aerodrome or at a destination alternate aerodrome, or  (b)  all of the following conditions are met:  (1)  the onboard GNSS equipment is SBAS-capable;  (2)  the destination aerodrome, any destination alternate aerodrome, and the route between them are within SBAS service area;  (3)  ABAS is predicted to be available in the event of the unexpected unavailability of SBAS;  (4)  an IAP is selected (either at destination or destination alternate aerodrome) that does not rely on the availability of SBAS;  (5)  an appropriate contingency action allows the flight to be completed safely in the event of unavailability of GNSS. |

|  |  |  |
| --- | --- | --- |
| **Alternate aerodrome TCAR OPS Part DEF** | | |
| An aerodrome to which an aircraft may proceed as alternative, when it becomes either impossible or inadvisable to proceed to or land at the aerodrome of intended landing, and where the necessary services and facilities are available, where aircraft performance requirements can be met, and which is operational at the expected time of use. Alternate aerodromes include the following: | | |
| **Take-off alternate** | **En-route alternate** | **Destination alternate** |
| An alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.  Not required by TCAR OPS Part NCO. Should be ATO rules based **on NCC.OP.150 Take-off alternate aerodrome-aeroplanes**.  In this case ATO should define the maximum distances used for selecting a take-off depending of aeroplane class/type. | An alternate aerodrome at which an aircraft would be able to land if a diversion becomes necessary while en-route.  Not required by TCAR OPS Part NCO | An alternate aerodrome at which an aircraft would be able to land if it becomes either impossible or inadvisable to land at the aerodrome of intended landing; |
| Note: The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight. | | |
| **VFR by day and by night** | Planning of an alternative course of action to provide for the eventuality that the flight cannot be completed as planned. | |
| **IFR destination alternate aerodrome** | **NCO.OP.140 Destination alternate aerodromes — aeroplanes**  For IFR flights, the pilot-in-command shall specify at least one destination alternate aerodrome in the flight plan, unless the available current meteorological information for the destination indicates, for the period from 1 hour before until 1 hour after the estimated time of arrival, or from the actual time of departure to 1 hour after the estimated time of arrival, whichever is the shorter period, a ceiling of at least 1 000ft above the DH/MDH for an available instrument approach procedure (IAP) and a visibility of at least 5 000m  **NCO.OP.141 Destination alternate aerodromes — helicopters**  For IFR flights, the pilot-in-command shall specify at least one destination alternate aerodrome in the flight plan, unless the available current meteorological information for the destination indicates, for the period from 1 hour before until 1 hour after the estimated time of arrival, or from the actual time of departure to 1 hour after the estimated time of arrival, whichever is the shorter period, a ceiling of at least 1 000ft above the DH/MDH for an available IAP and a visibility of at least 3 000m. | |

*Describe here the requirements to select a destination alternate aerodrome*

**NCO.OP. 143 Destination alternate planning minimas- aeroplanes**

**NCO.OP. 144 Destination alternate planning minimas- helicopters**

### Determination of fuel and oil quantities

**NCO.OP.125 Fuel/energy and oil supply — aeroplanes and helicopters**

Refer to OM Chapter A.19.7 «Determination of the quantities of fuel, lubricant and other consumable carried».

### Oil quantity

* Refer to OM Chapter A.19.7 « Determination of the quantities of fuel, lubricant and other consumable carried».

As part of the pre-flight inspection and always prior to starting an engine, the pilot in command/student is to ensure that the engine oil quantity and level is in compliance with the limitations stated in the aircraft flight manual or equivalent manual provided by the manufacturer.

### Minimum Safe Altitude

* Refer to OM Chapter A.19.2 «Minimum flight altitudes».
* For VFR, refer to the AIP Thailand, VFR Guide;
* For IFR, refer to the AIP Thailand, ENR 1; or
* Refer to commercially produced Route and Aerodrome Information and Documentation.

## Loading (load sheets, mass, balance and limitations)

No aircraft shall be operated with a mass greater than the maximum mass indicated and a centre of gravity different from the limitation detailed in the respective aircraft flight manual (AFM) or equivalent.

Both, the instructor/examiner and the student/applicant are familiar with the mass and balance calculation and the actual data of the aircraft used.

Before each flight, a mass and balance calculation shall be compiled in the calculation form provided and carried on board. For the mass and balance calculation form, refer to *AppYX «Mass and balance calculation form».*

As part of the briefing, the instructor shall evaluate the student’s mass and balance calculation prior to commencing the flight.

The following points shall be adhered to:

only actual mass for crew (instructor/student/pilot in command), passengers and baggage shall be used;

only mass limitations specified in the aircraft flight manual (AFM) or equivalent shall be used;

the calculation of the position of the centre of gravity (CG) for:

zero fuel mass (ZFM);

take-off mass (TOM);

landing mass (LM);

the mass of fuel shall be calculated with following standard density values:

|  |  |
| --- | --- |
| **Type of fuel** | **Standard density values** |
| JET A1 | 0.8 kg/litre |
| AVGAS 100LL | 0.72 kg/litre |

This provides monitoring of the movement of the centre of gravity during flight and assures being within the envelope for both, take-off and landing.

The pilot is responsible that all the mass and balance limitations contained in the AFM or POH are respected during the entire flight.

## Weather minima (flying instructors)

General provisions for weather requirements and minima can be found in the AIP and associated charts/maps or *commercially produced route and aerodrome documentation - insert product name of the accepted documentation of the organisation.*

Minimum weather requirements and the actual weather conditions are standard elements of the briefing and have to be constantly considered during flight.

A flight session shall only commence or continue if the latest available meteorological information indicates, that the weather conditions along the route and at the intended destination and, if applicable, destination alternate aerodrome, at the estimated time of use, will be at or above the applicable operating minimum.

Both, the instructor/examiner and the student/applicant, are to be familiar with the minimum weather requirements and the actual weather conditions at the time of use.

### VFR Flights

* For the minimum values to conduct VFR flights, refer to:
* VFR Manual; and
* VFR Guide.
* When determining the minimum weather required for the intended flight session, the following shall be at least considered:
* A VFR flight shall only be commenced or continued if the latest available meteorological information indicates that the weather conditions along the route and at the intended destination at the estimated time of use will be at or above the applicable VFR operating minimum.
* the dimensions and characteristics of the instruction;

traffic pattern (circuits);

air exercise and en-route;

* pilot’s competence and experience;
* the equipment available on the aircraft for the purpose of navigation;
* the aircraft performance;
* level of progress of the student pilot (refer also to weather minima for students);
* ....

### IFR Flights

* Refer to OM Chapter A.19.5 «Presentation and application of aerodrome and en-route operating minima»
* Refer to **C.2.3** «Selection and use of aerodromes, planning minimas»

For flights under instrument flight rules (IFR), aerodrome operating minima and procedures for each take-off, departure, destination and alternate aerodrome, if applicable, shall be selected and used as published in the AIP of the respective State or commercially produced route and aerodrome documentation - insert product name of the accepted documentation of the organisation.

## Weather minima (students – at various stages of training)

In general, the published minimum weather requirements apply. Depending on the type of training the following provisions for students are applicable:

|  |  |  |
| --- | --- | --- |
| **General** | | |
| * Depending on the level of performance and the fitness of the student, weather requirements may be modified by the instructor. * Weather requirements must never be lower than the applicable minimum weather requirements. * Aircraft are to be operated within the limitations contained in the aircraft flight manual (AFM).Special consideration should be given to: * Maximum demonstrated cross wind; * Temperature; * Icing conditions; * Density altitude * ... * ... | | |
| **Type of training** | | **Requirements** |
| Introductory flights – trial lesson | | * Applicable VFR minimum weather requirements, no gusts and turbulences * Density altitude: maximum xxxx ft   ... |
| Dual instruction | Circuit | * Applicable VFR minimum weather requirements |
| Air exercise |
| Cross-country |
| IFR | * Applicable IFR minimum weather requirements |
| Solo flight | Circuit | * Ceiling: minimum xxxx ft * Visibility: minimum x km * Wind: maximum xx kt * … |
| Cross-country | * Ceiling: minimum xxxx ft * Visibility: minimum x km * Wind: maximum xx kt * … |

## Training routes or areas

For instructions and information related to aerodromes/airfields, charts and navigation aids including routes and communication, refer to:

* AIP Thailand and/or VFR Manual; or
* insert product name of the accepted documentation of the organisation Route and Aerodrome Information and Documentation.

For restricted and danger areas as well as temporary reserved areas, refer to AIP Thailand.

### Training areas and aerodromes used for training

In conformity with the training specification detailed in the syllabi and adequate for the type of aircraft used for training, the organisation uses the following aerodromes / operating sites:

|  |  |  |  |
| --- | --- | --- | --- |
| **IFR** | | | |
| **VFR Night** | | | * … |
| **VFR** | | * … |
| **VFR Air Exercise** | * LSxx sample name |
| Training area:   * … |

* For provisions related to the selection and use of the aerodromes / operating sites during the flight-planning phase, refer to OM Chapter 3.2 «Flight planning (fuel, oil, minimum safe altitude, navigation)».

### Training area

The following training areas are defined and may be selected specific to the intended flight session:

|  |  |  |
| --- | --- | --- |
| **Area** | **Range** | **Altitude Restrictions** |
| *…* | *…* | *…* |
| *…* | *…* | *…* |
| *…* | *…* | *…* |
| *…* | *…* | *…* |

* For training area restrictions concerning the planning of the daily training programme, refer to OM Chapter A.6 «Preparation of flying programme».

### Standard navigation/cross-country flights

Experience requirements include cross-country flights. Cross-country, means a flight between a point of departure and a point of arrival following a pre-planned route using standard navigation procedures. The course of training for the concerned type of licence requires the minimum range, duration, and number of landings. The following standard routes apply:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Licence** | **Minimum**  **Range** | **Number of full stop Landings**  **At aerodrome**  **Different from aerodrome of departure** | **Route** | **Minimum Duration** |
| *LAPL* | *80 NM* | *1* |  | *x hours* |
| *PPL* | *150 NM* | *2* |  | *x hours* |
| *CPL* | *300 NM* | 2 | … | *x hours* |

# **Operations Manual D (OM Part D)**

## Appointment of persons responsible for standards/competence of flight personnel

Each management function is responsible for supporting, evaluating and improving the competence of their subordinates/direct reports and has the obligation to actively standardise the activity within their area of accountability.

Refer to OM Chapter D.7 «ATO personnel standards evaluation».

For flight instructors of all categories, the *head of training (ATO section 1)*/*Chief flight instructor*, *Chief theoretical knowledge instructor* (*ATO section 2)* Is the appointed person responsible for the standardisation of all flight instructions and the evaluation of the instructor’s individual performance. This, to ensure that all instructors remain qualified and competent to conduct their duties (pilot and instructor competencies).

For the nominated person *head of training, Chief Flight Instructor, Chief theoretical knowledge instructor ,* refer to OMM, Chapter 3.2 «Management Personnel – Name and contacts».

## Initial training

An initial training programme is specified for:

*Qualified instructors joining the organisation and gaining the initial appointment.*

*Theoretical knowledge instructor joining the organisation and gaining the initial appointment.*

### Flight instructor organisation conversion

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Step** | **Subject** | **Reference** | **Record** |
| 1 | Evaluation of an instructor | screening for hiring purpose  practical and theoretical | Application documents and CV assessment and interview | Organisation conversion record form  Create instructor file  Update of instructor list |
|  | Theoretical knowledge oral examination and practical flight assessment form |
| 2 | Organisation conversion | Management system basic training | OMM Chapter 8.1 «Management system basic training» |
| 3 | Practical introduction | Practical introduction and standardisation  Training content regarding the use ofATO aircraft and OM.  Designation aspic on ATO aircraft  Training manual and standardisation on ATO training programmes | OM Chapter D.4 «Standardisation training»;  Experience record of the concerned instructor category. |

### Theoretical knowledge instructor organisation conversion

| **#** | **Step** | **Subject** | **Reference** | **Record** |
| --- | --- | --- | --- | --- |
| 1 | Evaluation of an instructor | screening for hiring purpose practical and theoretical | Application documents, CV evaluation and interview | Organisation conversion record form Create instructor file Update of instructor list |
| Teaching skills/capabilities and knowledge transfer Use of teaching material and means of demonstration Training manual and standardisation on ATO training programmes | Test lecture in the subject on which they will provide theoretical knowledge instruction.  Assessment form |
| 2 | Organisation conversion | Management system basic training | OMM Chapter 8.1 «Management system basic training» |
| 3 | Practical introduction | Practical introduction and standardisation in teaching and knowledge transfer; and Syllabi and associated lesson plans | OM-D, Chapter D.4 «Standardisation training» Experience record of the concerned instructor category |
| Specific TKI requirements, as applicable | *Insert specific training, as applicable, such as:*  *Distance learning concept, Area**100 KSA instruction and assessment course etc.*  *…* | TM , Chapter 4.1.1 «Distance learning»  Area 100 KSA instructors initial training xy  OM-D,Chapter D.4 «Standardisationtraining»  … |

## Refresher/ recurrent training

The refresher/ recurrent training is to refresh and expand knowledge as well as to maintain the abilities in order to remain qualified and competent to execute the duties of an instructor.

Refresher training: For individual FI when revalidation or renewal of a rating or certificate is necessary.

Recurrent training: should be organised by the CFI on a defined period to maintain abilities for flight instructors to act as PIC on ATO aircrafts.

ATOs providing Advanced UPRT should develop specific refresher training for instructors acting as UPRT Instructors.

### Determination of required refresher training

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Subject** | **Reference** | **Responsibility** |
| Monitor | Instructor certificate validity | OM Chapter A.12 «Flight crew qualification records» | Chief Flight instructor (CFI) |
| Individual instructor standards evaluation | OM Chapter D.7 «ATO standards evaluation» |
| Define | Refresher training | OM Chapter D.3.2 «Refresher training» |
| *Insert specific training, as applicable, such as:*  *Recurrent**training and standardisation**for instructors involved**in Area 100 KSA instruction* | *OM-D, Chapter D.3.x «Recurrent training and standardisation for instructors involved**in Area 100 KSA instruction»* | *Chief Theoretical Knowledge Instructor*  *(CTKI)* |

### Refresher training

The content of the refresher training for an individual instructor should be performed in accordance with ATO training programmes in compliance with:

FCL.625.IR For IR ratings

FCL.740 for class or type ratings

FCL.940.FI, FCL.940.IRI, FCL.940.CRI, FCL.940.STI for instructors certificates.

### Recurrent training and checking

#### Recurrent training

Should content the following:

On a defined period, review of the following items:

Aircraft system review

Normal abnormal procedures

Abnormal and emergency procedures

Emergency and safety equipment review

In addition, ATO should define the flight training time allocated to each instructor in an FSTD and in flight for training purpose and the content of this programme.

#### Recurrent checking

**See D.5 Proficiency checks**

## Standardisation Training

The purpose of having standardisation training is so that safety and organisation goals can be achieved in a directed and effective manner. Competence is the ability to do something successfully and/or efficiently and includes the power to deal with particular matters. As a result, the student shall receive an effective and regulatory compliant training within a safe flight operation environment.

The standardisation training will take place once a year during the scheduled instructor meeting or on demand in case of unforeseen circumstances

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Step** | **Task** | **Reference** | **Responsibility** |
| 1 | Evaluation of the  content | * Consider results of the management system and ATO personnel standard evaluation; * Fight safety * Occurrence reporting if any * Review innovation and changes; * Analyse student performance; * Review training activities and aircraft reliability; * Review economic and financial aspects; * Review previous meeting; * Consider feed-backs * ... | * Aviation publications; * Legislation publications; * Standardisation training detailed programme; * Economic and financial key indicators; * Status of the organisation documentation; * OMM Chapter 8.3 «Management system continuous training»; * OM Chapter D.7 «ATO personnel standards evaluation» * ... | Chief Flight Instructor |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2 | Development of the  programme | * Establish agenda, programme and course administration; * Prepare presentations; * Develop hand-outs; * ... | * Standard IT applications * Standardisation training detailed programme template; * (I://TNG/Standardisation/...) * ... | Chief Flight Instructor |
| 3 | Organise the course | * Booking of infrastructure/facilities; * Prepare hand-out material; * ... | * Seminar Organisation Planning Excel-File * I://Org/Standardisation/... | Administration |
| 4 | Information to CAAT | * Inform assigned inspector. | Any practical communication means. |
| 5 | Information | * External announcement; * Administrate invitation and registration. | * Internet; * Web page; * Invitation and registration form; * ... |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 6 | Conduct the training | * Lead through the standardisation training. * Standardisation training programme content related to relevant instructor duty:   - Operation of ATO aircraft  - designation as PIC on ATO aircraft  - Training course standardisation  - use of the Flight safety Manual (FSM) | | * agenda and programme | Chief Flight Instructor |
| 7 | Administration | | * Issue «Certificate of Attendance» to all participants. | * Certificate template * I://Org/Certificate/... | Administration |
| * Sign the certificates of attendance. | | Chief Flight Instructor |
| * Complete file management; * Update of instructor list | * Instructor File | Chief Flight Instructor |

### Standardisation training overview

|  |  |
| --- | --- |
| **Subject** | **Reference** |
| **Continuous management system training**  Summary and matters of:   * Overall safety standards; * Economic and financial aspects;   realisation of the organisation’s targets;   * Overall image of the organisation, relationship with third parties, authorities and contractors; * Occurrences, reporting and feedback system; * internal/external audit inspection; * record keeping and information system; * Student feedback an satisfaction; * ... | * OMM Chapter 8.3 «Management system continuous training»; * ... |
| **Standard and competence of ATO personnel**   * Adherence to prescribed training programme, syllabi and lesson/session plans; * Adherence to standard operating procedures; * Decision making, threat and error management; * Social skills and crew resources; * Students performance and process; * ... | * OM Chapter D.7 «ATO personnel standards evaluation»; * ... |
| **Changes**   * Changes in approvals, terms and conditions of the organisation; * Amendment, changes and improvement of the organisation documentation; * Changes in manuals provided by aircraft manufacturer; * Operating procedures and checklists; * Rules and regulations; * Innovation in the aviation industry; * ... | * ATO approval certificate and appendix; * Aviation legislation; * Organisation documentation; * ... |
| **Training activities**   * Review of training activities conducted; * Changes and improvement in training programme, syllabi and associated documentation and forms; * Teaching material; * Planned and ongoing training activities – theoretical and practical; * human resources, facility and infrastructure; * Aircraft fleet and dispatch reliability; * Coordination and assignment of instructors and students; * ... | * Training manual; * ... |

## Proficiency checks

Proficiency check denotes the demonstration of skill to revalidate or renew ratings and is an element of the instructor’s refresher recurrent and standardisation training for flight instructions of all categories.

For procedures, instructions and guidance to conduct proficiency checks, refer to:

«Flight Examiner Manual (FEM)» issued by CAAT

Relevant Formexa

Update instructor file and instructor list

## Upgrading training

|  |  |
| --- | --- |
| **Term** | **used for:** |
| Upgrading training | * gaining further instructor privileges. E.g. additional requirements for instructor for MPL, UPRT instructors training course |

In order to extend privileges, the instructor has to undergo an upgrading training. The upgrading training will be successfully completed after following a training course according to the approved syllabus for the respective category of rating or certificate.

* For training courses and associated syllabi, refer to the Training Manual.
* After successfully completion of the training, the instructor must be designated as PIC on the training aircraft (if relevant) and standardized to the new training program.

If the relevant training requires skill test or Assessment of competence:

«Flight Examiner Manual (FEM)» issued by CAAT

Relevant Formexa

In all cases: Update instructor file and instructor list

## ATO personnel standards evaluation

### Head of Training (HT)

The competence of the Head of Training is supported and evaluated by the Accountable Manager:

| **Key Element** | **Reference** | **Frequency** |
| --- | --- | --- |
| * Status of: * Overall safety standards; * realisation of the organisation’s vision and philosophy; * development and implementation of the training programme including continued improvement; * management of occurrences, including error management; * implementation of corrective and preventive action; | * «Management system training» Organisation Management Manual (OMM), Chapter 8; * Yearly employee qualification; * ... | Yearly |
| * Management skills: * Aptitude, knowledge, practice, organisation, decision-making, involvement, controlling, time management, direct and information management; * internal and external impact for   the organisation and individuals;   * performance of subordinates; * Subordinate, employee and student satisfaction; * … | * «Management system training» Organisation Management Manual (OMM), Chapter 8; * Feedback and reporting; * Yearly employee qualification; * … |
| * Status of the planned and ongoing training activities - theoretical and practical - including coordination and monitoring of instructors, students and aircraft dispatch reliability; * ... | * Monthly meeting; * OM Chapter A.6 «Preparation of flying programme»; * Occurrence and feedback reporting; * Aircraft technical status: * Aircraft technical log system; * Maintenance reporting. * ... | Monthly |
| * Student’s overall performance and progress; * Student behaviour, discipline and disciplinary action; * ... | * Reporting of student results and pass grades; * OM Chapter A.4 «Student discipline and disciplinary action»; * ... |
| * Representation of the organisation; | * Student satisfaction and feedback; * Financial key indicators; * Overall Image of Organisation; * … | Monthly |

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| * Safety performance of the daily flight training activity; * Implementation and improving of standard operating procedures, Flight Safety manual * Development, implementation and improvement of flight session plans; * Adherence to prescribed training programme, syllabi and associated flight session plans; * Standardisation and improving of flight instructor knowledge and skills; * ... | * Occurrence reporting; * instructor and student satisfaction and feedback; * Yearly employee qualification; * … | | Yearly |
| * Management skills; * Aptitude, knowledge, practice, organisation, decision making, involvement, controlling, time management, direct and information management; * internal and external impact for   the organisation and individuals;   * performance of instructors; * … |
| * Status of the planned and ongoing flight training activities - including coordination and monitoring of instructors, students and aircraft dispatch reliability; * … | | * OM Chapter A1.6 «Preparation of flying programme»; * Instructor’s training activity reporting; * Occurrence and feedback reporting; * Aircraft technical status: * Aircraft technical log system; * Maintenance reporting. | Bi-weekly |
| * Student’s individual performance and progress; * Student behaviour and discipline; * ... | | * Instructor’s reporting of individual student's performance and progress: * Instructor’s weekly briefing. * OM Chapter B.4 «Student discipline and disciplinary action»; * ... |
| * Development, implementation and improving of theoretical knowledge lesson plans including associated teaching material; * Adherence to prescribed training programme, syllabi and associated lesson plans; * Standardisation and improving of classroom teaching skills/capabilities and knowledge transfer of theoretical knowledge instructor; * … | | * Yearly employee qualification; * Theoretical knowledge instructor feedback; * Student’s performance, pass ratio, feedback and satisfaction; * … | Yearly |
| * Status of the planned and ongoing theoretical knowledge instruction activity – including scheduling, coordination and monitoring of instructors, facilities and teaching material; * ... | | * Training Organisation Planning Excel-File I://Org/Planning/...; * Instructor’s training activity, reporting; * Student notification and feedback; * ... | Bi-weekly |
| * Student’s individual performance and progress; * Student behaviour and discipline; * ... | | * Instructor’s reporting of individual student’s performance and progress; * Instructor’s weekly briefing * OM Chapter B.4 «Student discipline and disciplinary action»; * ... |

### Chief Flight instructor / chief theoretical knowledge instructor

| **Key Element** | | **Reference** | **Frequency** |
| --- | --- | --- | --- |
| * Status of: * Overall safety standards; * realisation of the organisation’s vision and philosophy; * review of the training programme including continued improvement; * management of occurrences, including error management; * implementation of corrective and preventive action; | | * Yearly employee qualification; * ... | Yearly |
| * Management skills: * Aptitude, knowledge, practice, organisation, decision-making, involvement, controlling, time management, direct and information management; * internal and external impact for   the organisation and individuals;   * performance of subordinates; * Subordinate, employee and student satisfaction; * … | | * Feedback and reporting; * Yearly employee qualification; * … |
| * Status of the planned and ongoing instructor training activities - theoretical and practical - | | * Instructor standardization Monthly meeting; * FSTD, Flight activity | Monthly |
| * instructors’s training and evaluation   ... | | * Initial training * Refresher training * Standardisation training * Proficiency checks * upgrading training... |
| In coordination with Head of Training   * Safety performance of the daily flight training activity; * Implementation and improving of standard operating procedures; Flight Safety Manual (FSM) * Development, implementation and improvement of flight session plans; * Adherence to prescribed training programme, syllabi and associated flight session plans; * Standardisation and improving of flight instructor knowledge and skills; * ... | * Occurrence reporting; * instructor and student satisfaction and feedback; * Yearly employee qualification; * … | | Yearly |

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| * Management skills; * Aptitude, knowledge, practice, organisation, decision making, involvement, controlling, time management, direct and information management; * internal and external impact for   the organisation and individuals;   * performance of instructors; * … |  | |  |
| * Status of the planned and ongoing ATO instructor training activities - theoretical and practical - | | * Instructor standardization Monthly meeting; * FSTD, Flight activity | Bi-weekly |
| * ATO instructors’s training * ... | | * Initial training * Refresher training * Standardisation training * Proficiency checks * upgrading training... |
| * Development, implementation and improving of ATO Instructors training lesson plans including associated teaching material; * Adherence to prescribed ATO instructors training programme, syllabi and associated lesson plans; * … | | * … | Yearly |

### Instructors for flight instructions all categories

The competence of the instructors for flight instructions are supported, standardised and evaluated by the Chief Flight Instructor:

| **Key Element** | **Reference** | **Frequency** |
| --- | --- | --- |
| * Basic Aeronautical and technical knowledge; * Flying skills; (Pilot competencies) * Threat and error management, decision-making; * adherence to standard operating procedures as described in the operations manual, checklists and manual provided by the aircraft manufacturer; use of Flight Safety manual * Adherence to the prescribed training programme, syllabi and associated flight session plans; * Effective and efficient instructional technique/skills; (instructor competencies) * the accuracy and adequacy during the evaluation/analysis of student performance and learning process; * ascertaining and support of student needs; * social skills and crew resource management; * record keeping and information management; * ... | * Training organisation Documentation, forms and records; * Proficiency checks; * Instructor assessment of competence; * Standardisation training; * Refresher training; * Occurrence reporting; * Weekly Briefing; * … | Continuously |

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| * Student’s individual performance and progress; * Student behaviour and discipline; * ... | * Syllabus and flight session targets, students training forms and records; * Student’s performance, pass ratio, feedback and satisfaction; * OM Chapter A.4 «Student discipline and disciplinary action»; * ... |  |

### Theoretical Knowledge Instructors (TKI)

The competence of Theoretical Knowledge Instructors is supported, standardised and evaluated by the Chief Theoretical Knowledge Instructor:

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| **Key Element** | **Reference** | **Frequency** |
| * Classroom teaching skills/capabilities and knowledge transfer; * Use of teaching material and means of demonstration; * Adherence to prescribed training programme, syllabi and associated lesson plans; * Record keeping and information management; * … | * Training organisation Documentation; * Weekly Briefing; * … | Continuously |
| * Student’s individual performance and progress; * Student behaviour and discipline; * *...* | * Student training forms and records; * Student’s performance, pass ratio, feedback and satisfaction; * OM Chapter A.4 «Student discipline and disciplinary action»; * *...* |

### Other ATO Personnel

The competence of other ATO personnel (e.g. secretary, accounting etc.) is standardised based on:

* the Management System Training, OMM Chapter 8:
* «Basic Training – All Employees»;
* «Continuous Training»; and
* evaluated by means of yearly employee qualification by the Accountable Manager.