Contact

Post:
AERONAUTICAL INFORMATION SERVICES
DEPARTMENT OF CIVIL AVIATION
NO. 27, PERSIARAN PERDANA
LEVEL 1-4, PODIUM BLOCK, PRECINCT 4,
62618 PUTRAJAYA
MALAYSIA
Tel: 6-03-8871 4000
Fax: 6-03-8881 0530
AFS: WMKKYAYS
Email: ais@dca.gov.my
URL: aip.dca.gov.my

AIC for Malaysia

AIC
08/2002
Effective from 25 JUL 2002
to PERM
Published on 25 JUL 2002

FLIGHT CREW: PILOTS AND FLIGHT ENGINEERSTYPE RATING, TRANSITION, RECURRENT AND UPGRADE TRAINING(FIXED WING)

1 INTRODUCTION

1.1 This circular acts as a supplementary document to MCAR 1996 Regulation 48, 49 (2), Part B of the Eight Schedule, Part B of the Ninth Schedule and in accordance with the requirement stipulated in ICAO Annex 6 Part 1 Chapter 9 (9.1 & 9.3) and should be read in conjunction with AIC 6/84 dated 17 Feb 84, AIC 6/87 dated 25 Nov 87 and AIC 5/90 dated 01 June 90.

2 REQUIREMENTS

2.1 All Malaysian operators shall established and maintain a ground (theoretical) and flight training programmes and syllabus for flight crew initial type rating, transition, recurrent and upgrade training and/or synthetic flight instructions/training. The operators shall seek approval from DCA before implementation and to be incorporated into the respective training manual.

3 APPLICABILITY

3.1 This Training Programme requirement is applicable to all operators operating international (fixed wing) commercial public transport aircraft and domestic commercial public transport aircraft and is applicable to all flight crew (Pilots and Flight Engineers) to be assigned to their duties.

4 PROGRAMME AND SYLLABUS CONTENTS

4.1 A Training Programme is a system of instructions that includes curriculums facilities, instructors, evaluators, check airmen, courseware, instructional delivery methods, and testing and checking procedures. The training program ensures that each flight crew member is adequately trained and certificated for each aircraft duty position and kind of operation in which each person serves.

4.2 The training program shall include proper flight crew coordination and training in all types of emergency or abnormal situations or procedures caused by power plant, airframe or system malfunctions, fire or other abnormalities. The training program shall also include training in knowledge and skill related to human performance and in the transport of dangerous goods. The training for each flight crew member, particularly that relating to abnormal or emergency procedures, shall ensure that all flight crew members know the functions for which they are responsible and the relation of this functions to

the functions of other crew members. The training program shall program shall be given on recurrent basis, as determined by DCA and shall include an examination to determine competence.

Note: The scope of recurrent training required may be varied and need not be as extensive as the initial type training given in a particular type of aeroplane.

5 GLOSSARY OF TERMS

5.1 The following terms are used throughout this AIC and are defined as follows:

5.1.1 Categories of Training: Courses of training that provide the necessary training and checking or testing for various types of flight crew members who have not previously qualified to serve in specific duty positions. Each category of training consists of one or more curriculum.

5.1.2 Instructional Delivery Methods: Methodology for conveying information to a student. This may includes lectures, demonstrations, audiovisual presentations, home study assignments, workshops, and drills. Training devices, flight simulators, aircraft, and computer workstations are also considered instructional delivery methods.

5.1.3 Testing and Checking: Methods for evaluating trainee as they demonstrate a required level of knowledge and, when appropriate, apply the knowledge and skills learned in instructional situations to practical situations.

5.1.4 Programmed Training Hours: The total amount of time necessary to complete the training required by a curriculum segment. This must provide an opportunity for instruction, demonstration, practice and testing, as appropriate. The programmed time must be specified in hours on the curriculum segment outline. The syllabus contents must include instructions in at least the following:

6 GENERAL SUBJECTS

6.1 GENERAL OPERATIONAL SUBJECT AREA TRAINING MODULES

6.1.1 The General Operational Subjects area of a specific training curriculum segment outlines detailed instructions on certain operational requirements on which training is being conducted. Typical general operational subjects include the following: aircraft systems, performance and limitations, pre-flight inspection, weight and balance, flight planning, aircraft operating manual, the Approved Flight Manual (AFM), Crew Resource Management (CRM), and adverse weather practices. General subjects shall includes:

a. Principles and methods for determining weight and balance, and runway limitations for takeoff and landing;
b. Other instructions as necessary to ensure his competence (ETOPS, RVSM, MNPS, FANS, ICING & DE-ICING etc).

7 EACH AIRPLANE TYPE RATING

7.1 All operators shall follow at least the minimum requirements proposed by the manufacturer:

a. A general description;
b. Performance characteristics;
c. Engines and propellers;
d. Major components;
e. Major airplane systems(i.e., flight controls, electrical, hydraulic); other systems as appropriate; principles of normal, abnormal, and emergency operations; appropriate procedures and limitations;
f. Procedures for;
g. Recognizing and avoiding severe weather situations;
h. Escaping from severe weather situations, in case of inadvertent encounters, including low altitude wind shear, and operating in or near thunderstorms (including best penetrating altitudes), turbulent air (including clear air turbulence), icing, hail, and other potentially hazardous meteorological conditions;
i. Operating limitations;
j. Fuel consumption and cruise control;
k. Flight planning;
l. Each normal and emergency procedure; and
m. The approved Airplane Flight Manual.

8 INITIAL TYPE RATING

8.1 Initial type rating ground training for pilots and flight engineers must consist of at least the programmed hours of instruction in the required subjects specified by the manufacturers on:

a. Reciprocating powered.
b. Turbo propeller powered.
c. Turbojet powered.

9 PILOTS INITIAL TYPE RATING

9.1 Pilots initial type rating, transition recurrent and uprade flight training must include flight training and practice in the manoeuvres and procedures set forth in the certificate holder's approved syllabus and low altitude wind shear flight training program as applicable.

a. The manoeuvres and procedures required must be performed in-flight except if an approved simulator is available.
b. The wind shear manoeuvres and procedures must be performed in a simulator in which the manoeuvres and procedures are specifically authorized to be accomplished; and
c. To the extent that certain other manoeuvres and procedures may be performed in an airplane simulator, an appropriate training device.
d. If the certificate holder's approved training program includes a course of training utilizing an airplane simulator, each pilot must successfully complete:
    i. Training and practice in the simulator in at least all of the required manoeuvres and procedures for initial flight training that are capable of being performed in an airplane simulator without a visual system; and
    ii. A flight check in the simulator or the airplane to the level of proficiency of a pilot in command or second in command, as applicable, in at least the required manoeuvres and procedures that are capable of being performed in an airplane simulator without a visual system and;
    iii. Training and practice in at least the manoeuvres and procedures set forth in the certificate holder's approved low altitude wind shear flight training program that are capable of being performed in an airplane simulator in which the manoeuvres and procedures are specifically authorized.

10 FLIGHT ENGINEERS: INITIAL TYPE RATING AND TRANSITION FLIGHT TRAINING.

10.1 Initial and transition flight training for flight engineers must include at least the following:

a. Training and practice in procedures related to the carrying out of flight engineer duties and functions. This training and practice may be accomplished either in-flight, in an airplane simulator, or in a training device.
b. A flight check that includes:
    i. Pre-flight inspection;
    ii. In-flight performance of assigned duties accomplished from the flight engineer station during taxi, run up, takeoff, climb, cruise, descent, approach, and landing;
    iii. Accomplishment of other functions, such as fuel management and preparation of fuel consumption records, and normal and emergency or alternate operation of all airplane flight systems, performed either in-flight, in an airplane simulator, or in a training device.

    Note: Flight engineers possessing a commercial pilot licence with an instrument, rating and category, or pilots already qualified as second in command and reverting to flight engineer, may complete the entire flight check in an approved airplane simulator.
c. Except as permitted in paragraph (d) of this section, the initial flight training required by paragraph (a) of this section must include at least the same number of programmed hours of flight training and practice that are specified for a second in command pilot.
d. If the certificate holder's approved training program includes a course of training utilizing an airplane simulator or other training device, each flight engineer must successfully complete in the simulator or other training device:
    i. Training and practice in at least all of the assigned duties, procedures, and functions required by paragraph (a) of this section; and
    ii. Flight checks carry out to a flight engineer level of proficiency in the assigned duties, procedures, and functions.

11 RECURRENT TRAINING

11.1 Recurrent training must ensure that each crew member is adequately trained and currently proficient with respect to the type airplane (including differences training, if applicable) and crew member position involved.

11.2 Recurrent ground training for crew members must include at least the following:

a. A quiz or other review to determine the state of the crew member's knowledge with respect to the airplane and position involved.
b. Instruction as necessary in the subjects required for initial ground training.
c. Approved recurrent CRM training. For flight crewmembers, this training or portions thereof may be accomplished during an approved simulator line operational flight training (LOFT) session. The recurrent CRM training requirement does not apply untul a person has completed the applicable initial CRM training.
d. Recurrent ground training for crewmembers must consist of not less than the programmed hours specified by the manufacturer:

11.3 Recurrent flight training for flight crewmembers must include at least the following:

a. For pilots, flight training in an approved simulator in manoeuvres and procedures set forth in the certificate holder's approved low altitude wind shear flight training program and flight training program approved by the DCA,
b. For flight engineers, flight training as approved by DCA except as follows:
    i. The specified number of in-flight hours is not required; and
    ii. The flight check, other than the pre-flight inspection, may be conducted in an airplane simulator or other training divice. The pre-flight inspection may be conducted in an airplane, or by using an approved pictorial

means that realistically potrays the location and detail or pre-flight inspection items and provides for the portrayal of abnormal conditions. Satisfactory completion of an approved line oriented simulator-training program may be substituted for the flight check.

11.4 Training program and revision: Initial and final approval.

a. To obtain initial and final approval of a training program, or a revision to an approved training program, each certificate holder must submit to the DCA:
   i. An outline of the proposed program or revision, including an outline of the proposed or revised curriculum, that provides enough information for a preliminary evaluation of the proposed training program or revised training program; and
   ii. Additional relevant information as may be requested by the DCA.
b. If the proposed training program or revision complies with this subpart the DCA grants initial approval in writing after which the certificate holder may conduct the training in accordance with that program. The DCA then evaluates the effectiveness of the training program and advises the certificate holder of deficiencies, if any that must be corrected.
c. The DCA grants final approval of the training program or revision if the certificate holder shows that the training conducted under the initial approval set forth in paragraph (b) of this section ensures that each person that successfully completes the training is adequately trained to perform his assigned duties.
d. In granting initial and final approval of training programs or revisions, including reductions in programmed hours specified in this subpart, the DCA considers the training aids, devices, methods, and procedures listed in the certificate holder's curriculum. If approval of reduced programmed hours of training is granted, the DCA provides the certificate holder with a statement of the basis for the approval.
e. Whenever the DCA finds that revisions are necessary for the continued adequacy of a training program that has been granted final approval, the certificate holder shall, after notification by the DCA, make any changes in the program that are found necessary by the DCA. Within 30 days after the certificate holder receives such notice, it may file a petition to reconsider the notice. However, if the DCA finds that there is an emergency that requires immediate action in the interest of safety in air transportation, he may, upon a statement of the reasons, require a change effective without stay.

12 TRAINING PROGRAMME

12.1 Flight training refers to the conduct of training events in a flight simulator or an Flight Training Device (FTD) in accordance with DCA approved training curriculum. Flight training may be conducted using a combination of flight simulator and FTD. In certain instances, flight training may be conducted entirely in an advanced flight simulator. In any case, the primary objective of flight training is to provide flight crewmembers with the skills and knowledge necessary to perform to a desired standard. This ia accomplished by the demonstration, instruction, and practice of manoeuvres and procedures (training events) pertinent to a particular aircraft and crewmember duty position. The successful completion of flight training is validated at the Training Centre approved by DCA through appropriate testing and checking. Flight Training credit is accumulated by the trainee crewmembers whenever they occupy their respective duty positions during flight simulator training.

12.2 Approval of (synthetic) Flight Simulators and other Flight Training Devices.

a. Each Flight simulator and other FTD that is used in a training course must:
   i. Be specifically approved for:
      - The certificate holder;
      - The type airplane and, if applicable, the particular variation within type, for which the training or check is being conducted; and
      - The particular manoeuvre, procedure, or crewmember function involved.
   ii. Maintain the performance, functional, and other characteristics that are required for approval.
   iii. Be modified to conform with any modification to the airplane being simulated that results in changes to performance, functional, or other characteristics required for approval.
   iv. Be given a daily functional pre-flight check before being used.
   v. Have a daily discrepancy log kept with each discrepancy entered in that log by the appropriate instructor or check airman at the end of each training or check flight.
b. A particular simulator or other training device may be approved for use by more than one certificate holder.
c. A simulator may be used instead of the aircraft to satisfy the in-flight requirements if the simulator:
   i. Is approved and meets the appropriate simulator requirements
   ii. Is used as part of an approved program that meets the training requirements
   iii. A simulator approved under this section must be used instead of the aircraft to satisfy the pilot flight training requirements prescribed in the certificate holder's approved low altitude wind shear flight training program.

12.3 Training courses using simulators and other training devices.

a. Training courses utilizing simulators and other training devices may be included in the certificate holder's approved training program for use as provided in this section.
b. A course of training in a simulator may be included for use if that course -
   i. Provides at least 4 hours of training at the pilot controls of a simulator as well as a proper briefing before and after the training;
   ii. Provides training in at least the required procedures and manoeuvres; or

iii. Provides line oriented training that:
- Utilizes a complete flight crew;
- Includes at least the manoeuvres and procedures (abnormal and emergency) that may be expected in line operations;
- Is representative of the flight segment appropriate to the operations being conducted by the certificate holder; and

iv. Is given by a qualified instructor who meets the applicable requirements.

c. The satisfactory completion of the course of training must be certified by either the DCA or a qualified authorised examiner.

13 LINE TRAINING

13.1 Purposes for Line Training. One or more of the reasons described below may apply:

a. Introduction of new aircraft types or varian s;
b. Introduction of new systems (for example, PMS, TCAS, Omega, INS);
c. Introduction of new operations (for example, oceanic operations);
d. Experience for a particular crew position (for example, PIC, SIC, F/E);
e. Post qualification skill refinement (for example, refining alternate or multiple ways to use particular equipment to increase operating efficiency, operating flexibility, or convenience);
f. Special characteristics (for example, unique airports, mountainous areas, unusual weather, special air traffic control procedures, non-standard runway surfaces, etc.).

13.2 In acquiring the operating experience, sectors, and line operating flight time for consolidation of knowledge and skills, crewmembers must comply with the following:

a. In the case of a flight crewmember, he must hold the appropriate certificates and rating for the crewmember position and the airplane, except that a pilot who is meeting the pilot in command requirements must bold the appropriate certificates and rating for a pilot in command in the airplane.
b. The operating experience, sectors, and line operating flight time for consolidation of knowledge and skills must be acquired after satisfactory completion of the appropriate ground and flight training for the particular airplane type and crewmember position.
c. The experience must be acquired in flight during operations under this part. However, in the case of an aircraft no: previously used by Malaysia Airlines, operating experience acquired in the aircraft during proving flights or ferry flights may be used to meet this requirement.

13.3 Pilot crewmembers must acquire operating experience and operating cycles as follows:

a. A pilot in command must perform the duties of a pilot in command under the supervision of qualified training personnel.
b. A second in command pilot must perform the duties of a second in command under the supervision of qualified training personnel.
c. The hours of operating experience and sectors for all pilots are as follows:
   i. A minimum hours in turbo-propeller powered airplanes and turbojet airplanes including operating experience in both airplane groups must include number of sectors to be provided by the operator and approved by DCA.

14 CURRICULUM SEGMENT OUTLINE

14.1 This includes the total amount of time allotted to complete the training in the flight training curriculum segment outline for the aircraft and the number of flight simulator periods required to complete the training. However, a flight crewmember must successfully complete all flight training manoeuvres outlined in the syllabus before being evaluated. A generic/example of ground training segment outline is as per Attachment A.

This circular is issued for information, guidance and necessary action and shall be implemented with immediate effect.

DATO' IR KOK SOO CHON
Director General
Department of Civil Aviation
Malaysia.