VOLUME 2

AIR OPERATOR CERTIFICATION AND ADMINISTRATION

TABLE OF CONTENTS

CHAPTER 1
PREAPPLICATION AND APPLICATION

1. THE CERTIFICATION PROCESS.

The certification process which will be followed by the DGAC for the initial issuance of an Air Operator's Certificate (AOC) is divided into the following steps:

- Pre-application
- Formal application
- Preliminary financial, economic, and legal assessment of the application
- Preliminary technical assessment of the application including document review
- Operational inspections
- Decision on application and award of AOC and ops specs

Information concerning the first two steps follows in this chapter. Information concerning the remaining steps is contained in subsequent chapters to this volume.

2. PRE-APPLICATION PHASE.

This phase includes all of the preliminary contact with the prospective operator prior to the submission of a formal application. During this time, the DGAC will make the potential operator aware of the regulatory requirements which must be met in order to obtain an AOC and of the exact steps in the certification process which must be accomplished before the AOC may be issued. It is essential that the applicant has a clear understanding of the form, content, and documents required for the formal application. To this end, Appendix A to this volume *Information for Prospective Applicants for an Air Operator Certificate,* which describes the process in detail, will be provided to the potential applicant.

3. FORMAL APPLICATION.

The formal application will consist of a letter to the Director General containing the following information:

A. The name and address of the applicant and the main base of the proposed operations;

B. description of the applicant's business organization, corporate structure, and names and addresses of those entities and individuals having a major financial interest;

C. information on management organization and key staff members, including their title, name, background, qualifications and experience;

D. detailed information on flight operations under the following headings:

(1) type of aircraft, communication and navigation equipment, instruments, equipment and flight documents to be used;

(2) arrangements for maintenance and inspection of aircraft and associated equipment;

(3) State of Registry of the aircraft - if foreign registered a copy of the lease agreement should be provided;

(4) data concerning each flight crew member including types of certificates or license number, ratings, medical certificate and evidence of currency in assigned aircraft;

(5) arrangements for crew and ground personnel training and qualification;

(6) installations and equipment available;

(7) proposed routes, including geographical tracks, minimum flight altitudes, destination and alternate aerodromes to be used including data on instrument approach procedures, proposed aerodrome operating minima, navigation and communications facilities;

(8) details of operational control and supervision methods to be used; and

(9) nature of operations - passenger/cargo/mail, day, night, VFR or IFR, etc.;

E. detailed description of how the applicant intends to show compliance with each provision of the applicable CASR's;

F. specified financial data; and

G. desired date for operation to commence.

CHAPTER 2

PRELIMINARY ASSESSMENT OF THE APPLICATION

1. GENERAL.

The importance of a thorough and careful preliminary assessment of the application cannot be overemphasized. The more thoroughly the applicant's competence is established at the initial stage, the less will be the likelihood of having serious problems in the operational inspection phase or during the course of subsequent operations. Such an assessment is essential at an early stage to reveal any critical deficiencies in the applicant's proposals and enable the operator to prepare alternative proposals. If deficiencies are found which are such that they can be rectified, the applicant should be given a reasonable opportunity to do so; otherwise the application should be rejected. This preliminary assessment consists of two phases:

- Financial, economic and legal assessment
- Technical Assessment/Document review

2. PRELIMINARY FINANCIAL, ECONOMIC, AND LEGAL ASSESSMENT.

In assessing the application prior to a detailed operational inspection it will be necessary for the DGAC to make a preliminary investigation with total satisfaction that the applicant has:

- sufficient financial resources;
- a route structure for the proposed operation;
- an intended level of service that meets a need or demand and is in the public interest;
- proposed a type and level of operation that is in accord with bilateral or multi-lateral air transport agreements relating to traffic rights, frequencies, capacity, routes, etc., to which the State is a party;
- presented traffic studies or other data indicating that the proposed operation should be economically successful; and
- management structure and suitable personnel, equipment, facilities, manuals, buildings, service agreements, etc., or will be able to obtain them.

Frequently, the financial viability of the operation is the critical factor in reaching a decision as to whether an AOC should be awarded. Sufficient financial resources must be available to the operator so that the operator is able to obtain all required equipment, facilities and manpower and be able to fully support operations in the early stages when revenues are difficult to predict and may in any case be very low. Marginal or severely limited resources frequently result in an adverse effect on safety and efficiency. Experience indicates that operators may tend to short cut such vital matters as required maintenance, adequate spare parts, training of personnel and other similar matters with safety implications. The determination of financial resources of the applicant is usually based on an audit of the operator's assets and liabilities and a thorough

evaluation of financial and statistical records and other pertinent data such as proposed arrangements for the purchase or lease of aeroplanes and major equipment.

In recent years the leasing of aircraft with or without flight crew or cabin crew has come into widespread use on an international basis. Thus, in many instances the lease will involve aircraft on the register of one State leased to an operator having the nationality of another State. Unless suitable arrangements are made by the State of Registry and the State of the Operator, complex legal problems as well as safety problems, particularly in respect of the continuing airworthiness and operations supervision, may result. Consequently, the assessment of any proposed leasing arrangements should be carried out in detail.

If the proposed operation is not considered to be viable in respect of the financial, economic and legal factors, further action should be suspended until it is determined whether the deficiencies can be rectified.

3. PRELIMINARY TECHNICAL ASSESSMENT - DOCUMENT REVIEW.

A. After the DGAC has determined that the proposed operation meets the necessary financial, economic, and legal criteria enumerated in the preceding chapter, a preliminary technical assessment of the operation will be undertaken. Before this assessment can commence, the operator will be required to submit to the DGAC the following documents or their equivalent(s):

- Approved Flight Manual(s)
- Maintenance Manual
- Company Operations Manual
- Flight Attendant Manual (Passenger Operators)
- Minimum Equipment Lists and Configuration Deviation Lists
- Flight Operations Officer or Dispatcher Manual
- Weight and Balance Manual
- Jeppsens Route Subscription
- Company Flight Crew Training Manual
- Dangerous Goods Manual

It must be emphasized that the company manual or manuals must be sufficiently detailed to provide a comprehensive account of practically every aspect of the operator's organization, policies, and procedures. The primary focus of the preliminary technical assessment will be upon the information provided by the prospective operator in these manuals. However, it will be necessary for DGAC inspectors to meet regularly with appropriate applicant officials in order to:

- Become fully informed concerning the nature and extent of the proposed operation, the types of aircraft to be utilized, the

organizational structure, management philosophy, established lines of authority and the duties and responsibilities of key personnel;

- ! Develop a firm understanding regarding the applicant's proposed maintenance and inspection programme for aircraft and related equipment;
- ! Develop a firm understanding of the applicant's proposed system for establishing and maintaining all required company operational, maintenance and personnel records;
- ! Confirm the various phases of the applicant's ground school, maintenance, and flight training programmes in order to make a general assessment of their adequacy and conformity with the DGAC policies relative to training;

B. Based upon a preliminary review of the content of the operators manual system, the information contained in the application, and additional information obtained during meetings with appropriate operator's officials, the DGAC must make the following general determinations:

(1) The applicant has aircraft which are suitable for the proposed operation. In this regard the following questions should be considered:

(a) Are the aircraft to be operated at realistic power settings and speeds?

(b) Is the aircraft's operating mass likely to be critical for the proposed operation?

(c) Are operating flight levels, stage lengths and aerodrome dimensions within the aircraft's performance capability?

(d) Can the aircraft be properly maintained, inspected and supported with the available maintenance and spare parts resources?

(e) Are the aircraft suitably instrumented and equipped for the proposed operation?

(2) The applicant has the potential overall ability to conduct the proposed operation. In this regard the following questions should be considered:

(a) Can the operation as outlined, be safely executed with the resources available?

(b) Is the flight crew establishment sufficient to enable the proposed operation to be carried out without infringement of flight or duty time limitations?

(c) Is the requirement for aircraft utilization reasonable?

(d) Does the plan of operations permit compliance with aircraft maintenance schedules?

(3) Selected routes or areas of operation and minimum flight altitudes can be navigated safely with the navigation equipment available;

(4) The applicant has a full appreciation for the responsibilities under the regulatory requirements including the obligations as a potential holder of an AOC;

(5) The applicant has an overall fitness to safely conduct the proposed

operation; this should include a comprehensive review of the background of the individuals who hold responsible positions in management or any position of significant control over the applicant's activities. As a minimum, the background and qualifications of the Directors or board members and management and executive staff should be evaluated;

(6) There are provisions for the establishment of an accident prevention and flight safety programme.

(7) The company's organizational structure and management practices and philosophy are adequately described so as to enable all employees to carry out their duties safely and in a standardized manner;

C. In conjunction with the above, during the course of the preliminary technical assessment, the DGAC will:

(1) advise and counsel appropriate applicant personnel regarding problems and questions that arise concerning certification procedures and requirements, including explanations concerning DGAC regulations and accepted methods of compliance;

(2) explain to the applicant the type of AOC that is contemplated, the significance of any limitations that may be prescribed and the operations specifications that will be issued in conjunction with the AOC;

(3) confirm, in a letter addressed to the applicant, any commitments made or serious difficulties noted during the course of the preliminary assessment;

When the preliminary assessment is completed, the DGAC should be in possession of sufficient information to determine, with a reasonable degree of certainty, the ability of the applicant to satisfactorily conduct the proposed operation. If the assessment is favorable, the applicant should be encouraged to proceed with its plans with the assurance that an AOC will be issued subject to satisfactory completion of the operational inspection.

CHAPTER 3

OPERATIONAL INSPECTIONS

1. GENERAL.

The preliminary assessment of the application, as described in the preceding chapter, should provide the DGAC with a general appreciation of the scope of the proposed operation and the potential ability of the applicant to conduct it. However, before authorizing the issuance of the AOC, the DGAC will need to investigate thoroughly the operating ability of the applicant. This important and relatively more detailed phase of the investigation will require the applicant to demonstrate through day-to-day administration and operations, including in some cases a series of proving flights over the proposed routes, the adequacy of facilities, equipment, operating procedures and practices, and the competence of administrative, flight and ground personnel.

Operational inspections and required demonstrations will normally be conducted in the following sequence:

(a) Organizational Structure/Management Evaluation
(b) Operational Control Inspection
(c) Training Programme Inspection
(d) Training and Qualification Records Inspection
(e) Flight and Duty Time Records Inspection
(f) Station Facility Inspections
(g) Emergency Evacuation Demonstration
(h) Ditching Demonstration
(i) Proving Flights including En Route Cockpit and Cabin Inspections

Detailed information regarding the conduct of these inspections and demonstrations is contained in the sections which follow.

2. ORGANIZATIONAL STRUCTURE AND MANAGEMENT EVALUATION

The applicant's organizational structure, managerial style, direction and philosophy must be further evaluated to ensure that necessary and proper control is exercised over the proposed operation and the personnel involved. The preliminary assessment of this area which was conducted in accordance with the preceding chapter mainly ensured that these organizational elements were clearly spelled out in the operator's manuals and instructions. During the operational inspection portion of the approval process, the IIII will have the opportunity to verify that these written policies are fully understood and implemented throughout the organization.

Through discussions with key management personnel and observations, the inspectors must determine whether clear lines of authority and specific duties and responsibilities of subordinate elements and individuals are established. These duties and responsibilities must be clearly outlined in the applicant's operations and maintenance manuals and other company documents, and it should also be determined that acceptable procedures are established, and

followed, for conveying such company procedures and operating instructions to keep affected personnel currently informed. The authorities, tasks, responsibilities and relationships of each key position must be clearly understood and followed by individuals occupying these positions.

The applicant's staffing must be investigated to determine whether an adequate number of personnel are employed at the executive and other levels to perform necessary functions. The number and nature of personnel will vary with the size and complexity of the organizations. Through a sampling questioning process, the DGAC inspector must make a finding that management personnel are qualified, experienced and competent to perform their assigned duties.

At all levels applicant personnel must be thoroughly integrated into the operation and be made fully aware of the channels of communication to be used in the course of their work and of the limits of their authority and responsibility.

3. OPERATIONAL CONTROL INSPECTION

A. Evaluation of the overall effectiveness of an operational control organization should include a through analysis of the following factors:

(1) An operator is required to establish and maintain an approved method of control and supervision of flight operations. Because of the nature and extent of the duties and responsibilities involved in the supervision of flight operations, the DGAC and the operator should consider the advantages of an approved method of control and supervision of flight operations requiring the services of a flight operations officer/flight dispatcher. In such a system the flight operations officer/flight dispatcher is assigned to duty in the company operations control center and is responsible, while on duty, for carrying out the operational control procedures and policies specified in the operations manual.

(2) The operations manual should specify the responsibilities and functions assigned to flight operations officers/flight dispatchers. The detailed responsibilities should include the provision of assistance to the pilot-in-command in flight preparation; completion of operational and ATS flight plans; liaison with air traffic, meteorological and communication services; and the provision to the pilot-in-command during flight of information necessary for the safe and efficient conduct of the flight. The flight operations officer/flight dispatcher should also be responsible for monitoring the progress of each flight under jurisdiction and for advising the pilot-in-command of company requirements for cancellation, re-routing or replanning should it not be possible to operate as planned. With regard to the foregoing, it should be understood that the pilot-in-command is the person ultimately responsible for the safety of the flight.

B. Volume 3, Chapter 4 of this manual provides detailed guidance concerning Operational Control inspections. The Operations Inspectorate will follow those procedures when conducting an inspection for initial issuance of an AOC, and will utilize the Checklist/Report form contained in that chapter for reporting the results of the inspection.

4. TRAINING PROGRAMME INSPECTION.

A. The training program could be described in detail in the operations manual or in a training manual, as part of the operations manual but issued as a separate volume. The choice will generally depend upon the extent of the operations and the number and types of aircraft in the operator's fleet. Most applicants find it convenient to set forth their training programs in a training manual of one or more volumes to facilitate easy applications and updating. Depending on the scope and complexity of the proposed operation the required training programs may be carried out under the direct control of the applicant or conducted by other training facilities under contract to the applicant or a combination thereof. In this case, the applicant will be required to provide a comprehensive description of the contract training for approval by the DGAC. In any event the Inspector will carry out a thorough analysis of all phases of the applicant's ground and flight training programs. This analysis should permit a determination as to whether the training methods, syllabus, training aids/devices, training standards, related facilities and record keeping are adequate. The qualifications of ground and RRRR personnel should be established as well as evaluation of their effectiveness.

   For purposes of initial approval of training programs for issuance of an AOC, the DGAC may require the applicant to formalize in detail only those training courses which must be accomplished prior to the first revenue flight of the airline, such as basic company indoctrination and initial or conversion ground and flight training. Other courses, such as periodic or recurrent flight and ground training, may be fully developed after the commencement of flight operations.

B. The detailed guidance and procedures contained in Volume 2, Chapter 9 and in Volume 3, Chapter 7 of this manual will be used for inspecting and approving training programs for initial issuance of and AOC.

5. RECORDS INSPECTIONS.

The primary purpose of records inspections is to ensure that the applicant has set up adequate systems for collecting and maintaining the following types of records:

- Operations and Flight (trip) records
- Flight and Duty Time records
- Training and Qualification records

An operator is not required to remove records from his facilities for purposes of inspection. The DGAC inspectors will normally examine all records on the operator's premises. Should removal of records become necessary, the applicant should be given an itemized receipt for all records removed.

A. *Operations and Flight Records.* The primary objective of an operations and flight records inspection during the certification process is to ensure that the operator has established a system for collecting and maintaining specific operational records for a period of at least 3 months. All of the elements of such a system should be in place awaiting the commencement of operations. The operations and flight records system will be inspected in accordance with the guidance contained in Volume 3, Chapter 5 of this manual.

B. *Flight and Duty Time Records.* As with operations and flight records, the applicant will probably not have accumulated any records concerning flight and duty time prior to the commencement of revenue operations. At this phase in the certification process, it will be determined that the applicant has developed an adequate system for maintaining these records. The flight and duty time record-keeping system will be inspected in accordance with Volume 3, Chapter 6 of this manual.

C. *Training and Qualification Records.* The applicant must have developed a method, including development of proper forms, for recording all training and qualification events which establish the qualification of crewmembers to occupy required positions in an airplane. The system must provide for the secure collection and maintenance of such records. At the time of operational certification for an AOC, the applicant must already have accumulated required training and qualification records for his initial cadre of flight operations personnel. The applicants system for recording events and collecting and maintaining such records will be examined in accordance with the guidance contained in Volume 3, Chapter 7 of this manual.

6. STATION FACILITY INSPECTIONS.

Each aerodrome which the operator intends to use must be inspected prior to the first revenue flight to that aerodrome, in order to ensure that the operator has the organization, facilities, and staffing to handle his aircraft at that destination. Station facility inspections may be accomplished during proving flights. However, if no proving flight is scheduled to a proposed operator destination, the DGAC and the operator must make arrangements to travel to and inspect that facility by another means. Information on station facility inspections along with the appropriate checklist/report form is contained in Volume 3 Chapter 11 of this manual.

7. EMERGENCY EVACUATION DEMONSTRATION.

In order to demonstrate that the airplane seating configuration, location and operation of emergency exits, and crew training and procedures will permit a successful evacuation of passengers in an emergency situation, the applicant will have to perform an emergency evacuation demonstration, prior to issuance of an AOC, for each aircraft type which he intends to operate. Procedures to be followed for these demonstrations may be found in Volume 2, Chapter 4 of this manual.

9. DITCHING DEMONSTRATION.

The applicant must demonstrate competency in removing and launching life rafts or sliderafts and in the use of emergency and survival equipment contained in those rafts. Procedures for ditching demonstrations are described in Volume 2, Chapter 5 of this manual.

10. PROVING FLIGHTS.

As a final demonstration that he has the proper organization, facilities, equipment, and training to successfully carry out revenue flights, the applicant will be required to perform a series of proving flights in accordance with the guidance contained in Volume 2, Chapter 3 of this manual.

CHAPTER 4

ISSUANCE OF THE AOC AND OPERATIONS SPECIFICATIONS

1. GENERAL.

Properly conducted and documented, the assessment and inspection program outlined in the foregoing chapters will enable the DGAC to determine if the applicant has fulfilled all technical safety and regulatory requirements for the issuance of an AOC. The program will have provided specific information related to:

A. the scope of the applicant's proposed operation;

B. the adequacy of the organization and resources;

C. the adequacy and effectiveness of company policies, directives, operating instructions and procedures prescribed by the applicant to be followed by the personnel in the conduct of the operation; and

D. the applicant's willingness and ability to implement the State's operating regulations and rules applicable to the proposed operation.

It will also reveal any deficiencies related to the operation and provide opportunities during the assessment and inspection phases for the applicant to remedy any such deficiencies to the satisfaction of the DGAC.

2. DETERMINATION ON THE APPLICATION.

Following the completion of the assessment and inspection program, the DGAC will be in a position to recommend to the Director General that the applicant is either:

A. properly equipped and capable in all respects of conducting the proposed operation safely, efficiently and reliably in accordance with the AOC's operations specifications or limitations; or

B. is not, or is not yet (pending correction of specified deficiencies), capable of conducting the proposed operation in an acceptable manner.

In those cases where the application is successful, the DGAC will prepare an Air Operator Certificate in accordance with the example contained in figure 4.1 at the end of this chapter. Operations specifications and limitations which will be applicable to the certificate will also be prepared for the operator as described in 4.4 below.

Should the applicant be considered not yet capable of conducting the proposed operation in the required manner, an AOC will not be issued and the applicant will be so advised by letter, indicating the reasons for the lack of approval.

3. ISSUANCE OF THE AIR OPERATOR CERTIFICATE.

Provided that the Director General is satisfied with the reports of the DGAC inspectors and has determined that there is no economic or legal bar to the proposed operation, it should proceed with the issuance of an AOC and the associated operations specifications.

In accordance with the example contained in Figure 4-1 at the end of this chapter, the AOC will contain or make reference to the following information:

- operator's identification (name, location);
- date of issue and period of validity;
- description of the types of operations authorized;
- the type(s) of aircraft authorized for use; and
- authorized areas of operation and routes.

When the AOC is issued the operator should be provided at the same time with officially authenticated copies of the approved operations specifications. The operator should also be advised as to the procedure to prepare and process future requests for amendments of operations specifications.

Once the operator has received the AOC and the approved operations specifications, the operator may inaugurate the flight operations authorized. Thereafter, the operator is responsible for conducting all operations in full compliance with these authorizations and the applicable provisions of the Aviation Act. No.15 of 1992. From that moment, the DGAC will establish a continued surveillance on the operator to ensure that the required standards of operation are maintained, in accordance with Volume 3 of this manual.

4. ISSUANCE OF OPERATIONS SPECIFICATIONS.

Operations specifications and limitations applicable to an AOC will be issued in conjunction with the issue of the certificate. These operating specifications and limitations, hereinafter referred to as operations specifications are utilized to supplement the general provisions of the basic certificate and to list authorizations and limitations not specifically covered by DGAC regulations. The combined issuance of the AOC and the operations specifications constitute DGAC approval of the operation.

This part for purposes of standardization and administrative convenience, operations specifications are divided into separate parts as follows:

- Part A - General Provisions
- Part B - En-route authorizations and limitations
- Part C - Aerodrome authorizations and limitations
- Part D - Maintenance
- Part E - Mass and balance

Figure 4-1

SAMPLE AIR OPERATORS CERTIFICATE

THE REPUBLIC OF INDONESIA

DEPARTMENT OF COMMUNICATIONS
DIRECTORATE GENERAL OF AIR COMMUNICATIONS

AIR OPERATOR CERTIFICATE

NO. AOC/……..

This certifies that : (Name of Airlines)

Address : (Address of Airlines)

has met the requirements of the Aviation Act number 15 year 1992 and the Civil Aviation Safety Regulations and the rules, regulations and standards prescribed thereunder for the issuance of this certificate, and is hereby authorized to operate as an air carrier in accordance with said Act and the rules, regulations and standards prescribed thereunder; and with the terms, conditions, and limitations contained in the Approved Operations Specifications.

This certificate is not transferable and shall continue in effect unless surrendered, suspended or revoked, shall continue in effect identinitely.

Director General of Air Communications

(Signature)

Effective date :
Issued at :

(Title)

CHAPTER 5
OPERATION SPECIFICATION

1. OBJECTIVE

This chapter provides guidance for the preparation, processing, generation, and issuance of new CASR Part 121/135 operations specifications.

2. GENERAL

A. Operations specifications transform the general terms of applicable regulations into an understandable document tailored to the specific needs of an individual certificate holder. When approved, the provisions of operations specifications are as legally binding as the regulations themselves (reference CASR 121 and 135).

B. The DGAC developed operation specifications to be able to keep abreast of rapidly advancing technology and the resulting variables. New operations specifications provide access to a DAC standardized format that includes only those authorizations, limitations, standards, and procedures that are applicable to the individual certificate holder.

3. DGAC RESPONSIBILITIES

A. When working with a certificate holder in developing operations specifications, coordination among all of the involved Inspectors is crucial. Coordination ensures the following:

(1) That all Inspectors are aware of pending changes to an existing certificate holder's operation

(2) That the certificate holder/applicant is not needlessly bothered by repetitious questions

B. Operations specifications are divided into six parts, each of which has an assigned letter designator and contains standard paragraphs. These paragraphs are numbered consecutively from 1 to 120. Inspectors, depending upon their specialty, are responsible for the following paragraphs:

(1) Part A - General (paragraphs A1 through A30). Paragraphs A1 through A8, A16, A28, and A29 are considered to be both airworthiness and operations paragraphs. Contents of these paragraphs must be carefully coordinated between Operations and Airworthiness Inspectors prior to approval.

(a) Approval of these paragraphs may be indicated by the signature of the assigned Principal Inspectors, Sub Director and Director.

(b) Operations Inspectors are primarily responsible for preparing and issuing the remaining paragraphs in Part A.

(2) Part B – En route Authorizations, Limitations, and Procedures (paragraphs B31 through B50). Operations Inspectors are primarily responsible for preparing and approving Part B, with coordination with the Airworthiness Inspector for part B34 IFR class I navigation using area or long range navigation systems in the Indonesian positive control area (PCA). The Operations Inspector has sole signature responsibility for Part B.

(3) Part C - Airplane Terminal Instrument Procedures and Airport Authorizations and Limitations (paragraphs C51 through C70). Part C pertains to airplanes only. Operations Inspectors are primarily responsible for preparing and approving the paragraphs in Part C.

(4) Part D - Aircraft Maintenance (paragraphs D71 through D95). Airworthiness Inspectors are primarily responsible for preparing and approving the paragraphs in Part D. Paragraphs D91 through D93 are reserved for future development.

(a) Paragraph D94 is reserved for the development of nonstandard paragraphs (see paragraph 6 of this chapter).

(b) Required paragraphs D71, D72, D73, and D85 contain maintenance and inspection program requirements and must be issued to each certificate holder, as required.

(c) Special authorizations and limitations paragraphs D74 through D84, D86, D87, D88, D89, D90, and D95 provide special authorizations and limitations which may be approved for a particular certificate holder.

(5) Part E - Weight and Balance (Paragraphs E96 through E100). Airworthiness Inspectors are primarily responsible for preparing and approving Part E. Part E must be carefully coordinated with Operations Inspectors.

(a) Paragraphs E97 through E100 are reserved for future development, as needed.

(b) Paragraph E96 shall be issued to certificate holders using approved weight and balance control procedures.

(6) Part H - Helicopter Terminal Instrument Procedures and Airport Authorizations and Limitations (paragraphs H101 through H120). Part H pertains to rotorcraft only. Operations inspectors are primarily responsible for preparing and approving the paragraphs in Part H.

3. USING NEW OPERATIONS SPECIFICATIONS

Further detail for generating new operations specifications refer to SI 120-03.

CHAPTER 6. CHECK PILOT/FLIGHT ENGINEER, INSTRUCTOR, AND SUPERVISOR PROGRAMS

SECTION 1. GENERAL

1. INTRODUCTION

This chapter contains guidance concerning check pilot/flight engineer, air transportation instructor, and air transportation supervisor programs for Civil Aviation Safety Regulations (CASR) Parts 121 and 135 operators. Section 1 addresses the roles and purposes of Check Pilot/Flight Engineer, air transportation flight instructors, air transportation ground instructors, and of air transportation supervisors. Also in Section 1 are regulatory requirements, qualifications, and functional responsibilities. Section 2 addresses Directorate of Airworthiness Certification (DAC) approval and surveillance of CASR Part 121 and CASR Part 135 Check Pilots and Flight Engineers. Section 3 addresses the training requirements.

2. REGULATORY REQUIREMENTS

CASR 121.401(a)(4) and CASR 135.323(a)(4) require operators to provide enough flight instructors and check pilots to conduct the flight training and flight checks required in CASR Parts 121 and 135. CASR 121.401(c) and CASR 135.323(c) specify that each instructor, supervisor, or check pilot responsible for a particular training curriculum or curriculum segment (including ground and flight training segments and flight checks or competency checks) shall certify to the proficiency and knowledge of individuals receiving the training or checks. CASR 121.411 and CASR 121.413 or CASR 135.337 and CASR 135.339, as applicable, specify the qualification and training requirements for check pilot and flight instructors. CASR 121.421(b) and CASR 121.422(b) require that flight attendants and aircraft dispatchers be given competency checks, which may be given by appropriately qualified air transportation supervisors or ground instructors. CASR 121.434(e) requires that flight attendants receive operating experience (OE) under the supervision of a qualified flight attendant supervisor.

CASR 121.425(a) and 121.425(b) requires that flight engineers receive initial and transition flight training. Also, requirements for the use of an approved training program, including simulator or other training device.

3. EXEMPTIONS

A petition for relief from regulatory requirements shall be directed to the Minister of Communications. The language contained in exemptions granted under this process is viewed as regulatory language, and must be respected in exactly the same manner as the regulations themselves.

NOTE: Confusion often arises when policy guidance appears to be inconsistent with regulations. Inspectors and operators must bear in mind that Public Laws and Civil Aviation Safety Regulations - including exemptions - comprise the body of requirements that can not be changed by policy. Policy guidance

documents such as Advisory Circulars, handbooks, and bulletins to the handbooks are always subordinate to those requirements.

4. DEFINITIONS

For the purposes of standardization, definitions follow which apply to check pilot, air transportation flight and ground instructors, and air transportation supervisors (who teach and check under CASR Part 121 and CASR Part 135 training programs):

A. Check Pilot/Check Flight Engineer

Check Pilot

A check pilot is a pilot approved by the DAC who has the appropriate training, experience, and demonstrated ability to evaluate and certify to the knowledge and skills of other pilot. Evaluation is made on the basis of various checks conducted as modules in a specified operator's DAC-approved training program. A check pilot is authorized to conduct proficiency or competency checks, line checks, and special qualification checks; to supervise the re-establishment of landing currency; and to supervise the initial operating experience (OE) requirements of CASR 121.434 and 135.244. A check Pilot may conduct flight training in the operator's approved program.

NOTE: CASR Part 121 requires that landing currency be reestablished under the supervision of a check Pilot. CASR Part 135 does not have such a requirement.

Check Flight Engineer

A check flight engineer is an engineer approved by the DAC who has the appropriate training, experience, and demonstrated ability to evaluate and certify to the knowledge and skills of other flight engineers. Evaluation is made on the basis of various checks conducted as modules in specified operator’s DAC approved training program. A check flight engineer is authorized to conduct proficiency or competency checks, line checks, and special qualification checks; and to supervise the initial operating experience (OE) requirements of CASR 121.434. A check flight engineer may conduct flight training in the operator’s approved program.

B. Air Transportation Flight Instructor

An air transportation flight instructor is a pilot designated by a CASR Part 121 or CASR Part 135 operator, who has the appropriate training, experience, and demonstrated ability to instruct other pilot in a flight segment (curriculum segment) of that operator's training program. An air transportation flight instructor may certify to the proficiency and knowledge of other pilot and recommend them for proficiency or competency checks, certification flight checks, and other special qualification flight checks. An air transportation flight instructor may also conduct Line Oriented Flight Training/Line Oriented Simulator Training (LOFT/LOS) under CASR Part 121.

An air transportation flight engineer instructor is a flight engineer designated by a CASR Part 121 operator, who has the appropriate training, experience, and demonstrated ability to instruct other flight engineers in a flight segment (curriculum segment) of that operator's training program. A flight engineer instructor may certify to the proficiency and knowledge of other flight engineers and recommend them for proficiency or competency checks, certification flight checks, and other special qualification checks. A flight engineer instructor may also conduct (LOFT/LOS) training and under CASR Part 121.

NOTE: An air transportation flight instructor is not required to hold a DAC Flight Instructor Licence (CFI) when instructing in CASR Part 121 or CASR Part 135 training programs.

C. Air Transportation Ground Instructor

An air transportation ground instructor (pilot/flight engineer) is a person selected by the operator who has the appropriate knowledge, experience, training, and demonstrated ability to instruct crewmembers or aircraft dispatchers in curriculum segments other than flight curriculum segments. An air transportation ground instructor may certify the satisfactory completion of ground training curriculum segments by flight crew member. An air transportation ground instructor, who is specifically selected and qualified by the operator, may conduct competency checks for flight attendants or for aircraft dispatchers, as applicable.

NOTE: An air transportation ground instructor is not required to hold a DAC ground instructor licence when conducting CASR Part 121 or CASR Part 135 training activities.

D. Supervisor

For purposes of this handbook, a supervisor is an aircraft dispatcher or flight attendant chosen by the operator to conduct competency checks. A flight attendant supervisor may supervise flight attendant OE.

NOTE: Operators may define the term "supervisor" differently from the definition used in this handbook. Inspectors should ensure a mutual understanding of the term in discussions with operators.

5. CHECK PILOT ROLE AND CHARACTERISTICS

The roles of a check pilot are (1) to ensure that the flight crewmember has met competency standards before the crewmember is released from training, and (2) to ensure that those standards are maintained while the crewmember remains in line service. Effective training and use of check pilot by an operator ensure that flight crewmembers are standardized in their job performance. A check pilot candidate must be knowledgeable in the applicable requirements of CASR Parts 61, 63, 65, 91, 121, 135, and other regulations; in applicable DAC policies; and in safe operating procedures required for particular crewmember positions. A check pilot candidate must have achieved and maintained a favorable record as a flight crewmember. Once approved, a check pilot's

manner and professional reputation should always reflect positively upon the employer and the DAC.

NOTE: Under current regulations no normal term to expiration is specified for approvals of check pilot (unlike designated examiners, whose term is 12 months, per CASR Part 183). A check pilot's approval may be given, limited, or withdrawn, by the recommendation of the Principal Operations Inspector (POI).

6. CLASSIFICATIONS OF CHECK PILOT/FLIGHT ENGINEER

There are five check pilot and one check flight engineer classifications. Approval for each check pilot classification is contingent on the check pilot having been properly licenced in the applicable aircraft and crew position; having been trained in accordance with the operator's approved check pilot training program for the specific classification; and having demonstrated to the DAC the ability to conduct a test event and to evaluate Airmen performance. The classifications are:

A. Proficiency Check Pilot - Aircraft
B. Proficiency Check Pilot - Simulator
C. Line Check Pilot - All Seats (left, right, observers)
D. Line Check Pilot - Observer's Seat Only
E. Check Pilot - All Checks
F. Check Flight Engineer

7. PROFICIENCY CHECK PILOT - AIRCRAFT (INCLUDES SIMULATOR).

A. Eligibility

For initial and continuing approval as a proficiency check pilot - aircraft, a pilot must meet the following eligibility requirements:

(1) Hold the required licence and ratings for the specific aircraft to serve as pilot-in-command (PIC) in revenue service.

(2) Hold a first class medical certificate for instructing or evaluating in an aircraft.

(3) Have completed the operator's air transportation flight instructor and check Pilot qualification training programs required by CASR 121.411, 121.413, or by CASR 135.409 and 135.411, as applicable, covering such topics as:

(a) Check ride briefings and debriefings

i. for an applicant
ii. for supporting crew members
iii. for a safety pilot

(b) Safety preparedness and countermeasures

i. in an aircraft
ii. in a flight simulator (such as emergency exits, fire and smoke procedures, and simulator motion failures)

(4) Meet training and currency requirements to serve as PIC for that operator, including ground and flight training, proficiency or competency checks, and 90 day landing currency.
(5) Maintain line currency as a flight crew member with the operator and a first class medical certificate for those instructors and check pilot who maintain line currency.
(6) Satisfactorily demonstrate, initially and at least biennially, to a DAC inspector the ability to conduct proficiency or competency checks in an aircraft in flight or in a simulator, or in both, as appropriate. Initial evaluation shall include evaluation in an aircraft. Evaluation of an instructor in a simulator shall include the individual's ability to operate the simulator while instructing.

B. Authorized Activities

A classification of proficiency check pilot - aircraft authorizes a check Pilot to conduct the following activities:

(1) Pilot proficiency or competency checks conducted as a qualification curriculum segment in the operator's approved training program, from either pilot seat in an aircraft in flight, or in a simulator, as appropriate.

(2) Flight instruction in the operator's approved training program, from either pilot seat in an aircraft in flight, or in a simulator, or both, as appropriate.

(3) Supervision of the reestablishment of landing currency.

(4) Special checks conducted as a qualification curriculum segment of the operator's approved training program, provided the check pilot is qualified in the specific activity for which the special check is being conducted (such as CAT II and CAT III operations).

(5) Certification of the satisfactory proficiency and knowledge of pilot after completion of a flight training curriculum segment or flight training module.

(6) When authorized by the operator, ground instruction for pilot, and certification of the satisfactory completion by an Pilot of a ground training curriculum segment.

8. PROFICIENCY CHECK PILOT - SIMULATOR

A. Eligibility

To be eligible for initial and continuing approval as proficiency check pilot - simulator, an pilot must meet the following eligibility requirements:

(1) Hold the required licence and ratings for the specific aircraft to serve as pilot-in-command (PIC) in revenue service.

(2) [Reserved].

(3) Have completed the operator's air transportation flight instructor and check pilot qualification training programs as required by CASR 121.411, 121.413, or by CASR 135.409 and CASR 135.411, as applicable (The requirements of CASR 121.413(c)(1) and CASR

135.411(a)(2) may be accomplished entirely in a simulator), including such topics as:

(a) Check ride briefings and debriefings

i. for an applicant.
ii. for supporting crew members.

(b) Safety preparedness and countermeasures in a flight simulator (such as emergency exits, fire an smoke procedures, and simulator motion failures).

(4) Meet the currency requirements to serve as PIC for the operator, including ground and flight training and the required proficiency or competency checks. These requirements may be met by using a level B (or higher) flight simulator, in which case landing currency in the actual aircraft is not required.

(5) Maintain line currency as a flight crewmember with the operator, or be line familiar with the operator's procedures and line operation by participating in a line observation program that has been approved by the operator's POI. A medical certificate appropriate to the crew position occupied on the line is required for those instructors and check pilot who maintain line currency.

(6) Satisfactorily demonstrate, initially and at least biennially, to a DAC inspector the ability to conduct proficiency or competency checks in simulated flight in a simulator. Part of the inspector's observation shall address the check pilot's proficiency in evaluating a pilot and operating the simulator simultaneously.

B. Authorized Activities

Approval as a proficiency check pilot - simulator authorizes a check pilot to conduct the following activities:

(1) Pilot proficiency or competency checks, as authorized, in an approved flight simulator or flight training device in a qualification curriculum segment in the operator's approved training program.

(2) The simulator or training device segment, as authorized, of a two segment proficiency or competency check, as a qualification curriculum segment of the operator's approved training program.

NOTE: A two segment check is one conducted partially in an approved training device or simulator and completed in flight in an aircraft.

(3) Flight instruction in a flight simulator or flight training device as a curriculum segment of the operator's approved training program.

(4) Supervision of the re-establishment of landing currency.

(5) Any special check as a module of the operator's approved training program, provided that the check pilot is qualified in the specific activity for which the special check is being conducted (such as CAT II and CAT III operations).

(6) Certification of the satisfactory proficiency and knowledge of pilot after completion of a flight training curriculum segment or flight training module.

(7) When authorized by the operator, ground instruction for pilot and certification of the satisfactory completion of a ground training curriculum segment.

9. LINE CHECK PILOT - ALL SEATS (LEFT PILOT SEAT, RIGHT PILOT SEAT, AND OBSERVER'S SEAT)

A. Eligibility

For initial and continuing approval as a line check pilot - all seats, a pilot must meet the following eligibility requirements:

(1) Hold the required licence and ratings for the specific aircraft to serve as PIC in revenue service.

(2) Hold at least a valid first class medical certificate.

(3) Meet training and currency requirements to serve as PIC, including line currency, ground and flight training, proficiency or competency checks, line checks, and 90 day landing currency (These requirements may be met entirely in a level B or higher simulator).

(4) Have completed the operator's check pilot qualification training program equivalent to that required by CASR 121.411 and 121.413 or CASR 135.409 and 135.411, as applicable, including such topics as:

(a) Briefings and debriefings

i. for the PIC.
ii. for other crewmembers.

(b) Safety preparedness and countermeasures

i. in an aircraft.

(5) Satisfactorily demonstrate, initially and at least biennially, to an DAC inspector the ability to conduct line checks from a pilot seat or to oversee operating experience and other activities.

B. Authorized Activities

Approval as a line check pilot - all seats authorizes a check pilot to conduct the following activities:

(1) Pilot line checks from either pilot seat or the observer's seat.
(2) Supervision of OE from either pilot seat.

NOTE: OE may be conducted from the observer's seat, in accordance with CASR 121.434(c)(ii), provided that the PIC is completing a transition training curriculum by acquiring OE; the PIC has made at least two takeoffs and landings in the aircraft; and that the check pilot is satisfied that the pilot is competent to perform as PIC.

(3) Training and checking in special operations as a module of the operator's approved training program, provided that the check pilot is qualified in the specific operations being conducted (special airports or international routes).
(4) When authorized by the operator, ground instruction and certification of the satisfactory completion by an pilot of a ground training curriculum segment.

10. LINE CHECK PILOT - OBSERVER'S SEAT ONLY

A. Eligibility

For approval as a line check pilot - observers seat only, an pilot must meet the following eligibility requirements:

(1) Hold the required licence and ratings to serve as PIC in the particular aircraft.

(2) Hold at least a valid third class medical certificate.

(3) Meet the currency requirements to serve as PIC, including ground and flight training, proficiency or competency checks, and 90 day landing currency. These requirements may be met entirely in a level B or higher simulator for this designation.

(4) Have completed the operator's check pilot qualification training program equivalent to that required by CASR 121.411 and CASR 121.413 or CASR 135.409 and CASR 135.411, as applicable, including such topics as:

(a) Briefings and debriefings

i. for the PIC.
ii. for other crewmembers.

(b) Safety preparedness and countermeasures

i. in an aircraft.

(5) Satisfactorily demonstrate, initially and at least biennially, to a DAC inspector the ability to conduct line checks from the observer's seat when a second observer's seat is available: otherwise in LOFT.

(6) Maintain line currency as a flight crewmember with the operator, or be line familiar with the operator's procedures and line operation by participating in a line observation program that has been approved by the operator's POI. If the instructor and check pilot want to maintain line currency, then the appropriate medical certificate is required.

(7) Be reevaluated initially and at least biennially as a line check pilot by a DAC inspector.

NOTE: The operator must have procedures, published in it's operations manual, that shall be followed in the event that a line check pilot determines that a pilot's performance does not meet standards that would allow the individual to continue to operate the aircraft. The crewmember shall not be allowed to continue the flight or trip. If the line check pilot does not possess the appropriate class of medical certificate to substitute for the crewmember, specific alternative procedures shall be followed.

B. Authorized Activities

Approval as a line check pilot - observer's seat only, authorizes a check pilot to conduct the following activities as modules of the operator's approved training program, provided that the PIC and second-in-command (SIC) are current and fully qualified in the aircraft:

(1) Line checks from the observer's seat.

(2) Training and checking for special operations from the observer's seat, provided that the check pilot is qualified in the specific operation (such as special airports and international routes).

(3) When authorized by the operator, ground instruction and certification of the satisfactory completion by an pilot of a ground training curriculum segment.

11. CHECK PILOT - ALL CHECKS

The pilot must meet eligibility requirements for a proficiency check pilot - aircraft, for a proficiency check pilot - simulator, and for a line check pilot - all seats, in accordance with earlier paragraphs in this section. Approval as a check pilot - all checks authorizes a check pilot to conduct all checks contained in the qualification curriculum segment of the operator's approved training program, including those checks and other activities of a line check pilot - all seats; and, with the approval of the operator, to give flight and ground instruction in that training program.

12. WITHDRAWN

13. CHECK FLIGHT ENGINEER

Approval as a check flight engineer is appropriate for operators using aircraft exclusively for their flight engineer training programs. This approval is also appropriate for operators using flight simulators or flight training devices for part or all of those training programs.

A. Eligibility

For initial and continuing approval as a check flight engineer, a flight engineer must meet the following eligibility requirements:

(1) Hold the required licence and class ratings to serve as a flight engineer on the specific aircraft in revenue service.

(2) Hold a valid first class medical certificate when conducting simulator checks.

(3) Hold a valid first class medical certificate when conducting aircraft training or checks in an aircraft in flight.

(4) Have completed the operator's approved air transportation check flight engineer training program for this function, including the training required by CASR 121.411 and 121.413, as applicable to the flight engineer crew position, including topics such as:

(a) Check ride briefings and debriefings

i. for an applicant.
ii. for supporting crew members.

(b) Safety preparedness and countermeasures

i. in an aircraft (if applicable).
ii. in a flight simulator (such as emergency exits, fire and smoke procedures, and simulator motion failures).

(5) Meet the training and currency requirements to serve as a flight engineer for the operator in the specific aircraft, including ground training, flight training, and proficiency checks.

(6) Maintain line currency as a flight crewmember with the operator, or be line familiar with the operator's procedures and line operation by participating in a line observation program that has been approved by the operator's POI.

(7) Satisfactorily demonstrate, initially and at least biennially, to a DAC inspector the ability to conduct a flight engineer proficiency check in a flight simulator.

NOTE: When the normal procedures portion of the check must be conducted in an aircraft and in flight, the check flight engineer candidate shall be observed under those conditions. If the normal procedures segment of the check can be conducted in a simulator, the check flight engineer may be evaluated either in the simulator or in an aircraft.

B. Activities

Approval as a "check flight engineer" makes a check flight engineer eligible to conduct any or all of the following activities, subject to the specific terms (authorizations and limitations) shown in the Letter of Approval.

(1) Flight engineer proficiency checks in an approved flight training device or flight simulator, or an aircraft, as a module of the qualification curriculum segment in the operator's approved training program.

(2) Instruction of flight engineers in an approved flight training device or flight simulator, or in an aircraft, as a module in the operator's approved training program.

(3) Certification of the satisfactory performance of flight engineer after completion of a flight training curriculum segment or flight training module.

(4) When authorized by the operator, ground instruction and certification of the satisfactory completion by an flight engineer of a ground training curriculum segment.

14. AIR TRANSPORTATION INSTRUCTOR ROLE AND CHARACTERISTICS

An air transportation instructor is a person employed by an operator or training center for the purpose of training flight crewmembers in a CASR Part 121 or CASR Part 135 operator's approved ground training curriculum. The training shall be sufficient to ensure that acceptable performance standards are met. When selected and qualified by the operator, an air transportation instructor is

responsible for certifying the knowledge and proficiency of each crewmember upon completion of a training curriculum or curriculum segment. Air transportation instructors shall be knowledgeable in the applicable requirements of CASR Parts 61, 63, 65, 91, 121, 135 (as appropriate), and in the operator's policies and procedures. An air transportation instructor should possess effective communication skills and a manner which always reflects professionalism and a positive attitude toward safety.

15. AIR TRANSPORTATION FLIGHT INSTRUCTOR – AIRCRAFT

An air transportation flight instructor in an aircraft may be a pilot instructor, a flight engineer instructor, or both, and may also conduct flight training in a flight simulator, flight training device, or ground training.

A. Eligibility

An instructor candidate pilot must meet the following eligibility requirements:

(1) Hold the licence and ratings required to serve in revenue service in the specified crewmember duty position on the specific aircraft except that the licences and ratings are not required for training programs approved under CASR 121.409b (simulators).

(2) Hold a valid first class medical certificate for operations conducted under CASR 91 such as aircraft training and aircraft ferry operations.

(3) Meet currency requirements to serve as PIC for the operator or as flight engineer for the operator including ground and flight training, proficiency or competency checks and (for pilots) 90 day landing currency.

(4) For pilots, must complete an annual line check or line observation module of a recurrent qualification curriculum segment.

(5) Have received flight instructor qualification training under the operator's approved training program, including the training required by CASR 121.411, 121.413, or CASR 135.409 and 135.411, as applicable.

(6) Maintain line currency as a flight crewmember with the operator, or be line familiar with the operator's procedures and line operation by participating in a line observation program that has been approved by the operator's POI. (Refer to AC 120-35 (draft), for a discussion of terms) A medical certificate appropriate to the crew position occupied on the line is required for those instructors and check pilot who maintain line currency.

B. Authorized Activities

An air transportation flight instructor in an aircraft, when authorized by the employer, may conduct the following flight instruction activities:

(1) Flight instruction for pilots/ flight engineers in an aircraft inflight, including instruction in giving appropriate preflight and post-flight briefings.
(2) Certification of the satisfactory performance of a pilot/flight engineer after completion of a flight training curriculum segment or flight training module.

(3) When authorized by the operator, ground instruction and certification of the satisfactory completion by an pilot/flight engineer of a ground training curriculum segment.

16. AIR TRANSPORTATION FLIGHT INSTRUCTOR – SIMULATOR

An air transportation flight instructor in a simulator may instruct in a simulator or flight training device, and may be a pilot instructor or a flight engineer instructor, or both.

A. Eligibility

A candidate must meet the following eligibility requirements:

(1) Under a CASR Part 121 training program, a pilot simulator instructor candidate must hold at least an Airline Transport Pilot (ATP) licence; additionally an approved type rating for initial instruction.

(2) Under a CASR Part 135 training program, a pilot simulator instructor candidate must hold an ATP licence and the appropriate type rating. A commercial licence with an instrument rating is sufficient when operations of the aircraft does not require the PIC to hold an ATP licence and type rating.

(3) A flight engineer simulator instructor candidate must hold a flight engineer licence and the appropriate class rating.

(4) All candidates must have received the simulator instructor qualification required by the operator's approved training program including that required by CASR 121.411 and 121.413, or CASR 135.409 and 135.411, as applicable, including such topics as:

(a) Briefings and debriefings by the PIC

i. to flight deck crewmembers.
ii. to other crew members.

(b) Safety preparedness and countermeasures

i. in a flight simulator (such as emergency exits, fire and smoke procedures, and simulator motion failures).

NOTE: The requirements of CASR 121.413(b)(1) and CASR 135.411(a)(2) may be accomplished entirely in a simulator.

(5) Maintain line currency as a flight crewmember with the operator, or be line familiar with the operator's procedures and line operation by participating in a line observation program that has been approved by the operator's POI. A medical certificate appropriate to the crew position occupied on the line is required for those instructors and check pilot who maintain line currency.

B. Authorized Activities

An air transportation flight instructor in a simulator, when authorized by the employer, may conduct the following flight instruction activities:

(1) Flight instruction for pilots/flight engineers in a flight simulator or flight training device, including instruction in giving the appropriate preflight and post-flight briefings.

(2) Certification of the performance of a pilot/flight engineer after completion of the flight simulator or flight training device portion of a flight training curriculum segment or flight training module (CASR 121.409(b)).

(3) When authorized by the employer, ground instruction and certification of the satisfactory completion by an pilot/flight engineer of a ground training curriculum segment.

17. AIR TRANSPORTATION GROUND INSTRUCTOR

A. Eligibility

Eligibility requirements for air transportation ground instructors are not specified in the CASR. However, CASR 121.401(a)(2) and 135.405 and 135.409, do require that operators provide adequate ground training facilities and properly qualified ground instructors. An operator's ground instruction should be monitored frequently to ensure that competent instructors teach the approved training curriculum and curriculum segments. Inspectors and check pilot conducting practical tests (oral exams and flight checks) shall evaluate the knowledge and competency of crewmembers that have completed the ground training curriculums. They should identify any deficiencies and effect any required corrections with respect to the trainee or the training program itself. POI's should monitor training records to ensure that air transportation ground instructors are properly qualified.

B. Authorized Activities

An air transportation ground instructor, when authorized by the employer, may conduct the following types of ground instruction activities:

(1) Instruction in specified ground training curriculum segments

NOTE: The use of any training device, including mockups, flight training devices and flight simulators, is appropriate provided that the use of such a device is an integral part of an approved ground training curriculum segment.

C. Training and Qualification Records

The operator shall maintain documentation of the training and qualification for each air transportation ground instructor and supervisor, and shall make that documentation conveniently accessible for inspection by the DAC.

18. CASR PART 121 SUPERVISORS, FLIGHT ATTENDANT AND AIRCRAFT DISPATCHER

An air carrier operating under CASR Part 121 engaged in passenger carrying operations shall establish and maintain a program to train and qualify flight attendant supervisors. Domestic and flag operators shall also establish and

maintain a program to train and qualify aircraft dispatcher supervisors. Those supervisors are authorized to conduct the competency checks required by CASR Part 121 for flight attendants and aircraft dispatchers. CASR 121.401(b) specifies that ground instructors and supervisors responsible for a particular ground training curriculum segment or competency check shall certify the proficiency and knowledge of flight attendant crewmembers and aircraft dispatchers after completion of the competency check. When these ground instructors are chosen by their employers to conduct competency checks for aircraft dispatchers and flight attendants, they are termed "air transportation supervisors," as defined in this handbook. To qualify, these supervisors must (themselves) complete the appropriate training curriculum and the required competency check. To maintain qualification, supervisors must complete the required recurrent training curriculum. POIs should monitor training records to ensure that air transportation supervisors who conduct flight attendant competency or aircraft dispatcher competency checks are properly qualified (see preceding paragraph 17 C).

SECTION 2. CHECK PILOT/ FLIGHT ENGINEER APPROVAL AND SURVEILLANCE

1. GENERAL.

This section addresses procedures for approval and surveillance of check pilot/ flight engineer. All check pilots/flight engineers must be approved based on recommendation by an operator's principal operations inspector (POI). Approval is based on a pilot and flight engineer: having the proper licences and ratings; being qualified in accordance with the operator's approved initial, transition, or upgrade training program; having completed the operator's approved check pilot/flight engineer training program for the appropriate check pilot and flight engineer functions; and having demonstrated the ability to conduct flight checks and to evaluate the performance of pilot to the satisfaction of an Directorate of Airworthiness Certification (DAC). The check pilot and flight engineer approval process follows the five phases of the general process described below. A job aid for POI's to use in this process is in figure 2.5.

2. PHASE ONE - OPERATOR FAMILIARIZATION WITH CHECK PILOT/FLIGHT ENGINEER REQUIREMENTS AND LETTER OF REQUEST

The first phase of the check pilot/flight engineer approval process involves a discussion between the operator and the POI. The POI should ensure that the operator understands the check pilot/flight engineer training requirements and that a check pilot/flight engineer candidate must satisfactorily demonstrate the ability to perform check pilot/flight engineer functions to a DAC inspector before approval. The POI should also ensure that the operator has knowledge of the necessary documentation for initiating the approval process, which is as follows:

(1) The Letter of Request (Figure 2.6) constitutes the operator's nomination. It originates from the operator, not a training center, candidate, or some other party. It includes the pilot's full name, business address, applicable pilot's/ flight engineer’s licence number, current crewmember position, requested check pilot/flight engineer classification, and aircraft type.

(2) Brief resume of the pilot's/flight engineer’s aviation background and experience.

(3) Copies of the pilot's/flight engineer’s appropriate licences.

(4) Copy of the pilot's/flight engineer’s medical certificate.

NOTE: A POI may require that this information be expanded to suit circumstances.

3. PHASE TWO - SUBMISSION OF DOCUMENTATION

Phase two begins when the operator submits the original documentation to the POI for evaluation. The POI shall initially review the information to determine if the check pilot/flight engineer candidate meets the basic qualification requirements for the type of check pilot/flight engineer approval sought (see chapter 1). If the operator's submission is unacceptable, the POI should return

the submitted documentation with a statement of the reason for non-acceptance. If the operator's submission is acceptable, the POI should initiate phase three.

4. PHASE THREE - REVIEW OF DOCUMENTATION

A. The POI shall verify the check pilot/flight engineer candidate's licences and background.
B. Before the POI can evaluate a pilot/flight engineer for approval as a check pilot/flight engineer, all required training must be completed. The pilot's/ flight engineer's training records must show satisfactory completion of initial, transition, or upgrade training and all training required under the operator's approved check pilot/flight engineer training program for the specified classification. The approved training program must contain all training required by CASR 121.411 and 121.413 or CASR 135.409 and 135.411 that is applicable to the approval being sought. When the pilot's/flight engineer's records show that the pilot/flight engineer has previously completed a required curriculum segment, the segment does not have to be repeated.
C. If, after reviewing the documentation, the POI determines that the candidate does not qualify as a check pilot/flight engineer, the POI shall provide the operator with a statement of the reason for non-acceptance.

5. PHASE FOUR - CHECK PILOT/FLIGHT ENGINEER EVALUATION. - Check Pilot/Flight Engineer Surveillance

In order to evaluate a check pilot/flight engineer candidate effectively, inspectors must become thoroughly familiar with the operator's procedures. Inspectors must also become familiar with any special regulatory requirements affecting the operator, such as special conditions contained in the operations specifications and exemptions.

A. Choosing Pilots/Flight Engineers as Subjects

The inspector conducting an evaluation for an original check pilot/flight engineer approval shall observe the check pilot/flight engineer candidate conducting an actual check. The purpose of the check pilot/flight engineer evaluation is to ensure that the candidate has achieved the required skills for briefing, evaluating, and debriefing a pilot/flight engineer. The pilot/flight engineer receiving the check should be a line crewmember who is due for an evaluation. The pilot/flight engineer shall not be an instructor or check pilot/flight engineer unless previous approval has been received from the POI. Such approval is reserved for unusual circumstances.

B. Check Pilot Candidate's Flying Skills

Except for an initial cadre approval, a check pilot evaluation does not entail an evaluation of the candidate's flying skills in a crew position. An operator should not request approval of an individual as a check pilot when there is any question about the pilot's flying skills in a crew position. Should the POI have reason to question a candidate's proficiency the check pilot evaluation shall not be conducted until the candidate's proficiency is verified. An acceptable way to verify the pilot's proficiency is to check the check pilot candidate. An inspector

may conduct a proficiency check, a competency check, or a line check of the check Pilot candidate, scheduled at some time before the official check pilot evaluation. (Such checks are not routinely required.)

NOTE: An operator should not request approval of an individual as a check flight engineer when there is any question about his skills in a crew position.

C. Satisfactory Evaluation

If the inspector determines that a check pilot/flight engineer candidate meets criteria for the requested check pilot/flight engineer approval, the inspector shall inform the candidate that a recommendation of approval will be reported to the POI. In this case, the inspector shall certify the proficiency of the Pilot/flight engineer receiving the check and complete the necessary record keeping tasks.

D. Unsatisfactory Evaluation

If the inspector determines a candidate does not qualify for the requested check pilot/flight engineer approval, the inspector shall inform the candidate that approval is withheld. In such a case, the inspector must determine whether the pilot/flight engineer receiving the check performed satisfactorily, and must certify the pilot's/flight engineer proficiency and complete the necessary records.

NOTE: The failure of a check pilot/flight engineer candidate is uncommon and usually ends a candidate's eligibility for check pilot/flight engineer status. In rare circumstances the POI may allow a reevaluation. In such a case, the operator must conduct sufficient additional training, recertify the candidate's proficiency, and arrange to have another evaluation conducted by a DAC inspector.

E. Content of Check Pilot/Flight Engineer Evaluation

The following guidance applies to an inspector's evaluation in respect to each of the five classifications and one check pilot/flight engineer.

(1) Proficiency Check Pilot – Aircraft

An inspector shall evaluate this candidate while the candidate conducts a proficiency check or competency check in an aircraft in flight. The inspector should observe the candidate conducting the entire check in the aircraft. The candidate should be evaluated on his/her ability to evaluate an individual while, at the same time, performing the crewmember activities normally associated with the seat the check pilot candidate occupies. With the approval of POI, the inspector may observe part of the check in the aircraft and the remainder in a simulator or an approved flight training device (FTD).

(2) Proficiency Check Pilot – Simulator

An inspector shall evaluate this candidate while the candidate conducts the simulator (or FTD) segment of an actual proficiency check, or competency check, as applicable. The candidate should be

evaluated on his/her ability to evaluate an individual while, at the same time, demonstrating proficiency in operating the simulator or training device. Time management and the ability to adapt to events that might disrupt a planned sequence of events should be considered. If the entire proficiency check or competency check can be accomplished in a flight simulator, the candidate must be observed conducting the entire check.

(3) Line Check Pilot - All Seats

An inspector shall evaluate this candidate while the candidate conducts an actual line check from either pilot seat. Satisfactory performance will also permit the candidate to conduct a line check from the forward observer's seat, during LOFT, during revenue service or during non-revenue service. A candidate for line check pilot - all seats must be qualified to be the pilot-in-command (PIC) for that operator and hold a first class medical certificate.

NOTE: The operator must have procedures, published in it's operations manual, that shall be followed in the event that a line check pilot determines that a pilot's performance does not meet standards that would allow the individual to continue to operate the aircraft.

(4) Line Check Pilot - Observer's Seat Only

An inspector shall evaluate this candidate while the candidate conducts an actual line check from the forward observer's seat, during revenue or during ferry service. When the evaluation is conducted during revenue service, in an aircraft with only one observer's seat, a candidate who holds a first class medical certificate, who has not yet reached 60 years of age and is otherwise qualified for CASR Part 121 operations (does not apply to CASR Part 135 operations) may be evaluated while conducting a line check from the right pilot seat. In this case, the PIC must be fully qualified and line current. When the evaluation is conducted during nonrevenue operations in an aircraft with only one observer's seat, a candidate who holds at least a first class medical certificate and who has not yet reached 60 years of age and is otherwise qualified for CASR Part 121 operations (does not apply to CASR Part 135 operations) may be evaluated while conducting a line check from the right pilot seat. A check pilot who is approved to conduct line checks from the observer's seat and who does not maintain line currency, must be observed by an inspector at least once every 24 calendar months. If an evaluation within this time period is not given, the check pilot is not authorized to conduct line checks.

NOTE: The operator must have procedures, published in it's operations manual, that shall be followed in the event that a line check pilot determines that a pilot's performance does not meet standards that would allow the individual to continue to operate the aircraft.

(5) Check Pilot - All Checks

An inspector shall evaluate this candidate in accordance with preceding paragraphs. The evaluations for this approval may be treated cumulatively.

NOTE: A pilot may have been a proficiency check pilot - aircraft for a number of years and then qualify as a line check pilot - all seats. If the operator does not use simulators in the training program, then upon satisfactory completion of the line check evaluation, the check pilot could be approved to conduct all of the forgoing checks.

(6) Check Flight Engineer. An inspector shall evaluate this candidate while the candidate conducts a flight engineer proficiency check in a simulator or approved FTD. In normal, abnormal, and emergency procedures segments of the check are normally accomplished in a simulator or approved FTD. In those instances when a check flight engineer candidate is to conduct any portion of a check in an airplane in flight, the check flight engineer candidate must be a qualified and current flight engineer and must be evaluated during actual flight.

F. Conducting a Check Pilot/Flight Engineer Evaluation.

(1) Pre-Evaluation Briefing. An inspector conducting a check pilot/flight engineer evaluation shall arrange to meet with the candidate in sufficient time for a pre-evaluation briefing. The inspector shall explain the purpose of the evaluation and some ground rules, including: (1) that the check should be conducted as if the candidate was fully qualified in the role of check Pilot/flight engineer; (2) that during the briefing, the inspector may ask questions of the check pilot/flight engineer candidate as part of the evaluation; and (3) that the inspector will not ask questions while the check is in progress.

(2) Observing and Debriefing the Candidate. While the check is in progress, the inspector shall observe, but should not interrupt or otherwise interfere with the check Pilot/flight engineer candidate's management of the check. The inspector shall determine that all required events and maneuvers were conducted properly; that the check pilot/flight engineer candidate's evaluation of the pilot's/flight engineer’s performance was objective and accurate; and that the check pilot/flight engineer candidate's debriefing of the pilot/flight engineer was thorough and constructive.

6. PHASE FIVE - CHECK PILOT/FLIGHT ENGINEER APPROVAL

All check pilots/flight engineer approved for CASR Part 121 or CASR Part 135 operations must be approved by the DAC based on recommendation from the operator's POI.

A. Letter of Approval. Approval of a check pilot/flight engineer shall be in the form of a Letter of Approval addressed to a responsible official of the operator and signed by on behalf of the Director of Airworthiness Certification. The letter shall contain the following:

(1) Check pilot's/flight engineer’s name and applicable pilot's/flight engineer’s licence number.

(2) Approved check pilot/flight engineer classification (1-6).
(3) Specified category, class, or type of aircraft.
(4) Authorizations and limitations.

NOTE: A POI may recommend approval of a check pilot/flight engineer only for operators under that POI's oversight.

(5) Effective date of each approval (since different approvals may occur at different times, this information simplifies record checks. The date on which the check pilot/flight engineer was recommended for approval by an inspector shall be the effective date of approval.)

See figures 2.1 and 2.2 for sample letters of approval.

NOTE: Under current regulations no normal term to expiration is specified for approvals of check pilot/flight engineer (unlike designated examiners, whose term is 12 months, per CASR Part 183). A check pilot's/flight engineer's approval may be given, limited, or withdrawn, in the discretion of the DGAC.

B. One Letter of Approval

A check pilot/flight engineer shall be approved only in the (six) classifications covered earlier in this chapter. The DAC shall issue only one Letter of Approval for a check pilot/flight engineer, listing the operator(s) and classification(s).

C. Letter of Approval - Other Copies

(1) The original copy of the Letter of Approval shall be retained in the individual check pilot's/flight engineer's training record file;
(2) When the individual is a training center instructor approved to evaluate an operator's personnel, a copy of the Letter of Approval shall be provided to the training center for inclusion in its records. A copy shall be maintained in the DAC sub directorate files of the overseeing inspector for 2 years after the approval is withdrawn or superseded.
(3) Once the letter of approval is received by DAC it will be forwarded to licencing. Licencing will then issue letter of authorization (figure 2.8) for inclusion in the airman licence. The letter of authorization will be prepared for the particular check airman i.e. pilot or flight engineer.

7. APPROVAL OF INITIAL CADRE CHECK PILOT/FLIGHT ENGINEER

During the early phases of establishing a check pilot/flight engineer program, initial cadre check pilot/flight engineer are required. Initial check pilot/flight engineer candidates must first become fully qualified as flight crewmembers and then be trained, evaluated, and approved as check pilot/flight engineer. Since the regulatory language of CASR Parts 121 and 135 does not address a training process for initial cadre check pilot/flight engineer, guidance is provided in this handbook. This process that follows is valuable for start-up operations for at least two reasons: (1) it is a practical way to bootstrap a check pilot/flight engineer program into existence; and (2) it takes advantage of proving flights,

when the operator/applicant is under close DAC scrutiny - with desirable effects on the check pilot/flight engineer program.

A. Letter of Request from Operator (Figure 2.6)

The overseeing inspector shall arrange with the operator/applicant to approve one or more likely check pilot/flight engineer candidates to form an initial cadre of temporary check pilot/flight engineer. The operator/applicant shall submit a letter of request, as described earlier in this section. This letter comprises the request for initial cadre check pilot/flight engineer and a description of the training that they will undergo.

B. Letter of Approval

The POI shall approve the candidates using procedures described earlier in this section. Usually initial cadre check pilot/flight engineer are approved to function as check pilot - all checks or check flight engineer, so that they may conduct all types of checks and supervise OE during the period that the start-up operation is beginning. The initial cadre check pilot Letter of Approval is a temporary approval, to be replaced with a permanent Letter of Approval after the check pilot is fully qualified. The initial cadre check pilot letter shall contain a statement similar to the following:

(Name) is approved as an initial cadre check pilot to function as a check pilot - all checks or as a check flight engineer for the purpose of initiating operations with the (type of aircraft) for (name or operator). This approval expires on (expiration date).

8. TRAINING, CERTIFICATION, AND QUALIFICATION - START-UP

The operator shall provide a full qualification process for its initial cadre check pilot/flight engineer.

A. Initial Training and Certification

The operator must first arrange to have initial cadre check pilot/flight engineer trained and appropriately licenced for their cockpit duty positions. The operator may provide the training by contracting with a manufacturer, with another operator, or with properly qualified individuals. An inspector or a designated examiner may certify the initial cadre pilot/flight engineer, provided that the examiner is employed by an Indonesian Air Carrier Operator or CASR Part 142 training center.

B. Gaining Proficiency as Instructors

After the initial training and certification, initial cadre check pilot/flight engineer shall become proficient in the operator's proposed training program by instructing each other, or in the case of a single initial cadre check pilot/flight engineer, by self training. During this training an operator may arrange for a pilot/flight engineer from the manufacturer, from another operator, or from another source to act as the safety pilot or instructor pilot.

C. Proficiency and Competency Checks

After the first initial cadre check pilot/flight engineer have become proficient as instructors, they may then begin the training and checking of other initial cadre check pilot/flight engineer in accordance with the operator's initially-approved flight training and qualification curriculum segments. Each check shall be observed by a DAC inspector who holds the appropriate pilot's/flight engineer's licence, and the appropriate type rating, when applicable. If the inspector determines that the performance of an initial cadre check pilot/flight engineer conducting a certain check is satisfactory, the inspector shall recommend to the overseeing inspector that the pilot/flight engineer be approved as a check pilot/flight engineer for that type of check. One initial cadre check pilot/flight engineer may check another, with the process repeated until each candidate has been approved as a check pilot/flight engineer or has been terminated from the program. If only one person is being considered to be the initial cadre check pilot/flight engineer, an inspector shall observe that person conducting a check of another pilot/flight engineer. If the candidate's performance is satisfactory, the inspector shall recommend to the POI that the candidate be removed from temporary status and approved for full-time check pilot/flight engineer duty with the operator.

D. Operating Experience (OE)

Initial cadre check pilot/flight engineer shall be permitted to acquire OE flight hours on any flight that can be credited toward the proving test flight hour requirement (including training flights, ferry flights, and representative en route proving flights). OE flight hours may be accrued by initial cadre check pilot/flight engineer while they are: (1) conducting aircraft checks, (2) overseeing the OE of other pilot/flight engineer, (3) being checked, or (4) acquiring OE under the supervision of other initial cadre check pilot/flight engineer. Initial cadre check pilot/flight engineer shall receive a line check and conduct a line check during an en route proving flight or a ferry flight. The same process (above) shall apply: one initial cadre check pilot/flight engineer line checks another while being observed by a DAC inspector. If the pilot's/flight engineer's performance is satisfactory, the inspector may recommend that the person be removed from temporary status and approved for full-time duty as a check pilot/flight engineer for the operator. If there is only one initial cadre check pilot/flight engineer, then the DAC inspector shall conduct the line check.

9. APPROVAL OF A CHECK PILOT/FLIGHT ENGINEER IN MULTIPLE AIRCRAFT

Before a Pilot/flight engineer may be approved as a check pilot/flight engineer in more than one type of aircraft, the operator must show that there is a need. The Pilot/flight engineer must be fully qualified and current in each of the aircraft types. Overseeing inspectors shall be judicious in approving check pilot/flight engineer and vigilant in overseeing their performance. There are various acceptable combinations of check pilot/flight engineer approvals.

A. A check pilot/flight engineer may be approved to serve in all single-engine, normal or commuter category airplanes that an operator operates under CASR Part 135.

B. A check pilot/flight engineer may be approved to serve in two different types of helicopters.

C. For CASR Part 135 operations, a check pilot/flight engineer may be approved to serve in a combination of two of the following aircraft families:

(1) One series of multiengine, normal or commuter category airplanes.
(2) Single engine, normal or commuter category airplanes.
(3) Helicopters.

D. Before a candidate may be approved as a check pilot in two commuter category aircraft types or two transport category types, overseeing inspectors shall ensure that the following conditions are met:

(1) For proficiency check pilot-aircraft or simulator the candidate must have logged at least 500 hours as PIC in each type.

(2) For line check pilot the candidate must have logged at least 100 hours as PIC in each type and at least 1,000 as PIC in transport or commuter category airplanes.

10. APPROVAL OF A CHECK PILOT/FLIGHT ENGINEER FOR MULTIPLE OPERATORS

This paragraph provides a standard method for approving a check pilot/flight engineer to serve multiple operators. The approval of a check pilot/flight engineer to serve more than one operator is limited to those cases in which the operator's aircraft, aircraft operating manuals, procedures, and checklists are compatible in the judgment of the overseeing inspector(s). Provision for multiple check pilot/flight engineer approvals is made for CASR Part 135 single-pilot operators, CASR Part 135 single-PIC operators, and for CASR Part 121 and CASR Part 135 operators who contract with DAC-approved training centers for training under programs that are compatible, in the judgment of the overseeing inspector(s). Overseeing inspectors may also approve a check pilot/flight engineer to serve multiple CASR Part 121 or CASR Part 135 operators on a temporary basis, when a start-up operation is initiated or when new equipment is being introduced.

11. CHECK PILOT EMPLOYED BY TRAINING CENTERS

Training centers have made simulator training and checking available to a broad range of aviation users, including air carriers with smaller fleets and smaller aircraft. Check pilot (and instructors) may serve one or more air carrier operators at training centers under certain exemptions to CASR Part 121 and CASR Part 135. The guidance contained in this section applies to check pilot employed by training centers so long as it does not conflict with provisions of any applicable exemption or of CASR Part 142, when it is issued.

A. TCPM Qualifies the Check Pilot Candidate

Experience has shown that the Training Center Program Manager (TCPM) is usually in the best position to make quality assessments at training centers on behalf of the DGAC. The TCPM continually assesses training programs conducted by a training center for certification of pilot under CASR Parts 61 and 63. Similarly, the TCPM assesses the instructors and

training center evaluators (TCE) employed by a training center. The TCPM may judge a training program, an instructor, or a TCE qualified for use by licence holding air carrier operators, which may contract for services with the training center. For business reasons, some training centers maintain current lists of those programs and persons qualified by the TCPM for air carrier use.

B. POI Recommends Approval of the Check Pilot Candidate

Only the POI may recommend approval of a check pilot qualified by a training center's TCPM for use in an air carrier's training program. Normal procedures apply, including a Letter of Request from the operator, and a Letter of Approval from the DGAC.

NOTE: A check pilot may currently be approved for training centers under exemptions to CASR Part 121 or CASR Part 135. The guidance contained in this section may be applied to check pilot employed by training centers as long as it does not conflict with the provisions of any applicable CASR or exemption.

C. Scheduling Multiple-Use Check Pilot and Maintaining Check Pilot Status

Before a multiple approval is made, the overseeing inspector shall ensure that the operators understand that the scheduling and use of the check pilot is their responsibility. An operator entering into a multiple-use arrangement may employ a check pilot on a part-time basis, may contract with another operator or training center to provide a check pilot, or may contract directly with the check pilot.

NOTE: Each operator shall be responsible for ensuring that the check pilot maintains currency as specified in section 1 of this chapter and performs adequately when serving the operator.

D. Adding an Operator to a Check Pilot's Letter of Approval

An operator seeking check pilot approval for an individual who is serving as a check pilot for another operator shall provide the necessary information to its POI. The operator's POI shall consider the means the operator will use to train, to qualify, and to maintain qualification of the check pilot candidate and the documentation that will be required. The check pilot may be able to meet recurrent training requirements for more than one operator simultaneously. When the operator and the POI have agreed on the training and qualification necessary for the check pilot, the operator shall submit a written Letter of Request to the POI, as described earlier in this chapter. A copy of the candidate's current check pilot Letter of Approval shall be attached to the Letter of Request. When the POI approves the individual as a check pilot for his/her operator, a copy of the approval letter will be provided to the POI(s) of all other operators for which the individual has been approved as a check pilot.

E. Primary Oversight Responsibility

Each overseeing inspector must agree on two points: (1) the means by which the check pilot will maintain qualification; and (2) which inspector will

have primary responsibility for oversight of the check pilot. The overseeing inspector who first recommends approval of the check pilot usually retains this responsibility. When the check pilot is employed by a training center, the DAC training center program manager (TCPM) usually assumes this responsibility. The POI not having primary oversight responsibility may conduct surveillance activities at any time.

F. One Letter of Approval - Revision Procedures

A check pilot may hold only one Letter of Approval as a check pilot. When approved as a check pilot for an additional operator, the POI of that operator shall recommend issuance of a revised Letter of Approval showing the additional operator, the additional type of equipment, and the additional types of checks, as appropriate. Sample check pilot Letters of Approval are shown in figures 2.3 through 2.5. The POI recommending issuance of a revised Letter of Approval shall send a copy to each operator and to each POI affected. Conversely, should any POI need to recommend withdrawal of a check pilot's approval, that POI shall prepare the revised Letter of Approval and mail it to each operator and to each POI affected.

G. Recordkeeping

Each operator is required by CASR's to maintain training and qualification records for its check pilot. By agreement, one operator or training center may keep a check pilot's training and qualification records for all operators for which the check pilot serves. This agreement must be acceptable to each overseeing inspector affected. Each overseeing inspector shall retain a document showing agreement in the operator's file. A copy of that document should also be provided for use by the operator.

12. PILOT/FLIGHT ENGINEER FAILURE RATES

The repetitive failure of a pilot/flight engineer, or the failure of several pilot/flight engineer during proficiency or competency checks, may indicate a training program deficiency. Overseeing inspectors must establish procedures with their licence holders that provide for DAC notification when unsatisfactory performance occurs. Identified deficiencies should be promptly investigated and corrective action taken. A comparison of failure rates between checks conducted by inspectors and those conducted by check pilot/flight engineer should also be made. If a significant difference in failure rates exists, additional observations and counseling should be conducted. The overseeing inspector shall discuss the matter with the appropriate official responsible for the licence holder's training and checking activities. Should these discussions not lead to an improvement in the quality of training and evaluations, consideration should be given to withdrawing approval of any check pilot/flight engineer involved or, if appropriate, withdrawing approval for a specific part or for the entire training program.

13. SURVEILLANCE OF CHECK PILOT/FLIGHT ENGINEER

Overseeing inspectors shall establish a surveillance program for each check pilot/flight engineer at the time of approval.

A. Biennial (Every 24 Months) Check Pilot/Flight Engineer Observation

DAC requires observation of 50% of each operator's check pilots/flight engineer each year. The surveillance program shall include a specific observation by an DAC inspector of each approved check pilot/flight engineer at least once in every 24 months. Check pilot/flight engineer inspections should be conducted while the check pilot/flight engineer is conducting an approved checking activity. For example, a check pilot /flight engineer approved to conduct proficiency checks and line checks should be observed conducting a proficiency check in the aircraft or simulator, or conducting a line check, or overseeing initial operating experience (OE).

NOTE: Constraints of Aircraft with Two Pilot Seats

Inspectors may encounter difficulties in conducting the surveillance of check pilot whose activities are restricted to two-place airplanes or helicopters. In such cases, it may not be possible for an inspector to observe the check pilot conducting actual checks. In lieu of these observations, the POI may review the check pilot's activities and arrange for an inspector to administer the check pilot's competency and line checks.

B. Periodic Report by the Check Pilot/Flight Engineer

The POI should arrange to have the check pilot/flight engineer provide the POI with a periodic report (Figure 2.7) of each check pilot’s/flight engineer’s checking activities, including a pass/fail rate, to coincide with the POI's periodic review (annual, semiannual, or other). POI's may arrange for these reports to arrive at a time that meets the POI's needs. A check pilot/flight engineer should be active enough to retain the required knowledge and skills. This activity level may vary depending on the check pilot/flight engineer function, the size of the operator, and the number of approved check pilot/flight engineer. Usually a check pilot/flight engineer should conduct at least eight authorized check pilot/flight engineer activities during a 12-month period (including supervision of OE). The POI should specifically re-assess the operator's need for those check pilot/flight engineer whose records indicate low activity levels.

C. Withdrawing Check Pilot/Flight Engineer Approval

The POI's reasons for recommending withdrawal of the approval of a check pilot/flight engineer may include a lack of check pilot/flight engineer activity, a request by the operator, or an unsatisfactory performance on the part of the check pilot/flight engineer. To withdraw approval of a check pilot/flight engineer, the POI must prepare a letter to be signed by Deputy Director for Aircraft Operation to notify the operator that approval is withdrawn. The letter should include the name of the check pilot/flight engineer, the effective date of withdrawal, and the reason approval is being withdrawn. If the approval of a check pilot/flight engineer is withdrawn because of unsatisfactory performance, the letter of withdrawal must be sent to the operator by certified mail - return receipt requested.

NOTE: Under current regulations no normal term to expiration is specified for approvals of check pilot/flight engineer (unlike designated examiners, whose term is 12 months, per CASR Part 183).

A check pilot's/flight engineer’s approval may be given, limited, or withdrawn, in the discretion of the DGAC.

FIGURE 2.1. CHECK PILOT LETTER OF APPROVAL - SAMPLE A

DEPARTMENT OF COMMUNICATIONS
DIRECTORATE GENERAL OF AIR COMMUNICATIONS
DIRECTORATE OF AIRWORTHINESS CERTIFICATION
Karya Building, 22nd Floor
Jl. Merdeka Barat No. 8 Jakarta Pusat
Tlp. : (62-21) 3506664 3506665 Fax. : (62-21)3506663
Box 3049, Jakarta 10030

February 24, 1990

Mr. Pilot
Chief Pilot
Java Express
48 Jl. Anggrek
Jakarta, Indonesia

Dear Mr. Pilot:

Jerry Gaudawan, DGAC licence number 4671, is approved as a check Pilot/Flight Engineer. This check Pilot/Flight Engineer is approved to conduct checks in the Douglas DC-9 aircraft for employees of the Java Express. This approval is applicable for the following checking functions:

[ ]	Proficiency Check Pilot - Aircraft	Effective_____
[X]	Proficiency Check Pilot - Simulator	Effective 27/08/89
[ ]	Line Check Pilot - All Seats	Effective_____
[X]	Line Check Pilot - Observer's Seat Only	Effective 20/02/90
[ ]	Check Pilot - All Checks	Effective_____
[ ]	Check Flight Engineer	Effective_____

Please retain a copy of this letter in Mr. Gaudawan's individual flight training records.

Sincerely,

Captain Perfect
Deputy Director for Aircraft Operation

FIGURE 2.2. CHECK PILOT LETTER OF APPROVAL - SAMPLE B

DEPARTMENT OF COMMUNICATIONS
DIRECTORATE GENERAL OF AIR COMMUNICATIONS
DIRECTORATE OF AIRWORTHINESS CERTIFICATION
Karya Building, 22nd Floor
Jl. Merdeka Barat No. 8 Jakarta Pusat
Tlp. : (62-21) 3506664 3506665 Fax. : (62-21)3506663
Box 3049, Jakarta 10030

February 24, 1990

Mr. Pilot
Chief Pilot
Trans Regional Airlines
17 Jl. Kenanga
Jakart, Indonesia

Dear Mr.Pilot:

Jerry Gaudawan, DGAC licence number 4672, is approved as a check Pilot. This check Pilot is approved to conduct checks in multiengine Cessna, reciprocating-series airplanes and in all single-engine airplanes to pilots that are employed by Trans Regional Airlines. This approval is applicable for the following checking functions:

[ ]	Proficiency Check Pilot - Aircraft	Effective_____
[ ]	Proficiency Check Pilot - Simulator	Effective_____
[ ]	Line Check Pilot - All Seats	Effective_____
[ ]	Line Check Pilot - Observer's Seat Only	Effective_____
[X]	Check Pilot - All Checks	Effective 20/02/90

Please retain a copy of this letter in Mr. Gaudawan's individual flight training records.

Sincerely,

Captain Perfect
Deputy Director for Aircraft Operation

FIGURE 2.3 CHECK PILOT LETTER OF APPROVAL FOR MULTIPLE OPERATORS - SAMPLE A

DEPARTMENT OF COMMUNICATIONS
DIRECTORATE GENERAL OF AIR COMMUNICATIONS
DIRECTORATE OF AIRWORTHINESS CERTIFICATION
Karya Building, 22nd Floor
Jl. Merdeka Barat No. 8 Jakarta Pusat
Tlp. : (62-21) 3506664 3506665 Fax. : (62-21)3506663
Box 3049, Jakarta 10030

February 24, 1990

Mr. Pilot
Chief Pilot
Trans Regional Airlines
17 Jl. Kenanga
Jakarta, Indonesia

Dear Mr. Frost:

Jerry Gaudawan, DGAC licence number 4672, is approved as a check Pilot. This check Pilot is approved to conduct checks in multiengine Cessna, reciprocating series airplanes and all single engine airplanes to pilots that are employed by:

Trans Regional Airlines.	Effective 24/02/90
Transumatra Charter Services	Effective 15/11/87

This approval is applicable for the following designated functions:

[X]	Proficiency Check Pilot - Aircraft	Effective_____
[ ]	Proficiency Check Pilot - Simulator	Effective_____
[ ]	Line Check Pilot - All Seats	Effective_____
[ ]	Line Check Pilot - Observer's Seat Only	Effective_____
[X]	Check Pilot - All Checks	Effective 24/02/90

Please retain a copy of this letter in Mr. Gaudawan's individual flight training records.

Sincerely,

Captain Perfect
Deputy Director for Aircraft Operation

FIGURE 2.4 CHECK PILOT LETTER OF APPROVAL FOR MULTIPLE OPERATORS - SAMPLE B

DEPARTMENT OF COMMUNICATIONS
DIRECTORATE GENERAL OF AIR COMMUNICATIONS
DIRECTORATE OF AIRWORTHINESS CERTIFICATION
Karya Building, 22nd Floor
Jl. Merdeka Barat No. 8 Jakarta Pusat
Tlp. : (62-21) 3506664 3506665 Fax. : (62-21)3506663
Box 3049, Jakarta 10030

February 24, 1990

Mr. Pilot
Chief Pilot
Trans Regional Airlines
17 Jl. Kenanga
Jakarta, Indonesia

Dear Mr. Pilot:

Jerry Gaudawan, DGAC licence number 4672, an employee of High Flight Training Center, has been designated as a Training Center Evaluator. Mr. Brown is approved as a check Pilot and is authorized to conduct checks in Cessna Citation airplanes to pilots that are employed by Trans Regional Airlines. This approval is applicable for the following functions:

[X]	Proficiency Check Pilot - Aircraft	Effective_____
[X]	Proficiency Check Pilot - Simulator	Effective_____
[X]	Line Check Pilot - All Seats	Effective_____
[ ]	Line Check Pilot - Observer's Seat Only	Effective_____
[X]	Check Pilot - All Checks	Effective 24/02/90

Mr. Gaudawan is approved to conduct checks in Cessna Citation airplanes to pilots that are employed by Transylvania Charter Services. This approval is applicable to the following functions:

[ ]	Proficiency Check Pilot - Aircraft	Effective_____
[X]	Proficiency Check Pilot - Simulator	Effective 15/01/90
[ ]	Line Check Pilot - All Seats	Effective_____
[ ]	Line Check Pilot - Observer's Seat Only	Effective_____
[ ]	Check Pilot - All Checks	Effective_____

This letter is valid only during the period that a contract exists between your company and High Flight Training Center for training your flight crewmembers. Please retain a copy of this letter in Mr. Brown's individual training records.

Sincerely,

Captain Perfect
Deputy Director for Aircraft Operation

cc: Training Center Program Manager, High Flight Training Center

FIGURE 2.5 CHECK PILOT/FLIGHT ENGINEER APPROVAL CHECKLIST

DEPARTMENT OF COMMUNICATIONS
DIRECTORATE GENERAL OF AIR COMMUNICATIONS
DIRECTORATE OF AIRWORTHINESS CERTIFICATION
Karya Building, 22nd Floor
Jl. Merdeka Barat No. 8 Jakarta Pusat
Tlp. : (62-21) 3506664 3506665 Fax. : (62-21)3506663
Box 3049, Jakarta 10030

1. Operator's letter contains necessary information:

   [ ] Full name of candidate.
   [ ] Business address of candidate.
   [ ] Crew position and aircraft type.
   [ ] Type of check pilot/flight engineer designation requested.

2. Licences (copies):

   [ ] Applicable pilot/flight engineer.
   [ ] Medical.
   [ ] Any valid check pilot/flight engineer Letters of Approval.

3. Training Records (copies):

   [ ] Initial, transition, or upgrade to requested aircraft and crew position.
   [ ] Recurrent.
   [ ] Check pilot/flight engineer.

4. [ ] Resume of experience included.

5. [ ] Check Pilot/Flight Engineer evaluation scheduled.

6. [ ] Report of evaluation.

Favorable Report:

9. Prepare Letter of Approval.

   [ ] Original letter to operator.
   [ ] Copy to operator file.
   [ ] Copy to other POI (if check pilot/flight engineer for another operator).

Unfavorable Report:

10. [ ] Prepare letter to operator indicating disapproval.

FIGURE 2.6. LETTER OF REQUEST
SAMPLE

ABC AIRLINES *(Please Print or Type)*

1. _____; of, _____ hereby nominate
(*Name of Company Executive*) (*Name of Air Operator*)

_____
(*Name and LIcence Number*)

Authority requested as a CCP to: *(Check Yes for each authority requested)*

Conduct:	(a)	PPCs Renewals	ε Yes
	(b)	Instrument Rating Renewals	ε Yes
	(c)	Line Checks (CCP)	ε Yes
	(d)	Line Indoctrination (CCP)	ε Yes

On the following aircraft type _____

Experience

The nominee is personally suitable and meets all the criteria listed below.
Qualifications:

1. Has a through knowledge of the company operations manual and applicable aircraft flight and operating manuals.
2. Has completed the company's ground and flight training programme on type for the requested authority.
3. Has been employed by the Air Operator as a Pilot for at least six months.
4. Not less than 500 hours on type.
5. Not less than 100 hours on type as Pilot-in-Command for which the authority is requested.
6. If 4 and 5 are not met the airman must have experience as an instructor pilot acceptable to the POI.
7. Is fully competent as Pilot-in-Command of the aeroplane type for which approval has been requested and has demonstrated this competency from both the left and right seats.
8. Has completed a Check Pilot Course.
9. Meets the following licence and hour requirements.

Hours (PIC)	1,000 hours
Licence	ATPL
Experience	6 months of type as PIC + 100 hours as PIC (for CCP)

_____ _____
Completion Date (DD/MM/YY) Course Location

Page 1 of 2

Signature Block

I certify that:

ٱ _____ Has acted as Pilot-in-Command of the following aircraft types and meets all of the previous requirements.

Types				
Hours				

ٱ The nominee's background, character and motivation are suitable to hold this position.

ٱ The nominee meets the qualification requirements outlined in the CCP manual.

_____ _____
Operations Manager's Signature (Date: DD/MM/YY)

I certify that the foregoing information is true and accurate.

_____ _____
Operations Manager's Signature (Date: DD/MM/YY)

Note: When the Operation Manager is the nominee, a company executive shall complete and sign the form.

This nomination shall be accompanied by a resume (please type or print) of the nominee's aviation background, qualification and other experience which would support approval as a CCP.

Verification:

_____ (nominee's name)

- ε Has been briefed on flight check procedures;
- ε Has completed at least one monitored PPC and/or Instrument Rating Flight Check (as applicable); and
- ε Qualifications have been verified and meet the requirements as per the CCP Manual.

Recommendation: Recommended: ☐ Yes ☐ No

_____ _____ _____ _____
Inspector's Signature Date: (DD/MM/YY) Deputy Director for Aircraft Operations Date: (DD/MM/YY)

Check Applicable Box(s) ☐ Initial Application ☐ Amendment ☐ Replacement ☐ Revoke Authority

FIGURE 2.7 PERIODIC REPORTS OF CHECK ACTIVITIES

To: Principal Operations Inspector (POI)
PT. ABC Airlines

Dear Sir.

In accordance with the requirement of the CCP Manual, the following is the list of Pilot Flight Checks scheduled for the months of _____ of 20__

Please Type or Print

Name	Licence Number	Aircraft Type[1]	TYPE OF CHECKS			SAT/ UNSAT
			PPC[2]	IR	Line	

_____ _____
Signature of Check Pilot//flight engineer (Date–DD/MM/YY)

[1] If simulator, please indicate type and location.
[2] Indicate whether initial or renewal.

FIGURE 2.8. CHECK AIRMAN LETTER OF AUTHORIZATION

DEPARTMENT OF COMMUNICATIONS
DIRECTORATE GENERAL OF AIR COMMUNICATIONS
DIRECTORATE OF AIRWORTHINESS CERTIFICATION
Karya Building, 22nd Floor
Jl. Merdeka Barat No. 8 Jakarta Pusat
Tlp. : (62-21) 3506664 3506665 Fax. : (62-21)3506663
Box 3049, Jakarta 10030

Company Check ……..
Authorization

This certified that (name) : _____

Licence Number : _____

Is approved as ***Company Check ……*** To conduct check at:

1. Company/Operator : _____
2. Aircraft Type : _____
3. Applicable for the following checking functions:

   - ε Proficiency Check-Aircraft.
   - ε Proficiency Check-Simulator.
   - ε Route/Line Check-All seats (Pilot Only).
   - ε Route/Line Check-Observer's seat only.
   - ε -All Check Above.

4. Validity/Currency
   a. This authority is valid for 1 (one) year only.
   b. The Director General can revoke, suspend or require surrender of this certificate of authority if the holder does not maintain qualifications.
   c. Under extenuating circumstances an extension of this authority may be granted up to 90 (ninety) days.
5. Date of issue : _____

   Date of Expiration : _____

On behalf of the Director of Airworthiness Certifications

(……)
Deputy Director for Aircraft Operation

DAC Form 120-05 (7-02 Page 1 of 1

SECTION 3. CHECK PILOT/FLIGHT ENGINEER AND AIR TRANSPORTATION FLIGHT INSTRUCTOR TRAINING

1. GENERAL

This section provides guidance concerning the training requirements for check pilot/flight engineer and air transportation flight instructors.

A. Candidates

Selection of Instructors and Nomination of Check Pilot/Flight Engineer. The operator selects instructors and submits the selections for review by the principal operations inspector (POI). The operator nominates check pilot/flight engineer and submits the nominees for approval by the POI. Since the experience levels of pilots and flight engineers vary among operators, it is impractical to specify minimum experience levels for candidates. In some cases, such as cases involving new operators, candidates may have relatively little flight experience. Regardless of experience levels, however, candidates must be able to demonstrate high levels of knowledge and skill in the applicable job functions. POI's must ensure that adequate training for check pilot/flight engineer and air transportation flight instructors is completed and documented in the applicable records.

B. Single Pilot-In-Command (PIC) Operators

Operators using aircraft with a single PIC present questions about training that is not addressed in regulations. For such operators, a check pilot who performs competency and line checks may qualify and maintain currency by one of three methods: (1) the check pilot may receive competency and line checks from a check pilot from another operator or training center approved by the DGAC; (2) if a level B, C, or D flight simulator that replicates the aircraft being used is available and is approved for use in that operator's training program, the check pilot may receive competency checks in that simulator from a check pilot from another operator or training center approved by the DGAC; or, (3) the check pilot may receive competency and line checks from an Directorate of Airworthiness Certification (DAC) inspector.

2. TRAINING FOR FLIGHT INSTRUCTORS AND CHECK PILOT/FLIGHT ENGINEER

To ensure that its flight instructor or proficiency check pilot/flight engineer are adequately trained, each operator's approved initial flight instructor training program and initial check pilot/flight engineer training program shall include the training specified in Civil Aviation Safety Regulations (CASR) 121.411, 121.413 or CASR 135.409 and 135.411, as applicable. Check pilot/flight engineer and air transportation flight instructor candidates must satisfactorily complete the operator's approved initial, transition, or upgrade training programs for the desired aircraft and duty position. In addition, instructors must complete the operator's instructor training/course; check pilot/flight engineer must complete the operator's instructor and check pilot/flight engineer training. Flight instructors and check pilot/flight engineer need not repeat curriculum segments in transition training that apply to more than one aircraft or duty position when

they have completed those curriculum segments satisfactorily in previous training.

A. Ground Training

(1) Pilot/flight engineer flight instructors (including flight instructors using simulators).

(2) Proficiency check pilot/flight engineer (including check pilot/flight engineer using simulators).

(3) Line check pilot/flight engineer.

Ground training for air transportation pilot/flight engineer flight instructors, pilot proficiency check pilot/flight engineer and line check pilot/flight engineer shall include the following topics:

(1) Fundamental principles of the teaching-learning process.

(2) Teaching methods and procedures.

(3) Instructor-student relationships.

NOTE: That these topics need not be included when the candidate holds a Flight Instructor Licence (CFI) issued by the DAC. This does not relieve the operator of the responsibility for ensuring that instructors and check pilot remain proficient in these areas.

(4) Regulatory and administrative functions of instructors and check pilot/flight engineer, as appropriate.

(5) Applicable CASR.

(6) The operator's policies and procedures.

(7) Methods, procedures, and techniques for conducting required checks.

(8) Seat-dependent tasks for the specific aircraft.

(9) Analysis of pilot performance including identification of improper or insufficient training.

(10) Crew resource management (CRM) concepts and vocabulary.

(11) Appropriate corrective actions for unsatisfactory performance in training or evaluation.

(12) Guidelines and safety measures for emergency situations likely to develop in conducting the required normal, abnormal, and emergency procedures in an aircraft and in a simulator, as appropriate.

(13) The consequences of improper or untimely safety measures.

B. Flight Training

(1) Flight instructors - Aircraft – Simulators.

(2) Proficiency heck pilot - Aircraft – Simulators.

(3) Line Check Pilot.

Flight training shall include the following:

(1) Enough flight training and practice in conducting training (and flight checks for check pilots) from the left and right pilot seats using the required normal, abnormal, and emergency procedures to ensure the individual's competency in conducting the required flight training (and pilot flight checks if applicable). For an air transportation flight instructor-aircraft and a proficiency check pilot-aircraft, training and practice in the

takeoff and landing events of the operator's approved training program must be conducted in an aircraft; the remainder of the training may be conducted in a simulator. For an air transportation flight instructor-simulator only and a proficiency check pilot-simulator only, this training may be completed entirely in a flight simulator.

(2) For proficiency check pilot/line check pilot-aircraft training in flight in an aircraft supervising normal takeoffs and landings from either pilot seat. The operator shall ensure that the check pilot candidate is thoroughly trained in second-in-command (SIC) functions and capable of accomplishing them competently while supervising and evaluating a new captain.

(3) Guidelines and safety measures for emergency situations likely to develop in conducting the required normal, abnormal, and emergency procedures in an aircraft and in a simulator, as appropriate.

(4) The consequences of improper or untimely safety measures.

C. Flight Training - Flight Engineer Instructors

Flight training shall include the following:

(1) Enough flight training and practice to ensure the instructor's competency. Normal, abnormal, and emergency procedures shall be covered. For a flight engineer instructor - all checks, flight training may be completed entirely in a flight simulator device.

(2) Guidelines and safety measures for emergency situations likely to develop in conducting the required normal, abnormal, and emergency procedures in an aircraft and in a simulator, as appropriate.

(3) Consequences of improper or untimely safety measures.

D. Credit for Check Pilot/Flight Engineer Training - Multiple Operators

A POI may approve a check pilot/flight engineer to serve more than one operator. Equivalent training completed with one operator may be credited toward the check pilot/flight engineer training requirement for another operator, in the discretion of the POI. Creditable training may include parts of ground training and flight training. For example, a check pilot/flight engineer might be eligible for training credit under the following conditions:

(1) Employed by a training center.

(2) Regularly performing proficiency or competency checks.

(3) Using the same procedures for all operators.

When procedures, aircraft, or types of operations differ, the POI shall require that the check pilot/flight engineer candidate (for service with an additional operator) complete appropriate additional training. Appropriate additional training shall address differences, and may comprise entire curriculum segments.

CHAPTER 7
PROVING FLIGHTS

1. BACKGROUND AND OBJECTIVES

Proving tests consist of a series of flights which are designed to demonstrate prior to the issuance of the AOC that the applicant is capable of operating and maintaining each aircraft type which he proposes to use to the same standards required of an established carrier. Proving flights may also be required of a fully certified airline which is adding a new airplane type to its fleet. Successful proving flights may be considered the final proof that an operator is ready to commence revenue operations with a specific type of airplane. During these inspections, the DGAC will have the opportunity to observe and evaluate the in-flight operations within the total operational environment of the air transportation system. In the course of these flights, paying passengers will not be carried. However, it is generally desirable for the applicant to have on board company officials who can make decisions and commitments on behalf of the applicant concerning actions to correct deficiencies. These company officials may also serve as passengers for purposes of realism, so that the cabin attendant can perform their normal duties such as passenger briefings and meal services.

The applicant and the DGAC inspector should plan well in advance for the conduct of the proving flights. All concerned must have a clear understanding and agreement as to what must be accomplished by the applicant to show compliance with the applicable operating regulations and rules. General objectives for pre-certification proving flights should include the determination of the adequacy of:

- in-flight procedures laid down in the operations manual and compliance with those procedures;
- the facilities and equipment provided to the flight crew to conduct the flight safely and in accordance with regulations;
- the support provided by operational control to the flight crew;
- the general provision made for ground handling of the aircraft and assisting the flight crew to carry out their duties at all aerodromes utilized by the applicant along the routes; and
- en-route facilities.

Proving test flights are operated exactly as though the applicant is conducting revenue operations. However, during the course of the flights the DGAC may introduce simulated situations which will require appropriate responses by crewmembers and ground personnel.

2. SPECIFIC PROCEDURES

Proving flights will consist of a minimum of 10 hours (5 hours for domestic flights) flown over routes for which the operator seeks approval. At least 4 route segments must be flown, if practicable. If the operator seeks approval for night operations, 5 of the 10 hours must be flown at night, if practicable. The sequence of events for the proper planning for and carrying out of proving flights will be as follows:

(a) Well before the proving flights (during the pre-application phase of the certification process) the DGAC will have briefed the operator regarding the necessity for proving flights, what must be accomplished, and the areas which will be evaluated.

(b) At least 10 days prior to the proving flights, the operator must submit a proving test plan consisting of a detailed schedule of the proposed flights including dates, times, and airports to be used, along with a list of names of all crewmembers who will be used on each flight. The applicant should also provide a list of names and titles of non-crewmember personnel who will be aboard the aircraft during the flights. Preliminary flight plan information containing predicted fuel, baggage, and passenger loads for each segment along with predicted gross takeoff and landing weights must also be provided.

(c) After receipt of the proving test plan from the operator, the DGAC team will develop a proving flight scenario consisting of simulated emergencies and other means of testing the crewmembers' and operators operator's ability to cope with actual operational contingencies. Since the primary purpose of the proving flights is to ensure basic compliance with safe operating procedures during *routine* operations, the introduction of simulated abnormal and emergency conditions should be kept to the minimum required to evaluate the operator's capability to respond to such conditions. The following are typical scenarios which may be useful in evaluating the operator's capabilities:

- Diversion to alternate airports for reasons such as weather or maintenance. This tests the company's communications, maintenance, ground handling, and other operational capabilities.
- MEL or CDL situations - this tests crewmembers' understanding of specific operational limitations and the company's operations and maintenance procedures. For example, dispatching with an inoperative AC generator tests the operator's ability to comply with the operational and maintenance provisions of the MEL.
- Performance problems - this requires the aircrew and dispatch or flight control personnel to demonstrate competency and knowledge of such items as aircraft performance, airport analysis charts, and alternative company procedures. For example, simulating one-half inch of standing water on a departure runway will test the operator's ability to make performance adjustments.
- Hazardous cargo - the introduction of simulated hazardous cargo will test the applicant's ability to properly document and handle such items.
- Simulated aircraft emergencies such as engine failure - this tests the flight crew's knowledge and competency in handling emergency situations. It also tests the operator's communications, maintenance, and other capabilities. Under no circumstances may an actual engine shutdown be required. However, at the discretion of the DGAC team leader, a throttle may be retarded to idle thrust during flight and throughout the approach and landing.
- Simulated cabin emergencies - this tests the ability of the cabin attendant to deal with cabin abnormalities in accordance with established company

procedures and to coordinate with the flight deck crew. Possible scenarios may include a simulated incapacitated passenger in need of immediate medical assistance, a simulated lavatory fire, or a simulated loss of pressurization.

(d) The proving test flights are then carried out in accordance with the operator's plan and the DGAC scenario.

(e) Following each segment of the flight, the operator should be debriefed by the DGAC team leader regarding the progress thus far. Unsatisfactory conditions noted by the team leader should immediately be brought to the attention of the applicant for corrective action. The opportunity should be provided to the applicant to remedy any deficiencies affecting the safety of the operation before any further flights are undertaken. All discrepancies and items of non-compliance must be corrected or resolved to the satisfaction of the DGAC team leader before the series of flights can be considered successful. Some examples of deficiencies requiring corrective action are:

- flight crew member not properly trained, e.g. requires assistance from applicant supervisors or a DGAC inspector;
- flight crew member not familiar with aircraft, systems, procedures or performance;
- cabin crew member not properly trained or not familiar with location or use of emergency equipment or emergency evacuation procedures;
- numerous aircraft deficiencies and/or systems malfunctions;
- inadequate mass and balance or load control;
- unsatisfactory operational control, e.g. improper flight planning and flight release procedures;
- unacceptable maintenance procedures or practices; and
- improper aircraft servicing and ground handling procedures.

F. Within 24 hours after the entire series of proving flights is completed, the operator will be provided with a detailed de-briefing and will be informed whether or not his overall performance was satisfactory or unsatisfactory. This will be followed with a letter detailing the same information.

3. EVALUATION AND REPORTING

The routine portion of the applicant's operational performance during the series of proving test flights will be evaluated using the Cockpit En-route Inspection Checklist/Report form and the criteria contained in Volume 3 Chapter 9 of this manual, the Cabin En-route Checklist/Report along with criteria contained in Volume 3 Chapter 10, and the Station Facility Inspection Checklist/Report along with the criteria contained in Volume 3, Chapter 9 (if applicable). *These will be attached to the Proving Flight Checklist/Report form which is shown in Figure 2-3-1 at the end of this chapter*. Emergency and abnormal scenarios which were conducted during the proving flights will be listed in item 4 of figure 2-3-1.

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Box 3049, Jakarta 10030

AIR OPERATOR PROVING FLIGHT REPORT

1. Airline :

2. Aircraft Type :

3. Flight Information :

Dates	Route Segments (List 3-letter identifiers of origin and destination airports)	Flight Time	
		Day	Night

4. Emergency/Abnormal Scenarios (list)

5. Results: " Satisfactory " or "Unsatisfactory"

6. Remarks: *(Continue on back if necessary)*

Note: *Attach en route cockpit and cabin report forms and station facility inspection report forms if applicable, along with copy of letter to company advising whether flights were found to be satisfactory or unsatisfactory.*

Inspectors name : _____

Inspectors Signature : _____

Figure 2-3-1 Air Operator Proving Flight Report

CHAPTER 8
EMERGENCY EVACVUATION DEMONSTRATIONS

1. CATEGORIES OF EMERGENCY EVACUATION DEMONSTRATIONS

There are two categories of emergency evacuation demonstrations: full-scale evacuation and partial evacuation.

A. Full-scale Evacuation Demonstration

The primary purpose of a full-scale evacuation demonstration is to ensure that the airplane design and seating configuration will permit the safe and complete evacuation of all passengers through 50 per cent of the installed emergency exits within a specified time frame. Adequacy of the crewmember compliment and operational procedures and training is also evaluated.

A full-scale evacuation demonstration requires the use of an aircraft, parked on apron or in a hanger, with a complete complement of crew members (flight deck and cabin) and each passenger seat occupied by a "passenger" participant. The crewmembers are required to simulate an aborted takeoff followed by a situation which requires the immediate evacuation of the aircraft in 90 seconds or less.

Full scale demonstrations are usually conducted by the manufacturer for the State of manufacture during the type certification process. Subsequent full-scale evacuations are only required when an airline uses a seating capacity which is greater than what has previously been demonstrated. It is unlikely that the DGAC will ever have to require an operator to perform a full-scale evacuation. Because a full-scale evacuation demonstration is a complex undertaking with an inherent risk of minor injury to the participants, in the event that a full-scale demonstration is required of a Indonesian operator, the DGAC will obtain assistance from another State which is highly experienced in conducting such demonstrations.

B. Partial Evacuation Demonstration

For issuance of an AOC or variation to an AOC, the adequacy of an operator's training and procedures along with the proper functioning of emergency exits can be determined through a partial evacuation demonstration. In this demonstration, a full complement of crew members are required to carry out the procedures for an emergency evacuation, including opening 50 per cent of the emergency exits and successfully deploying the escape slides at those exits within a specified time frame. No passenger seats are occupied an no person is required to actually exit the airplane by means of an escape slide.

2. PROCEDURES FOR PARTIAL EVACUATION DEMONSTRATION

The following procedures will be followed in conducting a partial emergency evacuation demonstration:

- A planning meeting will be held with the operator well in advance of the demonstration in order to discuss the exact procedures to be followed and the criteria for a successful demonstration.

- The operator will provide for the demonstration an aircraft of the type, model, and cabin configuration for which approval is sought, along with a qualified and current cockpit crew and two complete compliments of cabin crew members. The purpose of requiring two complete compliments of cabin attendant is so that the DGAC may select, immediately prior to the demonstration, the flight attendants who will actually participate in the demonstration. This is to lessen the possibility that the operator will provide extra training to those flight attendants which it knows in advance will participate in the demonstration, so that their performance will not be representative of the level of proficiency of all of the operator's cabin attendant.
- The demonstration will be conducted in darkness, either on an apron at night or in a hangar with the lights extinguished.
- During the steps leading to the commencement of the timing of the demonstration, the airplane's electrical system will be fully powered by either an external power unit or the APU.
- Crewmembers will simulate complete preparation for takeoff, including the execution of all checklists up to and including the takeoff checklist. Engine operation will be simulated. Cabin attendant will be seated at their normal stations for takeoff.
- The cockpit crew will simulate the commencement of the takeoff roll followed by a high-speed, aborted takeoff due to an engine fire or other appropriate simulated malfunction.
- The evacuation of the airplane will be signalled through the failure normal electrical power (by disconnecting the external power unit or APU). Interruption of normal power will be a clear signal to all involved that the timing of the demonstration has commenced. Outside, the aircraft's external lights (taxi lights, anti-collision lights, position and logo lights) will extinguish. Inside, normal cabin lighting will extinguish and all emergency exit lights and floor-level lighting (if installed) will illuminate if functioning properly.
- Immediately upon failure of the normal electrical system the flight attendants will be required to unbuckle their safety harnesses, leave their jumpseats, ascertain which exits are usable, open the usable exits, and deploy the escape slides. In order for the demonstration to be successful, the total time which elapses from the interruption of electrical power until full deployment of all activated slides must not exceed 15 seconds. Slides are not considered fully deployed until they reach the ground and are inflated to a firmness which would safely support the egress of passengers.
- To monitor, time, and evaluate the demonstration, DGAC personnel will be positioned in the cockpit and at each exit inside of the airplane and outside the airplane at each exit. The DGAC inspector who is responsible for the timing of the demonstration will be positioned outside of the airplane with a stop watch. He will commence timing when the external lights of the aircraft are extinguished. After precisely 15 seconds, he will call "time" to all participants and the demonstration will be considered complete. He will then confer with the DGAC team members who were stationed at the exits both inside and outside of the airplane to confirm whether or not procedures were properly followed and that the slides were adequately deployed by the time 15 seconds elapsed.

- Only 50 per cent of the exits will be used. The operator's personnel inside the airplane should not know in advance which exits will be used and which will be rendered unusable. One method for indicating to the cabin attendant immediately after the commencement of the demonstration which exits are unusable is to station DGAC personnel with bright flashlights outside of those exits. When the exterior lights of the airplane are extinguished and the timing begins, those DGAC personnel will shine their flashlights directly on the windows of the emergency exits which are to be considered inoperable, thus simulating a fire on that side of the airplane. In accordance with their procedures, cabin attendant must look through the window of an emergency exit to make sure that it is usable before opening it and deploying the escape slide for use by passengers. In this case, if the cabin attendant approaches an exit and observes a light shining on the window, he or she will consider it inoperative and choose an alternative exit to be opened.

3. EVALUATION OF THE PARTIAL EVACUATION DEMONSTRATION.

Specific points to be noted during the evacuation demonstration are:

- adherence by flight and cabin crew members to the execution of assigned duties and responsibilities both in the aircraft and on the ground;
- effectiveness of the pilot-in-command in the exercise of command responsibilities;
- succession to command in event of casualties;
- effectiveness of crew members in performing their assigned evacuation duties; and
- shortcomings, deficiencies or delays encountered.

If the applicant cannot satisfactorily demonstrate emergency evacuation for each particular type, model and configuration of aircraft within 15 seconds, the applicant will be required to take steps to correct the deficiency which could include the following:

- revising evacuation procedures;
- improving crew training;
- modifying or changing the equipment used;
- changing the passenger compartment arrangement; and
- reducing total passenger seating capacity.

4. EMERGENCY EVACUATION DEMONSTRATION REPORT.

Figure 2-4-1, which follows, contains a sample of the report form which is to be used for documenting the demonstration.

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Box 3049, Jakarta 10030

AIR OPERATOR PARTIAL EMERGENCY EVACUATION DEMONSTRATION REPORT

1. **Name of operator :**
2. **Date/time of demonstration :**
3. **Aircraft type/model :**
4. **Number of installed seats :**
5. **Crewmember names :** *(List name and crew position of each participant)*

6. **Result** ☐ **Satisfactory** ☐ **Unsatisfactory**
7. **Remarks:** (Include description of which exits were used and whether or not slides were deployed within 15 seconds of commencement of drill - continue on back if necessary.)

Inspector's Name :

Inspector's Signature :

Figure 2-4-1.

CHAPTER 9
DITCHING DEMONSTRATIONS

1. GENERAL

A ditching demonstration is be required during the operational inspection phase of the certification process for each aircraft type, model and configuration which will be operated on extended flights over water routes (on any route which passes more than 50 nautical miles from land). The purpose of the demonstration is to evaluate the operator's ability to safely prepare passengers, airplane, and ditching equipment for a planned water landing. Prior to conducting this demonstration the DGAC should determine whether the aircraft has an airworthiness certification covering ditching. If the aircraft is not certificated for ditching, extended flights over water should not be authorized. During the demonstration, the following four areas are evaluated:

- Emergency training program
- Ditching procedures
- Crewmember competency
- Equipment adequacy and reliability

Similar to the emergency evacuation, there are two types of ditching demonstrations which may be required: full-scale and partial. Since full-scale ditching demonstrations have been conducted by the manufacturer during the type certification process for most airplane types, it is likely that the DGAC will only require a partial demonstration by an applicant for an AOC.

2. PARTIAL DITCHING DEMONSTRATION

The following procedures will be followed in conducting a partial ditching demonstration:

- The demonstration must be conducted during daylight hours or in a lighted hanger if conducted at night.
- All required crewmembers must be available and used
- Passenger participants (company personnel other than crewmembers who are acting as "passengers") will be used only when the operator's procedures require passengers to assist in the removing and launching of life rafts. If used, passengers will not receive any instructions before the demonstration except what is contained in the operator's manual.
- To commence the demonstration, the crewmembers will simulate, in a parked airplane, a normal takeoff and climb to cruise flight. Engine start will be simulated and all checklists will be accomplished. Upon the DGAC team leader's signal, the captain will order the crew to prepare for ditching. At that time, the team leader will commence timing for 6 minutes in order to give the crew time to prepare for a simulated water landing. After the simulated water landing, all liferafts must be removed from storage. This action is not specifically time; however, the crewmembers must demonstrate competency

in removing the rafts from storage and the raft must be capable of being removed from the airplane for deployment in a reasonable period of time.

- When the ditching signal is given, each evacuee must put on a life preserver in accordance with the operator's manual and the flight attendants' briefing.
- Each liferaft must be removed from stowage for inspection.
- One liferaft, selected by the DGAC, will be inflated and launched and the evacuees assigned to that raft will get in it. The crewmembers assigned to the raft will locate and describe the use of each item of emergency equipment contained in the raft.

Note: For the purpose of the demonstration, "launching" a *liferaft* means to remove it from stowage, manipulate it out of the airplane by means of stands or ramps, and position it on the ground before inflation. Launching a *slideraft* means to inflate it in the normal manner then lower it to the ground.

3. EVALUATION OF THE DITCHING DEMONSTRATION

The following are specific points to be noted and evaluated during the ditching demonstration:

- A sufficient number of items of emergency equipment, i.e. life rafts, inflatable slides, life jackets, medical kits, first aid kits, emergency locator transmitter, etc., are carried on board;
- emergency equipment is properly stowed and can be readily removed or ejected from the aircraft in the time specified;
- means are provided and utilized to prevent emergency equipment from drifting away from survivors;
- slides, life jackets and life rafts inflate fully within acceptable time limits and other emergency equipment functions properly, including proper deployment of inflatable slides;
- selection of emergency exits to be utilized and that such exits can be opened readily;
- emergency procedures and related checklists are adequate and are properly used by the crew members;
- the crew is properly trained;
- crew members are familiar with and adhere to the timely execution of their assigned duties and responsibilities;
- crew members, using available emergency equipment and following the procedures outlined in the operations manual, can facilitate the evacuation of the aircraft under those critical conditions expected during the short period of time the aircraft would remain afloat; and
- adequate safety precautions are followed by the crew members to prevent possible injury to evacuees or themselves.

In assessing the effectiveness of the ditching demonstration the DGAC inspector should record the following:

- Time from start of ditching until each exit door or emergency exit to be utilized is open;
- time when each life raft is launched;
- time required to inflate each life raft; and
- time when all life rafts are boarded.

Any deficiencies noted during the ditching demonstration regarding the evacuation procedures or related emergency equipment such as inflatable slides, emergency exits, life rafts, etc., must be rectified by the applicant. This may require additional demonstrations before these emergency procedures can be considered acceptable by the DGAC.

4. REPORTING PROCEDURES

The form shown in figure 2-5-1 at the end of this chapter will be used for reporting ditching demonstrations.

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AIR OPERATOR PARTIAL DITCHING DEMONSTRATION REPORT

1. **Name of operator :**
2. **Date/time of demonstration :**
3. **Aircraft type/model :**
4. **Crewmember names :** *(List name and crew position of each participant)*

5. **Times**
   a. **From start of demonstration until each exit door or emergency exit to be utilized is opened :**
   b. **Time when raft is launched:**
   c. **Time required to inflate raft:**
6. **Result** ☐ **Satisfactory** ☐ **Unsatisfactory**
7. **Remarks:** *(Continue on back if necessary)*

Inspector's Name :

Inspector's Signature :

Figure 2-5-1

CHAPTER 10

LEASE AND INTERCHANGE AGREEMENTS BETWEEN STATES

1. BACKGROUND.

A. ICAO specifies that the fundamental responsibility for the operation of an aircraft lies with the State of Registry. However, special conditions may arise as a result of aircraft leasing or interchange agreements between a Indonesian Operator and an operator or leasing company in another State. Unless suitable arrangements are made, complex legal, safety, and enforcement problems may be created for both the State of Registry and State of the Operator. It is therefore essential that agreement is reached on two key issues:

- Which State's regulations are to be applied and which State is responsible for the safe operation and airworthiness of the aircraft.
- Which operator (lessor or lessee) is responsible for the day to day operational control of the leased aircraft.

B. The two above issues are closely related because responsibility for the safe operation and airworthiness of an aircraft may be viewed from two directions: Responsibilities of the State of Registry under certain specific articles to the Chicago Convention; and the responsibilities (contained in Annex 6 Part 1) of the State who oversees the AOC of the operator which has operational control. In this regard, the following ICAO articles are especially germane:

- *Article 12 - Rules of the Air*. Article l2 makes States responsible for ensuring that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the State's rules and regulations relating to the flight and maneuver of aircraft.
- *Articles 17, 18, 19 and 20 - Nationality of Aircraft*. These articles provide that aircraft have the nationality of the State in which they are registered; that an aircraft cannot be registered in more than one State, but its registration may be changed from one State to another; and that every aircraft engaged in international air navigation shall bear its appropriate nationality and registration marks.
- *Article 30 - Aircraft Radio Equipment*. Aircraft radios must be licensed by the State of Registry if they are to be carried in or over the territory of other Contracting States. The use of radio apparatus must be in accordance with the regulations of the State flown over. Radios can only be used by members of the flight crew licensed for that purpose by the State of Registry.
- *Article 31 - Certificates of Airworthiness*. Every aircraft engaged in international navigation must be provided with a certificate of airworthiness issued or rendered valid by the State of Registry.
- *Article 32 - Licenses of Personnel*. The pilot and crew of aircraft engaged in international navigation must be provided with certificates of competency issued or rendered valid by the State of Registry. States can

refuse to recognize, for the purpose of flight above their territory, certificates of competency and licenses granted to any of its nationals by another Contracting State.

In addition to responsibilities which go with the nationality of an airplane, as enumerated in the preceding articles, States are required to approve and oversee all facets of their AOC holders' maintenance and flight operations in accordance with paragraph 4.2 of Part 1 to Annex 6. Depending upon the exact nature of a lease agreement, these responsibilities may mix and overlap between two States.

Article 83 bis of the Chicago convention, which will come into full force upon ratification by 98 contracting States, provides that in the case of lease, charter, or interchange operations, the State of Registry may enter into an agreement with the state to which the aircraft is leased to transfer all or part of its responsibilities under articles 12, 30, 31, and 32. Many developed countries have already ratified this article and are entering into such agreements as a means of resolving many regulatory oversight problems associated with lease agreements.

2. DEFINITIONS

For purposes of this section, the following definitions will useful:

A. *Wet Lease.* The lease of aircraft with a full or partial flight crew.

B. *Dry Lease*. The lease of an aircraft without crew.

3. SPECIFIC PROCEDURES REGARDING LEASES.

A. When an applicant or holder of a Indonesian AOC wishes to use leased aircraft in the operation, the operator should provide the DGAC with the following information:

- The aircraft type and serial number;
- the name and address of the registered owner;
- State of Registry and registration marks;
- Certificate of airworthiness and statement from the registered owner that the aircraft fully complies with the airworthiness requirements of the State of Registry;
- name, address and signature of lessee or person responsible for operational control of the aircraft under the lease agreement, including a statement that such individual and the parties to the lease agreement fully understand their respective responsibilities under the application regulations;
- copy of the lease agreement or description of lease provisions; and
- duration of the lease.

B. After careful review and liaison as necessary with other competent authorities, the DGAC will make the determination as to which party to the lease agreement is in fact responsible for conducting the operation. In making this determination the DGAC must consider the responsibilities of the parties under the lease agreement for:

- Flight crew member certification and training;
- crew member training;
- airworthiness of the aircraft and performance of maintenance;
- dispatch or flight following;
- scheduling of flight crew and crew members; and
- signing the maintenance release

C. If the agreement is determined to be a wet lease, the lessor normally exercises operational control over the aircraft and the responsibility for the airworthiness and operational oversight of the airplane will remain with the State of Registry. If the agreement is in the nature of a dry lease, then responsibility for operational control will normally rest with the lessee, and it may be advantageous for the State of Registry to enter into agreement with the State of the operator to transfer or share various facets of operational and airworthiness oversight. However, leasing agreements are often very complex instruments wherein the line between wet and dry is blurred and arguments for which operator should exercise day to day operational control are not clear cut. For example, flight crews may be comprised of a mix of personnel from both the lessor and lessee.

D. Whatever the case, the DGAC will firmly establish, through written agreements with the DGAC of the other State concerned with the transaction, which State will have responsibility for every facet of operational and airworthiness oversight of the leased aircraft. All responsibilities must be considered and assigned: those associated with the State of Registry, and those associated with the State which oversees the AOC of the airline which has operational control.

CHAPTER 11

REQUIRED MANEUVERS AND PERFORMANCE STANDARDS FOR AIR TRANSPORT PILOT PROFICIENCY CHECKS

1. GENERAL

Flight crew proficiency checks are required twice each year for an air transport pilot-in command. This chapter describes the maneuvers and procedures which must be performed by all pilots during such an air transport Pilot Proficiency Check, along with performance standards for evaluating the performance of those maneuvers and procedures. All maneuvers and procedures must be performed in-flight in an airplane or in a DGAC approved Level I or Level II flight simulator except as provided in A below.

Note: *See ICAO Doc 9625-AN/938 for definitions and qualifying criteria for Level I and Level II flight Simulators.*

A. Certain maneuvers and procedures may be performed in a DGAC approved visual flight simulator other than Level I or Level II, in a non-visual simulator, or in a training device, if so indicated by one of the following symbols after the description of a maneuver or procedure in paragraph 7.2 below:

(PV)	Permitted in an approved visual simulator other than Level I or Level II
(PN)	Permitted in an approved non-visual simulator
(PT)	Permitted in an approved training device
(RS)	Required to be performed in simulated instrument conditions

Whenever a maneuver or procedure is authorized to be performed in a nonvisual simulator, it may also be performed in a visual simulator; when authorized in a training device, it may be performed in a visual or nonvisual simulator. Other symbols used to denote special requirements in 7.2 below are:

2. REQUIRED MANEUVERS

Throughout the maneuvers prescribed in this paragraph, good judgment commensurate with a high level of safety must be demonstrated. In determining whether such judgment has been shown, the person conducting the check considers adherence to approved procedures, actions based on analysis of situations for which there is no prescribed procedure or recommended practice, and qualities of prudence and care in selecting a course of action.

The procedures and maneuvers set forth in this chapter must be performed in a manner that satisfactorily demonstrates knowledge and skill with respect to (1) The airplane, its systems and components; (2) Proper control of airspeed, configuration, direction, altitude, and attitude in accordance with procedures and limitations contained in the approved Airplane Flight Manual, the certificate holder's operations Manual, check lists, or other approved material appropriate to the airplane type; and (3) Compliance with approach, ATC, or other applicable procedures.

A. PREFLIGHT

(1) Equipment examination (oral or written). As part of the practical test the equipment examination must be closely coordinated with, and related to,

the flight maneuvers portion but may not be given during the flight maneuvers portion. The equipment examination must cover:

(a) Subjects requiring a practical knowledge of the airplane, its power plants, systems, components, operational, and performance factors;

(b) Normal, abnormal, and emergency procedures, and the operations and limitations relating thereto; and

(c) The appropriate provisions of the approved Airplane Flight Manual.

The person conducting the check may accept, as equal to this equipment test, an equipment test given to the pilot in the certificate holder's ground school within the preceding 6 calendar months.

(2) Preflight inspection. The pilot must:

(a) Conduct an actual visual inspection of the exterior and interior of the airplane, locating each item and explaining briefly the purpose for inspecting it; and

(b) Demonstrate the use of the prestart check list, appropriate control system checks, starting procedures, radio and electronic equipment checks, and the selection of proper navigation and communications radio facilities and frequencies prior to flight, (PT).

(3) Taxiing. This maneuver includes taxiing (in the case of a second in command proficiency check to the extent practical from the second in command crew position), sailing, or docking procedures in compliance with instructions issued by the appropriate traffic control authority or by the person conducting the checks.

(4) Powerplant checks. As appropriate to the airplane type. (PN).

B. TAKEOFF:

(1) Normal. One normal takeoff which, for the purpose of this maneuver, begins when the airplane is taxied into position on the runway to be used.

(2) Instrument. One takeoff with instrument conditions simulated at or before reaching an altitude of 100 feet above the airport elevation. (RS) (PV).

(3) Crosswind. One crosswind takeoff, if practicable, under the existing meteorological, airport, and traffic conditions.

Requirements (a) and (c) may be combined, and requirements (a), (b), and (c) may be combined if (b) is performed in flight.

(4) Powerplant failure. One takeoff with a simulated failure of the most critical powerplant. (PV),

(a) At a point after V1 and before V2 that in the judgment of the person conducting the check is appropriate to the airplane type under the prevailing conditions;

(b) At a point as close as possible after V1 when V1 and V2 or V2 and Vr are identical;

(5) Rejected. A rejected takeoff may be performed in an airplane during a normal takeoff run after reaching a reasonable speed determined by

giving due consideration to aircraft characteristics, runway length, surface conditions, wind direction and velocity, brake heat energy, and any other pertinent factors that may adversely affect safety or the airplane. (PV).

C. INSTRUMENT PROCEDURES.

(1) Area departure and area arrival. During each of these maneuvers, the applicant must: (RS) (PN).

(a) Adhere to actual or simulated ATC clearances (including assigned radials); and

(b) Properly use available navigation facilities.

(2) Holding. This maneuver includes entering, maintaining, and leaving holding patterns. It may be performed in connection with either area departure or area arrival. (RS) (PN).

(3) ILS and other instrument approaches. There must be the following:

(a) At least one normal ILS approach. (RS) (PV).

(b) At least one manually controlled ILS approach with a simulated failure of one powerplant. The simulated failure should occur before initiating the final approach course and must continue to touchdown or through the missed approach procedure. (RS).

(c) At least one non-precision approach procedure that is representative of the non-precision approach procedures that the certificate holder is likely to use. (RS) (PV).

(d) Demonstration of at least one non-precision approach procedure on a letdown aid other than the approach procedure performed under subparagraph (3) of this paragraph that the certificate holder is approved to use. (RS) (PV).

Each instrument approach must be performed according to any procedures and limitations approved for the approach facility used. The instrument approach begins when the airplane is over the initial approach fix for the approach procedure being used (or turned over to the final approach controller in the case of CA approach) and ends when the airplane touches down on the runway or when transition to a missed approach configuration is completed. Instrument conditions need not be simulated below 100 feet above touchdown zone elevation.

(4) Circling approaches. If the certificate holder is approved for circling minimums below 1000ft/3sm, at least one circling approach must be made under the following conditions: (PV).

(a) The portion of the approach to the authorized minimum circling approach altitude must be made under simulated instrument conditions. (RS).

(b) The approach must be made to the authorized minimum circling approach altitude followed by a change in heading and the necessary maneuvering (by visual reference) to maintain a flight path that permits a normal landing on a runway at least 90° from the final

approach course of the simulated instrument portion of the approach.

(c) The circling approach must be performed without excessive maneuvering, and without exceeding the normal operating limits of the airplane. The angle of bank should not exceed 30°.

If local conditions beyond the control of the pilot prohibit the maneuver or prevent it from being performed as required, it may be waived. However, the maneuver may not be waived under this provision for two successive proficiency checks. The circling approach maneuver is not required for a second in command if the certificate holder's manual prohibits a second in command from performing a circling approach.

(5) Missed approach.

(a) Each pilot must perform at least one missed approach from an ILS approach. (PV).

(b) Each pilot in command must perform at least one additional missed approach. (PV).

A complete approved missed approach procedure, to a holding fix or other point as required by ATC, must be accomplished at least once. At the discretion of the person conducting the check a simulated powerplant failure may be required during any of the missed approaches. These maneuvers may be performed either independently or in conjunction with maneuvers required under Sections III or V of this appendix. At least one missed approach must be performed in flight.

D. INFLIGHT MANEUVERS:

(1) Steep turns. At least one steep turn in each direction must be performed. Each steep turn must involve a bank angle of 45° with a heading change of at least 180° but not more than 360°. (RS) (PN).

(2) Approaches to stalls. For the purpose of this maneuver the required approach to a stall is reached when there is a perceptible buffet or other response to the initial stall entry. Except as provided below there must be at least three approaches to stalls as follows: (RS) (PN).

(a) One must be in the takeoff configuration (except where the airplane uses only a zero flap takeoff configuration).

(b) One in a clean configuration.

(c) One in a landing configuration.

At the discretion of the person conducting the check, one approach to a stall must be performed in one of the above configurations while in a turn with the bank angle between 15° and 30°.

If the certificate holder is authorized to dispatch or flight release the airplane with a stall warning device inoperative the device may not be used during this maneuver.

(3) Specific flight characteristics. Recovery from specific flight characteristics that are peculiar to the airplane type. (PN).

(4) Powerplant failures. In addition to specific requirements for maneuvers with simulated powerplant failures, the person conducting the check may require a simulated powerplant failure at any time during the check. (PN).

E. LANDINGS AND APPROACHES TO LANDINGS:

Notwithstanding the authorizations for combining maneuvers, at least two actual landings (one to a full stop) must be accomplished. Landings and approaches to landings must include the following, but more than one type may be combined where appropriate:

(1) Normal landing. (RS).

(2) Landing in sequence from an ILS instrument approach except that if circumstances beyond the control of the pilot prevent an actual landing, the person conducting the check may accept an approach to a point where in his judgment a landing to a full stop could have been made. (RS).

(3) Crosswind landing, if practical under existing meteorological, airport, and traffic conditions. (RI).

(4) Maneuvering to a landing with simulated powerplant failure as follows:

(a) In the case of 3 engine airplanes, maneuvering to a landing with an approved procedure that approximates the loss of two powerplants (center and one outboard engine). (PV).

(b) In the case of other multiengine airplanes, maneuvering to a landing with a simulated failure of 50 percent of available powerplants, with the simulated loss of power on one side of the airplane. (PV).

(5) Landing from a circling approach. If the certificate holder is approved for circling minimums below 1000 - 3, a landing under simulated circling approach conditions. However, when performed in an airplane, if circumstances beyond the control of the pilot prevent a landing, the person conducting the check may accept an approach to a point where, in his judgment, a landing to a full stop could have been made. B* (PV).

(6) Rejected landing. A rejected landing, including a normal missed approach procedure, that is rejected approximately 50 feet over the runway and approximately over the runway threshold. This maneuver may be combined with instrument, circling, or missed approach procedures, but instrument conditions need not be simulated below 100 feet above the runway. B (PV).

F. NORMAL AND ABNORMAL PROCEDURES:

Each applicant must demonstrate the proper use of as many of the systems and devices listed below as the person conducting the check finds are necessary to determine that the person being checked has a practical knowledge of the use of the systems and devices appropriate to the airplane type:

(1) Anti-icing and deicing systems. (PN).

(2) Autopilot systems. (PN).

(3) Automatic or other approach aid systems. (PN).

(4) Stall warning devices, stall avoidance devices, and stability augmentation devices. (PN).

(5) Airborne radar devices. (PN).

(6) Any other systems, devices, or aids available. (PN).

(7) Hydraulic and electrical system failures and malfunctions. (PN).

(8) Landing gear and flap systems failure or malfunction. (PT).

(9) Failure of navigation or communications equipment. (PT).

G. EMERGENCY PROCEDURES:

Each applicant must demonstrate the proper emergency procedures for as many of the emergency situations listed below as the person conducting the check finds are necessary to determine that the person being checked has an adequate knowledge of, and ability to perform, such procedure:

(1) Fire in flight. (PN).

(2) Smoke control. (PN).

(3) Rapid decompression. (PN).

(4) Emergency descent. (PN).

(5) Any other emergency procedures outlined in the appropriate approved Airplane Flight Manual. (PN).

3. SPECIFIC GUIDANCE FOR THE CONDUCT OF PROFICIENCY CHECKS

The information presented in this paragraph is intended to provide additional, detailed guidance for the manner in which proficiency checks must be conducted. To that end, specific techniques are discussed and the maneuvers listed in paragraph 2 above are further explained and clarified.

A. Preparation and Surface Operations. Pilots shall be observed performing interior, exterior, and emergency equipment inspections and performing engine start, taxi, and powerplant checks in accordance with the operator's aircraft operating manual.

(1) *Exterior Inspection.* The exterior inspection is not an extension of the oral phase in which systems knowledge is examined but rather a demonstration of an applicant's ability to perform appropriate safety checks. Inspectors and examiners shall limit questions to only those necessary for determining if an applicant can recognize when a component is in an unsafe condition. The exterior inspection may be conducted before or after the flight test at the inspector's or examiner's discretion.

(2) *Cabin Inspection.* Pilots shall be evaluated on the ability to perform a cabin inspection when this inspection is specified as a pilot responsibility by the operator's aircraft operating manual. Inspectors and examiners should occasionally sample an pilot's knowledge of the location and use of emergency equipment in the cabin, and the operation of cabin doors, even when the cabin inspection is not designated as a flight crewmember responsibility.

(3) *Cockpit Preflight Inspection.* A pilot shall be required to complete the cockpit preflight checks using the procedures specified in the operator's aircraft operating manual and using the appropriate checklists. The

proper challenges and responses to the checklist must be used. When the flight test is conducted in a flight simulator, it is appropriate for the inspectors or examiners to present minor malfunctions to determine if the pilot is accurately performing the specified checks.

(4) *Engine Start Procedures.* A pilot shall be required to perform an engine start using the correct procedures. When the flight test is conducted in a flight simulator, it is appropriate for inspectors and examiners to present an abnormal condition such as a hot-start or malfunctioning air or start valve. The abnormal condition should be carried through to the expected conclusion in line operations, for the purpose of evaluating crew coordination and the pilot's proficiency.

(5) *Taxiing or Sailing.* Inspectors and examiners shall evaluate the pilot's ability to safely maneuver the airplane on the surface and to manage outside vigilance while accomplishing cockpit procedures. The pilot must ensure the taxi path is clear of obstructions, comply with local taxi rules and control tower instructions, make proper use of checklists, and maintain control of the crew and airplane.

(6) *Powerplant Checks.* Powerplant checks must be accomplished in accordance with the appropriate checklist and procedures before takeoff. In a flight simulator, inspectors and examiners should present appropriate instrument or system malfunctions to determine if the pilot is accurately performing these checks.

B. Takeoff Events. A pilot shall be required to accomplish each of the following takeoff events. These events may be combined when convenient and practical.

(1) *Normal Takeoff.* A normal takeoff is defined as a takeoff beginning from a standing or rolling start (not from a touch and go) with all engines operating normally during the takeoff and initial climb phase.

(2) *Instrument Takeoff.* An instrument takeoff is defined as one in which instrument conditions are encountered or simulated at or before reaching an altitude of 100 feet above airport elevation. In a flight simulator, the visibility value should be set to the minimum authorized by the operator's operations specifications or for the runway in use. A pilot shall be evaluated on the ability to control the airplane, including making the transition to instruments as visual cues deteriorate. A pilot must also be evaluated on the planning of the transition to an instrument navigation environment. This event may be conveniently combined with an area departure.

(3) *Engine Failure On Takeoff (For Multiengine Airplanes).* A pilot must demonstrate the ability to maintain control of the airplane and to continue a takeoff with the failure of the most critical powerplant. When the flight test is conducted in an airplane, the failure shall be simulated. The takeoff configuration, airspeeds, and operational procedures must be in accordance with the operator's aircraft operating manual. When the flight test is conducted in two segments (simulator and airplane), this event shall be conducted in the simulator segment of the flight test. This event should not be repeated in the airplane portion of the flight test unless an unusual situation occurs. The engine failure shall be introduced at a

speed after V_1 and before V_2, and appropriate to the airplane and the prevailing conditions. When either V_1 and V_2 or V_1 and V_R are identical, the failure shall be introduced as soon as possible after V_1 is passed.

(4) *Rejected Takeoff.* A rejected takeoff is a potentially hazardous situation that flight crews must be trained to handle correctly. As a testing event it must be presented in a realistic and meaningful manner. The event is a test of a pilot's ability to correctly respond to a critical situation and to correctly manage the actions necessary for safeguarding the airplane and passengers once the airplane is brought to a stop.

(a) When a flight test is conducted in a flight simulator, performance parameters should be adjusted to make the takeoff critical. For example, the temperature and airplane weight can be adjusted so that takeoff performance is runway-limited. Another technique is to lower the visibility and make the runway wet, presenting the pilot with a tracking problem. Inspectors and examiners should take care in selecting the malfunction used to induce the reject response. The malfunction should be one that clearly and unequivocally requires rejection of the takeoff. The malfunction should be introduced at a speed which is as close to V_1 as possible yet still allowing the pilot enough time to perceive and respond to the problem before reaching V_1. It is appropriate for inspectors and examiners to occasionally introduce a problem in a way that leads to an evacuation of the aircraft. This event shall not be waived in a flight simulator.

(b) When a flight test is conducted in an airplane, a rejected takeoff at approximately V_1 can be unsafe and can cause damage to the airplane. Inspectors and examiners are expected to use caution when inducing a rejected takeoff in an airplane for flight test purposes. For this event to be meaningful, it should be introduced at a speed close to V_1. Therefore, inspectors and examiners are authorized to waive this event and should do so when the airplane weight, ambient temperature, and tire limits preclude the event from being conducted in a realistic manner.

(c) A pilot must be able to recognize the need to initiate a rejected takeoff, perform the correct procedures in a timely manner, and to bring the airplane to stop on the runway. Once the airplane or flight simulator is brought to a stop, appropriate procedures must be initiated. Consideration must be given to the possibility of overheated brakes and fire.

(5) *Crosswind Takeoffs.* A crosswind takeoff from a standing or rolling start (not a touch and go) must be evaluated to the extent practical. When appropriate, a crosswind takeoff may be evaluated simultaneously with other types of takeoffs.

(a) When the flight test is conducted in an airplane, inspectors and examiners will usually have very little control over existing meteorological, airport, and traffic conditions. Inspectors and examiners are expected to make a reasonable attempt to evaluate a takeoff on a runway not favorably aligned with the prevailing wind. It will frequently be necessary, however, to evaluate this event with the crosswind component that exists on the active runway.

(b) Flight simulators are capable of realistically duplicating crosswinds.

Crosswind takeoffs shall be evaluated on all flight tests conducted in a flight simulator. The crosswind component entered in the simulator computer shall be between 10 and 15 knots. Occasionally, however, the crosswind components should be in excess of 15 knots, but must not exceed the crosswind component allowed by the operator's aircraft operating manual (or the maximum demonstrated value given in the AFM). The purpose of testing at such higher crosswind components is to determine whether pilots are being trained throughout the range of the flight envelope.

C. Climb, En-route, and Descent.

(1) *Area Departures and Arrivals.* The area departure and arrival events should include intercepting radials, tracking, and climbs or descents with restrictions. Whenever practical, a standard instrument departure or standard arrival should be used. Many of the standard procedures, however, are not suitable for the purpose of testing a pilot's abilities. For example, common radar departures are essentially initial climb instructions for a radar hand-off and provide little opportunity to test a pilot's ability to set up and use the navigation equipment normally used on an area departure. If a suitable published procedure is not available and circumstances allow, the inspector or examiner should give a clearance that presents the desired tests. Inspectors and examiners should allow pilots to use all installed equipment. The autopilot may or may not be used at the inspector's or examiner's discretion. The pilot's use of navigation equipment, and other crewmembers, and the pilot's ability to adhere to ATC clearances and restrictions shall be evaluated.

(2) *Holding.* Inspectors and examiners should give holding clearances with adequate time available for the pilot to identify the holding fix, select the appropriate speed, and plan the entry. Pilots should be allowed the use of all aids normally available in the cockpit (such as wind drift readouts). At least the initial entry and one complete turn in the holding pattern should be completed before another clearance is issued. The pilot's performance shall be evaluated on the basis of compliance with the holding procedures outlined in the operator's aircraft operating manual, compliance with instructions issued by ATC, and the published holding pattern criteria. Holding airspeed must be as specified by the operator's aircraft operating manual, however it must not be allowed to exceed the regulatory limit. If the operator's manual requires a speed higher than that allowed by regulation, the pilot must resolve the conflict by requesting an amended ATC clearance or by selecting an aircraft configuration in which it is safe to comply with the regulatory speed.

(3) *Steep Turns.* This event consists of a level turn in each direction with a bank of 45 degrees, continuing for at least 180 degrees, but not more than 360 degrees. Airspeed, altitude, and bank angle must be controlled within the tolerances specified in paragraph 4 of this chapter. Inspectors and examiners shall direct special attention to a pilot's smoothness, coordination, and orientation.

(4) *Approaches to Stalls.* Inspectors and examiners shall evaluate the pilot's ability to recognize and recover from an approach to a stall in three separate airplane configurations. The three configurations are the clean configuration, the takeoff configuration, and the landing configuration.

When the airplane uses only a zero-flap takeoff configuration, the takeoff configuration and the clean configuration stall are combined and only two stalls are required. At least one stall must be performed while in a turn with a bank angle between 15 and 30 degrees.

(a) Approaches to stalls should be entered by increasing the angle of attack smoothly, so that the airspeed decreases at a uniform rate. The use of power during approach to and recovery from stalls should be as specified in the operator's aircraft operating manual.

(b) When stalls are performed in an airplane, the operator's minimum entry and recovery altitudes must be observed. When stalls are performed in a flight simulator or training device, the operator's minimum entry and recovery altitudes need not be observed and an altitude that is realistic from a performance standpoint and convenient (in terms of the sequence of events) may be used.

(c) When the flight test is conducted in a flight simulator or training device, inspectors and examiners shall occasionally require a pilot to recover from a high altitude stall. Evaluation of stalls in various flight regimes should be accomplished to determine whether the operator's training program has adequately prepared pilots for flight in those regimes.

(d) A pilot must recognize the first indication of the approaching stall and immediately initiate recovery with a minimal loss of altitude. An actual stall should not be allowed to develop. Procedures used must be in accordance with the operator's aircraft operating manual.

(5). *Specific Flight Characteristics.* This event consists of recovery from flight characteristics specific to the airplane type, such as dutch-roll or a high rate of descent. Inspectors and examiners shall evaluate a pilot on recognition and recovery from these specific flight characteristics, when applicable. The procedures used for recovery must be those specified in the operator's aircraft operating manual.

D. Approaches. The approaches described in this paragraph are required on all proficiency checks. They may be combined when appropriate.

(1). *ILS or MLS Approaches.* Inspectors and examiners shall require pilots to fly a minimum of one normal (all engines operative) ILS or MLS. In addition, when multiengine airplanes are used, one manually-controlled ILS or MLS with a powerplant failure is also required. When the flight test is conducted as a two-segment flight test, a manually-controlled, normal ILS or MLS must be flown in the airplane segment of the flight test.

(a) When the operator's aircraft operating manual prohibits raw data approaches, the flight directors must be used during the manually-controlled ILS or MLS approaches. In this case, a raw data approach is not required to complete the flight test.

(b) If the operator's aircraft operating manual permits raw data ILS approaches to be conducted, the operator must provide training in the use of raw data for controlling an aircraft during ILS approaches. If the operator's aircraft are equipped with a flight director system, the flight director must be used on at least one manually-controlled ILS

approach. While raw data approach is not required to complete a flight test, inspectors and examiners should occasionally require a raw data approach to determine whether the operator's training program is adequately preparing pilots.

(c) The pilot must be able to track the localizer and glideslope smoothly and without significant excursion during the final approach segment. For all raw data and flight director ILS or MLS approaches flown in a flight simulator or training device, inspectors and examiners shall require pilots to use a DH of 200 feet above the touchdown zone. The localizer and glideslope indication shall not exceed 1/4 scale deflection at DH. When the ILS indicator is calibrated with the first dot at the 1/2 scale deflection point and a second dot at the full-scale point, the deflection at DH must not exceed half the distance to the first dot. When raw data is used on ILS or MLSapproaches in an airplane, inspectors and examiners shall require pilots to use a DH of 200 feet above the touchdown zone. When the flight director is used on ILS or MLS approaches in an airplane, inspectors and examiners shall require pilots to use a DH of 100 feet above the touchdown zone. However, if the pilot has accomplished an ILS using a 200 foot HAT in the simulator segment of the flight test, the published DH shall be used in the airplane portion of the test. The DH shall be determined by barometric altimeter. The localizer shall not exceed 1/4 scale deviation (1/2 dot) at decision height. The glideslope shall not exceed 1/2 scale deviation (one dot) at decision height. Inspectors and examiners shall inform pilots that this DH is for flight test purposes only and does not correlate to any minimums used in actual operations. If the flight test is being conducted in actual weather conditions, the DH shall be the published decision height.

(d) When the operator's airplanes are equipped with autopilot couplers, at least one coupled autopilot ILS or MLS approach must be flown. If the autopilot has the capability and the operator is authorized by operations specifications to conduct automatic landings, the coupled approach shall terminate in either an autolanding or a coupled missed approach. When an autoland is conducted, it *shall not* be credited as one of the three required manually-controlled landings. When the flight test is conducted entirely in an aircraft or entirely in a flight simulator, the autopilot coupled approach may be combined with the normal ILS (all-engines operative) approach. This combination is permitted because the pilot's ability to manually control an ILS approach is evaluated on the ILS with an engine out.

(e) Qualification check requirements for CAT II and CAT III operations, including the required number and types of approaches are established by the operator's approved training program. If a pilot is simultaneously qualifying for these authorizations during the proficiency check, the approaches discussed in subparagraphs (1),(2), and (3) may be credited toward these requirements when the approach requirements are compatible.

(f) Inspectors and examiners shall use a crosswind component of 8 to 10 knots (not to exceed 10 knots) on at least one of the ILS or MLS approaches conducted in a flight simulator. The use of this

crosswind is to evaluate the pilot's ability to track the localizer and not his ability to accomplish a crosswind landing.

(g) When the flight test is conducted in a flight simulator or flight training device, the runway visual range should be set to the minimum value specified for the approach. If the inspector or examiner plans for the pilot to acquire the runway and to continue below DH, the ceiling should be set to a value not more than 50 feet above HAT (the exact value depending on the characteristics of the specific simulator). When the flight test is conducted in an airplane, the vision restriction device must remain in use until just before the airplane arrives at the DH used for the flight test.

(h) Flightcrew procedures, airplane configuration, and airspeeds must be as specified in the operator's aircraft operating manual. During each phase of the approach, the airspeed must not deviate from the target speed by more than the tolerances specified in paragraph 4 of this chapter. Turbojet airplanes must be stabilized before descending below 1,000 feet above the touchdown zone.

(2). *Non-precision Approaches.* Inspectors and examiners shall require pilots to demonstrate two non-precision instrument approaches that are authorized in the operator's operations specifications. The second approach must be based on a different type of NAVAID than the first approach.

(a) Inspectors and examiners shall allow the pilot to use any aid normally available in the cockpit, such as the flight director and drift and ground speed readouts. Many operators train their pilots to perform non-precision approaches using the autopilot. While this training should be encouraged, at least one non-precision approach must be manually flown on the flight test.

(b) When non-precision approaches are conducted in a flight simulator, a crosswind component of 10 to 15 knots shall be used on at least one of the non-precision approaches. The purpose of the crosswind component is to test a pilot's ability to track the approach course, not to evaluate crosswind landings. Crosswind landings, however, may be combined with a non-precision approach.

(c) In an airplane, the vision restriction device shall remain in use until the airplane arrives at MDA and a distance from the runway approximating the required visibility for the approach. In a flight simulator or flight training device, inspectors and examiners shall enter a ceiling of not more than 50 feet higher than the published MDA. A visibility value of not more than 1/4 mile greater than the published minimums value shall be used, depending on the characteristics of the particular flight simulator or training device.

(d) Pilots must remain within 5 degrees of the approach course. The reason for this tolerance is terrain clearance. When tracking is accomplished by means of a bearing pointer only, the tolerance is $\pm$ 5 degrees of the final approach course. When tracking a localizer signal, the tolerance is less than a full-scale deviation on the course deviation indicator. When tracking a VOR signal, the tolerance is a

1/2 scale deviation of the course deviation indicator. Also, at the visual descent point or its equivalent, the aircraft must be in a position that it can be aligned with the runway without excessive maneuvering. Turbojet airplanes must be stabilized before descending below the MDA or 500 feet, whichever is lower.

(3). *Circling Approach Maneuver.* Operators are not required to train airmen in circling approach maneuvers, if the operator's manual prohibits such maneuvers with a ceiling below 1000 feet and a visibility of less than 3 miles. Inspectors and examiners shall waive this event if the operator does not train airmen for the maneuver.

(a) For the purpose of flight testing, the visual maneuvering portion of a circling maneuver begins at the circling MDA of a nonprecision approach and requires a change in heading from the final approach course to the runway heading of at least 90 degrees. The inspector or examiner, however, may use his authority to modify this event. For example, when traffic conditions preclude a circling approach, if tower approval is attained, the visual portion of the event can be entered from a modified VFR traffic pattern at a point downwind and abeam the touchdown point.

(b) The angle of bank for a circling maneuver should not exceed 30 degrees. Altitude and airspeed must not exceed the tolerances specified in paragraph 7.4. The airplane must not descend below MDA until the runway environment is clearly visible to the pilot, and the airplane is in a position for a normal descent to the touchdown point. Turbojet airplanes must be stabilized in the landing configuration before descending below the MDA or 500 feet above touchdown zone elevation, whichever is lower.

(4). *Maneuver To a Landing With 50% of Powerplants Inoperative.* Inspectors and examiners shall require a pilot to demonstrate an approach and landing with 50% of powerplants inoperative.

(a) Inspectors and examiners should introduce this event in a realistic manner. Consideration should be given to the airplane weight, atmospheric conditions, and airplane position. The airplane position, when the engine failure is introduced (second engine in a three- or four-engine airplane) should provide enough room for the pilot to maneuver the aircraft. In the simulator, the weight should be adjusted to simulate realistic conditions but still allow the pilot enough time to exercise judgment. In a three-engine airplane, this event must be performed with the center and an outboard engine failed. In a four-engine airplane, both powerplant failures must be on the same side.

(b) In two-engine airplanes, the engine-out ILS or MLS may be credited simultaneously with this event. In three- and four-engine aircraft, this event should be conducted in visual conditions. A visual pattern should be used rather than a vector to the final approach, so that the pilot's judgment with respect to maneuvering the airplane can be evaluated. When this event is conducted in a flight simulator, the electronic glide slope or VASI shall not be made available for the pilot's use. In the airplane, it may not be possible to have the VASI's

turned off. In daylight conditions, however, inspectors and examiners should request that the VASI be turned off. In an airplane at night, an electronic glide slope or VASI must be available and used.

Note: *An approach with a simulated failure of the most critical powerplant must always be performed in the airplane segment of a two-segment flight test. That event is required in the airplane segment, even when a maneuver and landing with 50% of powerplants inoperative has already been previously accomplished in a flight simulator.*

(5). *No-Flap or Partial-Flap Approach.* Inspectors and examiners shall require a pilot to perform a no-flap approach in all airplanes except those airplanes which have alternate flap extension procedures and for which it has been determined that no-flap approaches are not required. If a no-flap approach is not required, a partial-flap approach will be accomplished. In this case, inspectors and examiners are only required to evaluate a pilot's demonstration of a partial-flap approach. However, inspectors and examiners may evaluate pilots conducting partial-flap or no-flap approaches anytime procedures for such approaches are published in the operator's aircraft operating manual.

(a) For either a partial or no-flap approach, the limitations specified for the use of VASI and electronic glide slope guidance in the 50% engine failure maneuver (subparagraph D.(2)) apply. The approach shall be flown from a visual pattern from at least a downwind position, so that the pilot may be evaluated on planning for the approach. The approach should be presented in a realistic manner. In a flight simulator, inspectors and examiners shall adjust the landing weight to require a pilot to exercise judgment in matters such as approach speed and runway limitations.

(b) A touchdown from a no-flap or partial-flap approach is not required and shall not be attempted in an airplane. The approach must be flown to the point that the inspector or examiner can determine whether the landing would or would not occur in the touchdown zone. In a flight simulator, the landing must be completed to a full stop so that the pilot's ability to control the airplane and to use correct procedures may be evaluated.

Note: *The events required in subparagraphs D and E should be conducted in a flight simulator whenever practical. These events should not be repeated in the airplane segment of the flight test, unless an unusual situation occurs*.

(6). *Acceptable Performance for Approach Events.* The airspeed and altitude on downwind and base leg, or on an intercept to final approach must be controlled within the tolerances specified in paragraph 7.4. The airspeed on final approach must be adjusted for wind and gusts in accordance with the operator's aircraft flight manual. The airspeed must be controlled at the adjusted value. The approach angle must be controlled and be appropriate to the airplane and approach being flown. If a windshear or a ground proximity warning should occur, a pilot must respond in a prompt

and positive manner. For turbojets, the approach must be stabilized, the airplane in the landing configuration, with a sink rate of less than 1,000 FPM, not later than the following heights:

- For all straight-in instrument approaches, the approach must be stabilized before descending below 1,000 feet above the airport or touchdown zone.
- For visual approaches and landings, the approach shall be stabilized before descending below 500 feet above the airport elevation.
- For the final segment of a circling approach maneuver, the approach must be stabilized 500 feet above the airport elevation or, at the MDA, whichever is lower.

Note: *Use of the stabilized concept is mandatory for all turbojet aircraft operations. It is recommended for all propeller-driven aircraft and rotorcraft when conducting operations in IFR weather conditions.*

E. Landing Events. A total of three manually-controlled landings must be accomplished on all proficiency checks. When a two-segment, flight simulator and airplane flight test is conducted, a minimum of three manually-controlled landings must be performed in the airplane. If the flight test is conducted in an amphibious airplane, one landing must be on water. The required events are as follows:

(1) *Normal Landings.* A normal landing is defined as a manually-controlled landing in the normal landing configuration (as specified in the operator's aircraft operating manual), with normal power available, and without reference to an electronic glide slope. A normal landing can be accomplished from either a visual pattern or from a non-precision approach.

(2) *Crosswind Landings.* A manually-controlled landing with a crosswind must be accomplished on all flight tests. The crosswind landing may be combined with any other landing event.

(a) When the flight test is conducted in an airplane, inspectors and examiners usually have little control over existing meteorological, airport, and traffic conditions. As such, an inspector or examiner is expected to make a reasonable attempt to evaluate a landing on a runway not favorably aligned with the prevailing wind. It will frequently be necessary, however, to evaluate this event with the crosswind component currently existing on the active runway.

(b) Flight simulators are capable of realistically duplicating a crosswind for landing. Crosswind landings must be evaluated on all flight tests conducted in flight simulators. The crosswind component entered in the simulator computer shall be between 10 to 15 knots. Occasionally, however, the crosswind components should be in excess of 15 knots, but must not exceed the crosswind component allowed by the operator's aircraft operating manual (or the maximum demonstrated value given in the AFM). The purpose of testing at such higher crosswind components is to determine whether pilots are being trained throughout the range of the flight envelope. Crosswind landings should normally be performed from a VFR traffic pattern, but may be accomplished from a non-precision approach.

(3). *Landing in Sequence from an ILS or MLS Approach.* On the landing from an ILS or MLS approach, the runway environment should become visible to the pilot as close as possible to the DH being used for the flight test. The pilot must complete the landing without excessive maneuvering and within the touchdown zone. The approach angle must not be erratic, excessively steep, or shallow in the visual segment.

(4). *Rejected Landing.* The rejected landing shall be initiated from a point approximately 50 feet above the runway. This event may be combined with an instrument missed approach.

(5). *Engine-Out Landing.* One landing with the most critical powerplant inoperative must be evaluated. When a two-segment flight test is conducted, this event must be performed in the airplane. When conducted in an airplane, the engine failure shall be simulated.

(6). *Landing with 50% of Powerplants Inoperative.* A landing with 50% of powerplants inoperative must be evaluated. In a three-engine airplane, the event must be performed with the center and one outboard engine inoperative. In a four-engine airplane both powerplant failures must be on the same side. When this event is conducted in an airplane, the engine failures shall be simulated.

(7). *No-Flap or Partial-Flap Landings.* No-flap or partial-flap landings are not required to complete the check. When the proficiency check is accomplished in an airplane i actual flight, a touchdown from a no-flap or partial-flap approach is not required and shall not be attempted. The approach must be flown to the point that the inspector or examiner can determine whether the landing would or would not occur in the touchdown zone. In a flight simulator, the landing should be completed to a full stop so that the pilot's abilities to control the aircraft and use correct procedures under abnormal circumstances may be evaluated. For example, the aircraft might have a pitch-up tendency with spoiler extension in the no-flap or partial-flap landing configuration.

(8). *Acceptable Performance for Landing Events.* Landings must be in the touchdown zone, at the correct speed for the airplane, without excessive float, and on runway center line. The rate of descent at touchdown must be controlled to an acceptable rate for the airplane involved. Side load on the landing gear must not be excessive, and positive directional control must be maintained through the rollout. Management of spoilers and thrust reversers must be in accordance with the operator's aircraft operating manual.

F. Missed Approach Events. Missed approaches from two separate instrument approaches are required to complete the flight test. At least one missed approach must be flown through the entire missed approach procedure, unless traffic or ATC restrictions prevent completing the entire procedure. One missed approach is required from an ILS or MLS. When the flight test is conducted in a multiengine airplane that has a single-engine climb capability, one missed approach should be accomplished with the most critical powerplant inoperative. The engine-out and ILS or MLS missed approaches may be combined, however to complete the flight test, at least two missed approaches are required. When the flight test is a two-segment flight test, the engine-out missed approach should be accomplished in the simulator segment.

(1) A missed approach from an approach with 50% of powerplants inoperative is not required to complete the flight test for three- and four-engine airplanes. However, when procedures for 50% of powerplant-inoperative missed approaches are published in the operator's aircraft operating manual, inspectors and examiners may evaluate the event to determine if pilots are being trained to proficiency in the event. When this event is conducted in a three-engine airplane, the center and one outboard engine must be inoperative. When this event is conducted in a four-engine airplane, two engines on the same side must be inoperative. When the missed approach event is conducted in an airplane, the engine failures shall be simulated.

(2) When a flight test is conducted in a flight simulator or flight training device, inspectors and examiners should make use of the "trouble buttons," as well as weather, to induce the missed approach decision. For example, many flight simulators have provisions to off-set the localizer so that the airplane is not in a position to continue the approach below DH.

(3) Pilots must promptly execute the missed approach procedure if the runway environment is not acquired at DH on an ILS or MLS approach. If the runway environment is not in sight on a non-precision approach, or if the aircraft is not in a position to land at the missed approach point, the pilot must initiate a missed approach. Should conditions prevent continuation of any type of approach at any point, the pilot must initiate a missed approach. For example, a missed approach above DH might be required when an instrument failure flag appears. A missed approach is required if the aircraft is below DH or MDA and cannot be properly aligned with the runway or if the pilot loses sight of the runway environment. A pilot must adhere to the published missed approach or the instructions given by ATC and observe the procedures and limitations in the operator's aircraft operating manual. A pilot must properly use the available aids and other crewmembers when making the transition back to the instrument navigation environment.

G. Normal and Abnormal Procedures. Inspectors and examiners shall require a pilot to demonstrate the proper use of as many of the airplanes systems and devices as necessary to determine if the pilot has a practical knowledge of the use of these systems. Evaluation of normal and abnormal procedures can usually be accomplished in conjunction with other events and does not normally require a specific event to test the pilot's use of the airplane's systems and devices. A pilot's performance must be evaluated on the maintenance of aircraft control, the ability to recognize and analyze abnormal indications and the ability to apply corrective procedures in a timely manner. Systems to be evaluated include, but are not limited to, the following:

- Anti-icing and deicing systems
- Autopilot systems
- Automatic or other approach system aids
- Stall warning devices, stall avoidance devices, and stability augmentation devices
- Airborne radar devices
- Any other available systems, devices, or aids (such as flight management systems)

H. Emergency Procedure Events. A pilot must be able to competently operate all installed emergency equipment and to correctly apply the procedures specified in the operator's aircraft operating manual.

(1) *Powerplant Failures.* Inspectors and examiners may introduce malfunctions requiring an engine shutdown at any time during the flight test. This provision is not intended as authority to require an unrealistic number of failures, but to permit such failures at times when they are most appropriate. Powerplant failures should be limited to those necessary for determining a pilot's proficiency. A pilot must promptly identify the inoperative engine and initiate correct action while maneuvering the airplane safely. If the airplane is not capable of maintaining altitude with an engine inoperative, the pilot is expected to maintain the best engine-out climb speed while descending. Smooth application of flight controls and proper trim are required.

(2) *Other Emergency Procedures.* Inspectors and examiners should sample as many of the following events as necessary for determining whether a pilot is proficient in identifying and responding to emergency situations:

- Fire in flight
- Smoke control
- Rapid decompression
- Emergency descent (with and without structural damage)
- Hydraulic and electrical system failure or malfunctions (if safe and appropriate)
- Landing gear and flap systems failure or malfunctions
- Navigation or communications equipment failure
- Any other emergency procedures outlined in the operator's aircraft operating manual or training program

4. STANDARDS OF ACCEPTABLE PERFORMANCE

An air transport pilot must possess the highest degree of piloting skills, and must be the master of the airplane, the crew, and the situation throughout the aircraft's operational envelope. Inspectors and examiners shall sample a pilot's ability to safely and practically operate the aircraft throughout the range of the approved operational envelope. The determination of whether a pilot's performance is acceptable or not is derived from the experience and judgment of the inspector or examiner. It is imperative that inspectors and examiners be fair and consistent when making these determinations. The airspeed, altitude, and heading standards which are listed below will be used in making their determinations. These standards must be applied with consideration for the prevailing conditions. Weather, aircraft responsiveness, traffic, and other factors beyond a pilot's control may cause the pilot to briefly deviate from a standard. For example, the airspeed tolerances for a final approach should be read as the tolerance allowed solely for control manipulation errors. In smooth air the pilot should be able to remain within these tolerances once stabilized on the approach. If atmospheric conditions are causing airspeed fluctuations, it may be physically impossible for the speed to be controlled within the tolerances specified. The pilot is expected to adhere to the procedures for adjusting the target speed as specified in the operator's aircraft operating manual. In such situations, a pilot who makes determined efforts, and is generally successful in remaining within prescribed standards, and who does not deviate to the extent safety is compromised, should

be considered to have met the standards. The pilot's ability to remain within the prescribed standard limits, however, is not the only criteria for acceptable performance. The pilot's performance must be such that the inspector or examiner is never seriously in doubt of the successful outcome of each event of the flight test.

A. Heading, Altitude, and Airspeed parameters other than during Approaches: While maneuvering in all flight regimes other than during approach and landing, the following standards will be observed:

   a. *Heading:* Within 10 degrees of assigned or intended heading.

   b. *Altitude:* Within 100' of assigned or intended altitude.

   c. *Airspeed:* Within 10 knots of assigned or intended airspeed.

B. Approach Performance Criteria.

   (To Be Developed)

CHAPTER 12

ADDITION OF A NEW AIRCRAFT TYPE TO A CERTIFICATED OPERATOR'S FLEET

1. GENERAL

The addition of a new aircraft type to a certificated operator's fleet requires many of the same inspections, reviews, demonstrations, authorizations, and approvals by the DGAC as were required for the original issuance of an AOC. The operator may not commence revenue operations with the new aircraft type until all of the provisions of paragraphs 2 through 5 below are followed.

2. DOCUMENT REVIEW

At least 6 weeks prior to the proposed introduction of the new aircraft type to revenue operations, the operator must submit the following documents or their equivalents for review and approval as required:

- A revised or updated Company Operations Manual (FOM) or Basic Operations Manual (BOM) which incorporates general information, guidance, and instructions pertaining to the new aircraft type, and reflects the current operating environment of the airline.
- An Aircraft Operating Manual (AOM/AFM) for the new aircraft type either developed specifically by the airline or adopted directly from the manufacturer, which contains information on aircraft systems, limitations, performance, and normal and abnormal operating procedures for the airplane.
- A Minimum Equipment List (MEL) for the new aircraft type which reflects the Master Minimum Equipment List approved by the state of manufacture, and is tailored to the specific airplane model and operating environment of the airline. This document requires signature approval by the DGAC.
- A Configuration Deviation List for the new aircraft type which contains information regarding flight with missing aircraft components
- All normal, abnormal, and emergency checklists for the new aircraft type, including abbreviated checklists for use in the cockpit. These checklists must be approved by DGAC signature.
- Passenger briefing cards in English and other appropriate languages.
- A revised Flight Attendant Manual or other suitable reference for flight attendants concerning the configuration of the new aircraft type, location and operation of installed cabin equipment, and duties and responsibilities during normal and abnormal operations.
- Weight and balance information and procedures
- Airport Analysis charts or equivalent reference material for use by aircrew for determining maximum gross takeoff and landing weights for specific airports and runways; taking into account obstacle clearance, runway length and slope, aircraft configuration, and current meteorological conditions.

- Written training programs for cockpit and cabin crewmembers and flight dispatchers/flight operations officers.

3. DEMONSTRATIONS

The following demonstrations must be successfully completed by the operator for the new aircraft type:

- Emergency evacuation and ditching drills should be conducted to demonstrate the ability of the cabin crew to safely evacuate passengers and utilize aircraft emergency equipment.
- Prior to the first revenue flight, proving flights should be conducted which demonstrate the ability of the airline to safely operate the new aircraft type on a day to day basis. The airline should submit a proposed proving flight plan which contains the number of flights, dates, crew composition, and destinations.

4. INSPECTIONS

In addition to the manual inspections and approvals outlined in 8.2 above, the DGAC must conduct the following inspections to ensure that the operator is fully prepared to operate the new aircraft type:

- Inspections of each transit or line station must be conducted to ensure that ground personnel are adequately trained to support the new aircraft type and that support equipment and facilities are adequate for the operation. Transit stations may be inspected during proving flights or as separate events prior to the first revenue flight.
- The Dispatch/Operational Control center should be inspected to ensure adequacy of flight planning, briefing, and record-keeping associated with the new aircraft type.

5. OTHER

All crewmembers must receive the full range of technical training before operations commence. All crewmembers should receive training on duties during emergencies and on operation of emergency equipment installed on the aircraft. Flight attendants should receive hands-on training in door operation and deployment of escape slides, if applicable. Training records for all crew members should be verified.

The maintenance program for the new aircraft type must be submitted to and approved by the Airworthiness section.

6. REVISED OPERATIONS SPECIFICATIONS

Applicable parts of the Operations Specifications must be amended as required to reflect the addition of the new aircraft type. Issuance of the revised Operations Specifications to the operator represents formal approval for the operator to commence revenue operations with the new aircraft type.

CHAPTER 13

APPROVAL OF FLIGHT CREWMEMBER AND DISPATCHER (FLIGHT OPERATION OFFICER) TRAINING PROGRAMS

1. BACKGROUND AND OBJECTIVES

This chapter contains direction and guidance to be used by DGAC personnel responsible for the evaluation, approval, and surveillance of commercial operator crewmember training programs.

An applicant for an Air Operator Certificate (AOC) is required to develop a training program for crewmembers and dispatchers. An existing operator may need to revise its training program when purchasing new equipment, operating in a new environment, obtaining new authorizations, or when new DGAC requirements are specified. Each operator must obtain DGAC approval of curriculums used for training crewmembers, instructors, check airmen, and aircraft dispatchers. The operator is responsible for ensuring that its training program is complete, current, and in compliance with DGAC guidance. (Unless otherwise specified in this chapter, the term “operator” applies equally to an applicant for a certificate and an existing certificate holder).

A “modular” approach to training is emphasized in this chapter, and categories of training are defined which are based upon the circumstances for which training is required. Operations inspectors are responsible for ensuring that regulatory requirements are met and that the operator’s crewmembers and dispatchers can competently perform their assigned duties before they are authorized to enter revenue service. Operators should be encouraged to modify existing training programs to conform to this modular approach and to submit new programs in conformance with this format. However, it is the policy of the DGAC to encourage operators to be innovative and creative when developing training curriculums, methods and techniques. Other formats may be acceptable as long as all training requirements are met.

2. DEFINITIONS

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

- *Training Program:* A system of instruction which includes curriculums, facilities instructors, check airmen and examiners, courseware, instructional delivery methods, and testing and checking procedures. This system must satisfy the training program requirements of the DGAC and ensure that each crewmember and dispatcher remains adequately trained for each aircraft, duty position, and kind of operation in which the person serves.
- *Modular Training:* The concept of program development in which logical subdivisions of training programs are developed, reviewed, approved, and modified as individual units. Curriculum segments and modules may be used in multiple curriculums. The modular approach allows great flexibility in program development and reduces the administrative workload on both operators and instructors in the development and approval of these programs.

- *Categories of Training:* The classification of instructional programs by the requirement the training fulfills. Categories of training consist of one or more curriculums. The categories of training are initial new-hire, initial equipment, transition, upgrade, recurrent (periodic), and re-qualification.

- *Curriculum:* A complete training agenda specific to an aircraft type, a crewmember or dispatcher duty position, and a category of training. An example is an "initial new-hire, Boeing 737 first officer curriculum." Each curriculum consists of several curriculum segments.

- *Curriculum Segment:* The largest subdivision of a curriculum containing broadly related training subjects and activities based on regulatory requirements. Curriculum segments are logical subdivisions of a curriculum which can be separately evaluated and individually approved. Examples are a "ground training" segment and a "flight training" segment. Each curriculum segment consists of one or more training modules.

- *Training Module:* A subpart of a curriculum segment which constitutes a logical, self-contained unit. A module contains elements or events which relate to a specific subject. For example, a ground training curriculum segment could logically be divided into modules pertaining to aircraft systems (such as hydraulic, pneumatic, and electrical). As another example, a flight training curriculum segment is normally divided into flight periods, each of which is a separate module. A training module includes the outline, appropriate courseware, and the instructional delivery methods. It is usually, but not necessarily, completed in a single training session.

- *Element:* An integral part of a training, checking, or qualification module that is subject oriented and not task-oriented. For example, an "electrical power" ground training module may include such elements as a DC power system, an AC power system, and circuit protection.

- *Event:* An integral part of a training, checking, or qualification module which is task-oriented and requires the use of a specific procedure or procedures. A training event provides a student an opportunity for instruction, demonstration, and/or practice using specific procedures. A checking or qualification event provides an evaluator the opportunity to evaluate a student's ability to correctly accomplish a specific task without instruction or supervision.

- *Checking and Qualification Module:* An integral part of a qualification curriculum segment which contains checking and qualification requirements. For example, a qualification curriculum segment may contain a proficiency check module, a LOFT module and an operating experience (qualification) module.

- *Courseware:* Instructional material developed for each curriculum. This is information in lesson plans, instructor guides, computer software programs, audiovisual programs workbooks, aircraft operating manuals, and handouts. Courseware must accurately reflect curriculum requirements, be effectively organized, and properly integrate with instructional delivery methods.

- *Instructional Delivery Methods:* Methodology for conveying information to a student. For example, this may include lectures, demonstrations, audiovisual presentations, programmed and directed self study workshops, and drills. Training devices, simulators, aircraft, and computer work stations are also considered instructional delivery methods.

- *Testing and Checking:* Methods for evaluating students as they demonstrate a required level of knowledge in a subject, and when appropriate apply the knowledge and skills learned in instructional situations to practical situations.
- *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. This time must be specified in hours on the curriculum segment outline. A training hour includes time for normal breaks, usually 10 minutes each hour. Lunch breaks are not included.
- *Programmed Hours:* The hours specified for certain categories of training (initial new-hire, initial equipment, and recurrent). Programmed hours are specified in curriculum segment outlines in terms of training hours.
- *Duty Position:* The functional or operating position of a crewmember or aircraft dispatcher. Common duty positions are pilot-in-command (PIC), second-in-command (SIC), flight engineer (FE), flight attendant (FA), and Flight Operation Officer (FOO) or Aircraft dispatcher (AD).
- *Training/Checking Month (Base Month):* The calendar month during which a crewmember or aircraft dispatcher is due to receive required recurrent training, a required flight check, a required competency check, or required operating familiarization. Calendar month means the first day through the last day of a particular month.
- *Eligibility Period:* Three calendar months (the calendar month before the "training/checking month," the "training/checking month," and the calendar month after the "training/checking" month). During this period a crewmember or aircraft dispatcher must receive recurrent training, a flight check, or a competency check to remain in a qualified status. Training or checking completed during the eligibility period is considered to be completed during the "training/checking month" and is due in the "training/checking month" in the following year.
- *Initial Approval:* A DGAC letter which conditionally authorizes an operator to begin instruction to qualify personnel under a specific curriculum or curriculum segment pending an evaluation of training effectiveness. An initial approval letter must specify an expiration date for the conditional authorization.
- *Final Approval:* A DGAC letter, without an expiration date, which authorizes an operator to continue training in accordance with a specific curriculum or curriculum segment.

3. TRAINING PROGRAMS: *A Schematic Depictio.*

A. Some elements of a training program are depicted in figure 2.9.1 at the end of this chapter to show the relationship between the total training program and the categories of training, curriculums, curriculum segments, and training modules. The illustration in figure 2.9.1 is representative only and is intended to present a framework for the modular development of a training program. By using this "modular approach," the inspector has various strategies available for the evaluation of training effectiveness and for the planning of long-term surveillance.

B. The illustration in figure 2.9.1 consists of five parts as follows:

(1) Part A depicts representative components which, when combined, constitute an operator's overall training program. These components differ in that some must be specifically approved by the DGAC (for example, courseware and check airmen), while others are accepted as essential supporting elements (for example, facilities and equipment).

(2) Part B illustrates the six categories of training that are recognized by the DGAC.

(3) Part C is an example of a curriculum which is a complete agenda of training specific to an aircraft type and crewmember or dispatcher duty position. This example depicts a PIC B-747-400 transition training curriculum.

(4) Part D is an example of a specific curriculum segment and shows that it consist of several training modules. This example is the flight training curriculum segment of the PIC B-747-400 transition training curriculum.

(5) Part E is an example of a specific training module. In this case the module is simulator lesson number 4.

4. CATEGORIES OF TRAINING

There are six basic categories of training applicable to commercial operators. The primary factors which determine the appropriate category of training are the student's previous experience with the operator and previous duty position. Each category of training consists of one or more curriculums, each one of which is specific to an aircraft type and a duty position (for example: B-747 FE, B-747 SIC, and B-747 PIC). Training should be identified with and organized according to specific categories of training.

When discussing training requirements, DGAC inspectors should be specific regarding the category of training being discussed and use the nomenclature described in this manual. Inspectors should encourage operators to use this nomenclature when developing new training curriculums or revising existing training curriculums. Use of this common nomenclature improves standardization and mutual understanding. The six categories of training are briefly discussed in the following subparagraphs:

A. *Initial New-Hire Training.* This training category is for personnel *who have not had previous experience* with the operator (newly-hired personnel). It also applies, however, to personnel employed by the operator who have not previously held a crewmember or dispatcher duty position with the operator. Initial new-hire training includes basic indoctrination training and training for a specific duty position and aircraft type. Except for a basic indoctrination curriculum segment, the regulatory requirements for "initial new-hire" and "initial equipment" training are the same. Since initial new-hire training is usually the employee's first exposure to specific company methods, systems, and procedures, it must be the most comprehensive of the six categories of training. For this reason, initial new-hire training is a distinct separate category of training and should not be confused with initial equipment training. as defined by this manual, initial equipment training is a separate category of training.

B. *Initial Equipment Training.* This category of training is for personnel who have been previously trained and qualified for a duty position by the operator (not new-hires) and who are:

(1) Being reassigned to any duty position on an airplane of a different group. As defined by this manual, Group I refers to reciprocating and turbo propeller powered aircraft and Group II refers to turbojet powered.

(2) Being reassigned to a different duty position on a different airplane type when the flight crewmember has not been previously trained and qualified by the operator for that duty position and airplane type.

C. *Transition Training.* This category of training is for an employee who has been previously trained and qualified for a specific duty position by the operator and who is being assigned to the same duty position on a different aircraft type. The different type aircraft must be in the same group. If it is not in the same group, initial equipment training is the applicable category of training.

D. *Upgrade Training.* This category of training is for an employee who has been previously trained and qualified as either SIC or FE by the operator and is being assigned as either PIC or SIC, respectively, to the same aircraft type for which the employee was previously trained and qualified.

E. *Periodic or Recurrent Training.* This category of training is for an employee who has been trained and qualified by the operator, who will continue to serve in the same duty position and aircraft type, and who must receive recurring training and/or checking within an appropriate eligibility period to maintain currency.

F. *Re-qualification Training.* This category of training is for an employee who has been trained and qualified by the operator, but has become unqualified to serve in a particular duty position and/or aircraft due to not having received recurrent training and/or a required flight or competency check within the appropriate eligibility period. Re-qualification training is also applicable in the following situations:

- PIC's who are being reassigned as SIC's on the same aircraft type when seat-dependent training is required
- PIC's and SIC's who are being reassigned as FE's on the same aircraft type, provided they were previously qualified as FE's on that aircraft type

G. *Summary of Categories of Training.* The categories of training are summarized in general terms as follows:

(a) All personnel not previously employed by the operator must complete *initial new-hire training.*

(b) All personnel must complete *recurrent training* for the duty position and aircraft type for which they are currently assigned within the appropriate eligibility period.

(c) All personnel who have become unqualified for a duty position on an aircraft type with the operator must complete *requalification training* to reestablish qualification for that duty position and aircraft type.

(d) All personnel who are being assigned by the operator to a different duty position and/or aircraft type must complete either *initial equipment, transition, upgrade,* or *requalification training,* depending on the aircraft type and duty position for which they were previously qualified.

5. DESCRIPTION OF CURRICULUM SEGMENTS

A. *Basic Indoctrination*. The objective of basic indoctrination is to introduce the new-hire flight crewmember to the operator and its manner of conducting operations in air transformation. It acquaints the student with the operator's general policies and practices that relate to his or her specific position, but not to a specific aircraft type or configuration. General subject areas during basic indoctrination training may be divided into "operator specific" and "job function specific" training. Examples of *Operator Specific* training modules include duties and responsibilities of airmen (or Cabin attendant ,etc.) , appropriate provisions of the Act and air navigation orders, contents of the operators operating specifications, company history, scope of operations, administrative procedures, rules of conduct, benefits, and contracts. Examples of *Job Specific* general knowledge training modules for airmen and dispatchers would include basic aircraft systems overview, weight and balance, aircraft performance, meteorology, navigation, airspace and ATC procedures. Job Specific training modules for Flight Attendants would include basic aircraft systems and functions, duties of flight attendants, overview of emergency equipment, etc.

B. *Aircraft Ground Training.* The primary objective of aircraft ground training is to provide crewmembers and dispatchers with the necessary knowledge for understanding the functions of aircraft systems specific to an aircraft type or configuration, the use of individual system components, the integrations of aircraft systems, and operational procedures. Aircraft ground training may be conducted using many methods including classroom instruction, computer based instruction, flight training devices, flight simulators and static aircraft.

C. *Aircraft Flight Training.* Flight training means the conduct of training events in an aircraft, flight simulator, or flight training device. The primary objective of aircraft flight training is to provide airmen with the skill and knowledge necessary to perform to a desired standard. This skill and knowledge is acquired through demonstration, instruction, and practice of maneuvers and procedures pertinent to a particular aircraft and crewmember duty position.

D. *Emergency Training*. Emergency training means the conduct of training events which impart knowledge and skill in reacting properly to emergency situations.

E. *Differences Training.* Differences training refers to training which is provided to acquaint crewmembers and dispatchers with differences in configuration, equipment, systems, and procedures between different versions aircraft of the same basic type of aircraft. For example, airmen and dispatchers may require training in different avionics installations, and cabin crew members may require training in different cabin configurations and installed emergency equipment.

6. TRAINING APPROVAL PROCESS

A. REQUESTS FOR INITIAL APPROVAL

(1). The approval process begins when the operator submits its training proposal in writing, for initial approval, to the DGAC. The operator is required to submit to the DGAC an outline of each curriculum or curriculum segment and any additional relevant supporting information requested by the DGAC. These outlines, any additional supporting information, and a letter must be submitted to the DGAC. This letter should request DGAC approval of the training curriculum. Two copies of each curriculum or curriculum segment outline should be forwarded along with the letter of request to the DGAC.

(2). Each operator must submit its own specific curriculum segment outlines appropriate for its type of aircraft and kinds of operations. These outlines may differ from one operator to another and from one category of training to another in terms of format, detail, and presentation. Each curriculum should be easy to revise and should contain a method for controlling revisions, such as a revision numbering system. Curriculums for different duty positions may be combined in one document, provided the positions are specifically identified and any differences in instruction are specified for each duty position. Each curriculum and curriculum segment outline must include the following information:

- Operator's name
- Type of aircraft
- Duty position
- Title of curriculum and/or curriculum segment including the category of training
- Consecutive page numbers
- Page revision control dates and revision numbers

(3). Each curriculum and curriculum segment must also include the following items, as appropriate:

- Prerequisites prescribed by the Air Navigation Act or required by the operator for enrollment in the curriculum
- Statements of objectives of the entire curriculum and a statement of the objective of each curriculum segment
- A list of each training device, mockup, system trainer, procedures trainer, simulator, and other training aids which require DGAC approval (The curriculum may contain references to other documents in which the approved devices, simulators, and aids, are listed.)
- Descriptions or pictorial displays of normal, abnormal, and emergency maneuvers and procedures which are intended for use in the curriculum, when appropriate (These descriptions or pictorial displays, when grouped together, are commonly referred to as the flight maneuvers and procedures document. The operator may choose to present detailed descriptions and pictorial displays of

flight maneuvers and procedures in other manuals. For example, the flight maneuvers and procedures document may be described in an aircraft operating manual. However, as a required part of the training curriculum, it must either be submitted as part of the curriculum or be appropriately referenced in the curriculum.)

- An outline of each training module within each curriculum segment (Each module should contain sufficient detail to ensure that the main features of the principal elements or events will be addressed during instruction.)
- Training hours which will be applied to each curriculum segment and to the total curriculum
- The checking and qualification modules of the qualification curriculum segment used to determine successful course completion.

B. INITIAL REVIEW OF REQUESTS FOR APPROVAL

The assigned inspector must review the submitted training curriculum and supporting information for completeness, general content, and overall quality. A detailed examination of the documents is not required at this time. If after initial review, the submission appears to be complete and of acceptable quality, or if the deficiencies are immediately brought to the operator's attention and can be quickly resolved, the inspector may begin the in-depth review. If the submission is determined to be incomplete or obviously unacceptable, the approval process is terminated and the inspector must immediately return the documents with an explanation of the deficiencies. The documents must be immediately returned, so the operator will not erroneously assume the DGAC is continuing the process to the next phase. The approval process can be resumed when the revised training curriculum or curriculum segment is resubmitted.

C. TRAINING CURRICULUMS SUBMITTED WITH AIR OPERATOR CERTIFICATE APPLICATIONS.

An applicant for a certificate in the early stages of certification, may be unable to provide all information required for its training program. For example, the applicant may not yet know what training facilities or devices it intends to use. The lack of such information in the formal application does not necessarily mean that the training curriculum attachment must be returned. There should be an understanding between the applicant and the inspector that such portions are missing. The inspector may initiate the in-depth review without this type of information. Initial approval, however, of a curriculum segment must be withheld until all portions pertinent to the curriculum segment have been examined. For example, it may be appropriate to initially approve a ground training curriculum segment even though the simulator has not yet been evaluated and approved for flight training.

D. IN-DEPTH REVIEW OF SUBMITTED CURRICULUMS

(1). This phase is initiated when the DGAC begins a detailed analysis and evaluation of a training curriculum or curriculum segment. The purpose

of this phase is to determine the acceptability of training curriculums for initial approval. This phase ends either with the initial approval or with the rejection of all or part of the training curriculum.

(2). Before granting initial approval for a specific curriculum or curriculum segment, the Inspector must ensure that the following evaluations are accomplished.

(a) A side-by-side examination of the curriculum outline with the appropriate regulations and with the direction provided in this manual must be performed. This examination is to ensure that training will be given in at least the required subjects and in-flight training maneuvers. It should also ensure that appropriate training will be given on safe operating practices.

(b) An examination of the courseware developed or being developed by the operator must be performed. This review should include a sampling of available courseware such as lesson plans, audiovisual programs, flight maneuvers and procedures documents, and student handouts. The courseware must be consistent with each curriculum and curriculum segment outline. Form this review, the inspector should be able to determine whether the operator is capable of developing and producing effective training courseware.

(c) An inspection of training facilities, training devices, and instructional aids (which will be used to support the training) must be performed if the Inspector is not familiar with the operator's training program capabilities.

(d) The training hours specified in each curriculum segment outline must be evaluated. An inspector should not attempt to measure the qualify or sufficiency of training by the number of training hours alone. This can only be determined by direct observation of training and testing (or checking) in progress, or by examination of surveillance and investigation reports. The specified training hours must be realistic, however, in terms of the amount of time it will take to accomplish the training outlined in the curriculum segment so as to achieve the stated training objectives. During the examination of courseware, an inspector should note the times allotted by the operator for each training module. These times should be realistic in terms of the complexity of the individual training modules. The number of training hours for any particular curriculum segment depends upon many factors. Some of the primary factors are as follows:

- The aircraft family in which the specific aircraft belongs
- Complexity of the specific aircraft
- Complexity of the type of operation
- Amount of detail that needs to be covered
- The experience and knowledge level of the students
- Efficiency and sophistication of the operator's entire training program (including items such as instructor proficiency, training aids, facilities, course ware, and the operator's experience with the aircraft)

(3). If after completing these evaluations, the inspector determines that the curriculum or curriculum segment is satisfactory and adequately supported, and that the training hours are realistic, initial approval should be granted. Sometimes a portion of the submittal may appear to be satisfactory. However, if that portion is dependent upon another undeveloped portion or another unsatisfactory portion, initial approval must be withheld. For example, a PIC B-737-400 initial equipment, flight training curriculum segment is satisfactory but related training modules within the initial equipment ground training curriculum segment are unsatisfactory. In such a case, it may be inappropriate to grant initial approval to the initial equipment slight training curriculum segment until the ground training curriculum segment is determined to be satisfactory.

E. EXPIRATION DATES FOR INITIAL APPROVALS

When the Inspector determines that a training curriculum or curriculum segment should be initially approved, the Inspector must also determine an appropriate expiration date for the initial approval. The expiration date provides an incentive to the operator for refining all aspects of the program to assure that this regulatory requirement is met. The expiration date also provides the DGAC with a time frame with which to plan evaluation activities for determining the effectiveness of the training. The expiration date assigned to an initially approved training curriculum must not exceed 24 months from the date of initial approval. The expiration date of initial approval may be reduced by the DGAC if it is apparent that a 24-month time frame will unnecessarily delay final approval. The inspector should be aware that shortening the initial approval expiration date will commit him to completing the final approval phase within the shorter time period. The inspector may grant final approval any time before the expiration date. Except when unforeseen circumstances preclude an adequate evaluation of training effectiveness, an extension to the initial approval expiration date should not be permitted. A new expiration date, however, may be established for a curriculum segment when there are significant revisions to an initially-approved curriculum segment.

F. METHOD OF GRANTING INITIAL APPROVAL

(1). Initial approval is granted by letter. A Sample letter granting initial approval is included at the end of this chapter as Figure 2.9.2. The initial approval letter must include at least the following information:

- Specific identification of the curriculums and/or curriculum segments initially approved, including page numbers and revision control dates
- A statement that initial approval is granted, including the effective and expiration dates
- Any specific conditions affecting the initial approval, if applicable
- A request for advance notice of training schedules so that training may be evaluated.

(2). An initial approval letter serves as the primary record of curriculum or curriculum segment pages that are currently approved and effective may agree to use the method to account for revisions to training documents. If this method is used, the stamp must clearly indicate initial approval and the expiration date. Other acceptable methods include a list of effective curriculum or curriculum segment pages, or pages with a preprinted signature and date blocks.

(3). The original pages of the curriculum or curriculum segment shall be returned to the operator with the transmittal letter. These documents should be retained by the operator as an official record. A copy of the training curriculum or curriculum segment, with a copy of the transmittal letter granting initial approval attached, shall be maintained on file at the DGAC, along with all additional, relevant supporting information.

G. METHOD OF DENYING INITIAL APPROVAL

If the Inspector determines that initial approval of a proposed training curriculum or curriculum segment must be denied, the operator shall be notified in writing of the reasons for denial. This letter must contain an identification of the deficient areas of the training curriculum and a statement that initial approval is denied. It is not necessary that each minor deficiency which resulted in the denial be identified, however the major deficiencies should be outlined in the letter. It is the operator's responsibility to redevelop or correct the deficient area before resubmission to the DGAC. A copy of the denial letter and a copy of the proposed training curriculum or curriculum segment shall be kept on file in the library. Figure 2.9.3 is a sample letter of a denial of initial approval.

H. EVALUATING INITIALLY-APPROVED TRAINING CURRICULUMS

The final portion of the approval process begins when the operator starts training under the initially-approved curriculum. This phase should provide the operator with adequate time to test the program and the flexibility to adjust the program during DGAC evaluation. The inspector must require an operator to provide ongoing schedules of all training and checking to be accomplished under an initially-approved training curriculum. Whenever possible, the first session of training conducted under initial approval should be monitored by a qualified operations DGAC inspector does not need to observe every training session. A sufficient sampling of the training sessions, however, should be observed as a basis for a realistic evaluation. Inspectors qualified in the type aircraft, and other individuals knowledgeable of the curriculum subject matter, should assist in evaluating the training. During training under initial approval, the operator is expected to evaluate and appropriately adjust training methods as needed. Often adjustments can be made by changing courseware and instructional delivery without (or with only minor) revisions to the initially-approved curriculum. Conversely, it may be necessary for the operator to substantially change the curriculum which may require another initial approval action by the DGAC before the changes can be put into effect. Sometimes proposed revisions may be transmitted to the DGAC just before the initial approval expiration date. If the change is significant, the DGAC may need to establish a different expiration date for the curriculum segment, or for the revised portions, to allow adequate time for a proper evaluation.

I. ELEMENTS AVAILABLE FOR EVALUATING TRAINING

The Inspector must develop a plan for systematically evaluating training given under the initially-approved training curriculum. This plan should remain in effect throughout the initial approval period. There are five elements which can be evaluated when assessing the overall effectiveness of training programs. These five elements are: curriculum segment outlines, courseware, instructional delivery methods and training environment, testing and checking, and surveillance and investigation of operator activities. These elements are interrelated, however, each can be separately evaluated. See Figure 2.9.4 at the end of this chapter for a summary of these five elements.

(1) Before evaluating a training program, an inspector must become familiar with the contents of the curriculums or curriculum segments to be evaluated. This preparation is essential if an inspector is to determine whether an operator has developed an effective course of instruction from its initially-approved training curriculum.

(2) Direct examination of courseware includes reviewing materials such as lesson plans, workbooks, or Flight Instructor guides. The inspector must determine whether the courseware is consistent with the curriculum or curriculum segment and that it has been organized to facilitate effective instructional delivery. Courseware is usually the training program element which is most adaptable to revision or refinement. Inspectors must review at least sampling of the courseware.

(3) Direct observation of instructional delivery includes surveillance of training methods, such as instructor lectures, computer-based instruction presentations, and in-flight instruction. Effective learning can only occur when an instructor is organized, prepared, and properly uses the courseware and various training aids. The inspector must determine that the instructional delivery is consistent with the courseware. For example, the inspector should not whether the instructor teaches the topics specified in the lesson plan. Training aids and devices should function as intended during the instructional delivery. In addition, during training, the inspector should be sensitive to the type of questions being asked by students and should identify the reasons for any excessive repetition. These conditions may indicate ineffective instructional delivery or courseware. The inspector must also determine if the instructional environment is conducive to learning. Distractions which adversely affect instructional delivery, such as excessive temperatures, extraneous noises, poor lighting, cramped classrooms or work spaces, are deficiencies because they interfere with learning.

(4) Direct observation of testing and checking is an effective method for determining whether learning has occurred. Examining the results of tests, such as oral or written tests or flight checks, provides a quantifiable method for measuring training effectiveness. The Inspector must examine and determine the causal factors of significant failure trends.

(5) Direct observation of training and checking in progress is an effective method of evaluating training. Sometimes the opportunity for direct observation, however, will be limited. In such cases, the Inspector will

have to rely more on his evaluation of other sources of information such as reports of surveillance and investigations. Results of inspection reports, incident or accident reports, enforcement actions, and other relevant information about the operator's performance should be reviewed by the Inspector for indications of training effectiveness. The Inspector must establish methods to evaluate these sources of information for trends which may develop while training is being conducted under initial approval. For example, repeated reports of deficiencies such as excessive taxi speed, navigation deviations, incomplete briefings, or incorrect use of the checklists, may be traceable to a lack of specific training or ineffective training. Such information may provide indications that revisions or refinements are needed for a curriculum segment and/or training modules.

J. METHOD FOR GRANTING FINAL APPROVAL

This phase involves the granting of final approval of an operator's training curriculum. Based on the results of the evaluation, the DGAC must determine whether to grant or deny final approval of a training curriculum. This determination must be made before the expiration date of the initial approval. If the DGAC decides that final approval should be granted, the following procedures apply:

(1) The original and a copy of each page of the training curriculum and/or curriculum segment shall be stamped for approval, dated, and signed by the Inspector.

(2) The original stamped curriculum or curriculum segment must be transmitted to the operator with an approval letter signed by the DGAC. This letter must specifically identify the curriculum or curriculum segment; contain a statement that final approval is granted; and provide the effective date of approval. This letter must also state that final approval shall remain in effect until otherwise notified by the DGAC that a revision is necessary provided the operator continues to train in accordance with the approved curriculum. Figure 2.9.5 at the end of this chapter is an example of a letter of final approval.

K. REVISIONS TO TRAINING CURRICULUMS

(1). To incorporate significant revisions into a training curriculum with final approval usually requires the full training approval process Revisions to initially-approved training curriculums will normally be processed as described in paragraphs in the paragraphs 9.6.1 to 9.6.10. . Final approval, however, may be directly granted to a proposed revision, if the revision involves any of the following situations:

- Correction to administrative errors such as typographical or printing errors
- A reorganization of training, or any changes in the sequence of training that does not affect the quality or quantity of training
- An improvement to the quality, or an increase in the quantity, of training

(2). Other proposed revisions, including any proposal to reduce the approved number of training hours, are subject to the training program approval

process. Although each step in the process must be completed, the process may be abbreviated in proportion to the complexity and extent of the proposal. There are many factors that could require revisions to training curriculums. Such factors include the following:

- The effects and interrelationships of changes in the kind of operations
- The size and complexity of an operation
- The type of aircraft being used
- Any special authorizations through operations specifications
- A revised MEL
- Any exemptions or deviations

A. TRAINING PROGRAM

FACILITIES	COURSEWARE	INSTRUCTIONS	INSTRUCTIONAL DELIVERY METHODS
EQUIPMENT	CATEGORIES OF TRAINING	FLIGHT CREWMEMBER	QUALITY CONTROL

B. CATEGORIES OF TRAINING

Initial New-hire Training	Initial Equipment Training	Transition Training	Upgrade Training	Periodic Training	Re-qualification Training
o PIC	o PIC	o PIC	o PIC	o PIC	o PIC
o SIC	o SIC	o SIC	o SIC	o SIC	o SIC
o FE	o FE	o FE		o FE	o FE
o FA	o FA	o FA		o FA	o FA
o FO	o FO	o FO		o FO	o FO

C. EXAMPLE OF CURRICULUM

PIC B-747-400 Transition Training

- o Ground Training
- o Flight Training
- o Emergency Training
- o Differences Training
- o Qualification Requirements

Segments within a Curriculum

D. EXAMPLE OF CURRICULUM SEGMENT

PIC B-747-400 Transition Flight Training

- o CPT
- o CPT
- o CPT
- o CPT
- o Simulator No. 1
- o Simulator No. 2
- o Simulator No. 3
- o Simulator No. 4
- o Simulator No. 5
- o Simulator No. 6
- o Simulator No. 7
- o Simulator Flight Exam
- o Aircraft Training
- o Aircraft Flight Exam

Training Modules within a Curriculum Segment

E. EXAMPLE OF TRAINING MODULE

Simulator No. 3: Abnormal /Emergency Procedures

- o Engine Fire/Failure
- o Runaway Trim
- o Asymmetrical Flaps
- o Engine Failure after V1
- o Electrical Fire
- o Rapid Decomp./Emerg. Decent

Events within a Training Module

Figure 2-9-1 Schematic Depiction Of Training Programs

DEPARTMENT OF COMMUNICATION
DIRECTORATE GENERAL OF AIR COMMUNICATIONS
Department of Communications, Karya Building, 22nd Floor
Jl. Merdeka Barat No. 8 Jakarta Pusat

Tlp. : (62-21) 3506664, 3506665 Fax. : (62-21)3506663
Box 3049, Jakarta 10030

ABC Airlines
Attn: Mr. Oedhien
Director of Training
Address

Dear Mr. Oedhien

This letter is in reference to ABC Airline's B-737-400 Pilot-in-Command and Second-in-Command Initial Equipment Ground Training curriculum, pages 100/1 through 100/15, dated April 14, 1997. This curriculum is granted initial approval, effective April 30, 1997.

The expiration date of this initial approval is April 30, 1999. This office requests ABC Airlines provide at least 7 days advance notice of any training to be conducted under this curriculum to allow for evaluation of the training for final approval.

Sincerely,

Director of Airworthiness Certification

Figure 2.9.2 Example of Initial Approval Letter

DEPARTMENT OF COMMUNICATION
DIRECTORATE GENERAL OF AIR COMMUNICATIONS
Department of Communications, Karya Building, 22nd Floor
Jl. Merdeka Barat No. 8 Jakarta Pusat

Tlp. : (62-21) 3506664, 3506665 Fax. : (62-21)3506663
Box 3049, Jakarta 10030

ARK Airlines
Attn: Mr. Oedhien
Director of Training

Dear Mr. Oedhien

This letter is in response to your request for initial approval of Revision 2 to ABC Airline's B-747-400 Pilot-in-Command and Second-in-Command Recurrent Ground Training curriculum, dated August 2, 1997. Your request for initial approval of revision 2 is denied for the following reason:

A portion of your scheduled operations occur in areas which during the winter months, are subject to cold weather, snow, ice, and sleet. Your pilot workforce must have adequate training in the safe operating practices associated with a cold weather environment, to enable them to cope effectively with such hazards. Revision 2 deletes training previously given on major aspects of cod weather operations and does not provide any identifiable instruction to your crews for operating flights in such conditions. Presently there is not another course of training for ARK Airline's pilots containing adequate information on cold weather procedures.

Sincerely,

Director of Airworthiness Certification

Figure 2.9.3 Example of Letter of Denial of Initial Approval

ELEMENTS AVAILABLE FOR EVALUATING TRAINING	
CURRICULUM SEGMENT OUTLINES	Curriculum segment outlines contain the specific training modules and the amount of time allocated for the curriculum segment. The modules must be consistent with regulatory requirements and safe operating practices. This element requires direct examination.
COURSEWARE	Courseware converts curriculum outline information into usable instructional material. Courseware must be consistent with the curriculum outline and be organized to permit effective instructional delivery. It is readily adaptable to adjustments and refinement by the operator. This element usually requires direct examination.
INSTRUCTIONAL DELIVERY METHODS AND TRAINING ENVIRONMENT	Instructional delivery methods are used to convey information to the student. Effective learning is maximized if the instructional delivery adheres to and properly uses the courseware. The training environment should be conducive to effective learning. This element requires direct observation.
TESTING AND CHECKING	Testing and checking is a method for determining whether learning has occurred. Testing and checking standards are used to determine that a desired level of knowledge and skill has been acquired. Testing and checking also measures the effectiveness of courseware and instructional delivery. This element requires direct observation. It can be supplemented by examining operator records of test and checks.
SURVEILLANCE AND INVESTIGATION OF OPERATOR ACTIVITIES	Surveillance and investigations produce information about an operator's overall performance. A high rate of satisfactory performance usually indicates a strong, effective training program. Repeated unsatisfactory performances can often be traced to deficiencies in a training program. This element requires the examination and analysis of surveillance and investigative reports.

Figure 2.9.4 Elements for Training Evaluation

DEPARTMENT OF COMMUNICATION
DIRECTORATE GENERAL OF AIR COMMUNICATIONS
Department of Communications, Karya Building, 22nd Floor
Jl. Merdeka Barat No. 8 Jakarta Pusat

Tlp. : (62-21) 3506664, 3506665 Fax. : (62-21)3506663
Box 3049, Jakarta 10030

ABC Airlines, Inc.
Attn: Mr. Oedhien
Director of Training
Address

Dear Mr. Oedhien

Final approval is granted to ABC Airlines' Flight Attendant Recurrent Ground Training curriculum, for pages 1 through 5, dated May 21, 1997, and for pages 6 through 7, dated April 15, 1998.

The effective date of final approval is January 20, 1999. ABC Airlines may continue to train in accordance with this curriculum until a revision is required by the DGAC or, until ABC Airlines revises the curriculum.

Sincerely,

Director of Airworthiness Certification

Figure 2.9.5 Example of Letter Of Final Approval

APPENDIX A

INFORMATION FOR PROSPECTIVE AOC APPLICANTS

A. BACKGROUND.

Annex 6 Part 1 to the Convention on International Civil Aviation requires member States to Issue an Air Operator Certificate (AOC) or equivalent document to commercial air transport operators which shall be dependent upon the operator demonstrating an adequate organization, method of control and supervision of flight operations, training program, and maintenance arrangements consistent with the nature and extent of the operation specified.

In order to carry out its responsibilities in accordance with Annex 6, the DGAC has developed a formal process for the certification of Air Operators. That process is described in the following paragraphs.

B. THE CERTIFICATION PROCESS.

The certification process which results in the initial issuance of an Air Operator's Certificate (AOC) is divided into the following steps:

- Pre-application
- Formal application
- Preliminary financial, economic, and legal assessment of the application
- Preliminary technical assessment of the application including document review
- Operational inspections
- Decision on application and award of AOC and ops specs

1. Pre-Application.

This phase includes all of the preliminary contact between the prospective operator and the DGAC prior to the submission of a formal application. During this time and in response to the operator's initial queries, the DGAC will make the potential operator fully aware of the regulatory requirements which must be met in order to obtain an AOC and of the exact steps in the certification process which must be accomplished before the AOC may be issued. It is essential that the applicant has a clear understanding of the form, content, and documents required for the formal application.

2. Formal Application.

If, after preliminary discussions with the DGAC, the operator intends to proceed with the certification process, he must submit a formal application to the DGAC. This formal application will be in a letter form and must contain the following detailed information:

(a) The name and address of the applicant and the main base of the proposed operations;

(b) description of the applicant's business organization, corporate structure,

and names and addresses of those entities and individuals having a major financial interest;

(c) information on management organization and key staff members, including their title, name, background, qualifications and experience;

(d) detailed information on flight operations under the following headings:

(1) type of aircraft, communication and navigation equipment, instruments, equipment and flight documents to be used;

(2) arrangements for maintenance and inspection of aircraft and associated equipment;

(3) State of Registry of the aircraft - if foreign registered a copy of the lease agreement should be provided;

(4) data concerning each flight crew member including types of certificates or license number, ratings, medical certificate and evidence of currency in assigned aircraft;

(5) arrangements for crew and ground personnel training and qualification;

(6) installations and equipment available;

(7) proposed routes, including geographical tracks, minimum flight altitudes, destination and alternate aerodromes to be used including data on instrument approach procedures, proposed aerodrome operating minima, navigation and communications facilities;

(8) details of operational control and supervision methods to be used; and

(9) nature of operations - passenger/cargo/mail, day, night, VFR or IFR, etc.;

(a) detailed description of how the applicant intends to show compliance with each provision of the applicable code of air navigation regulations;

(b) specified financial data; and

(c) desired date for operation to commence.

3. Preliminary Financial, Economic, and Legal Assessment of the Application.

After receipt of the formal application, it will be necessary for the DGAC to make a preliminary investigation to determine that the applicant has:

(a) sufficient financial resources;

(b) a route structure for the proposed operation;

(c) an intended level of service that meets a need or demand and is in the public interest;

(d) proposed a type and level of operation that is in accord with bilateral or multi-lateral air transport agreements relating to traffic rights, frequencies, capacity, routes, etc., to which the State is a party;

(e) presented traffic studies or other data indicating that the proposed operation should be economically successful; and

(f) management structure and suitable personnel, equipment, facilities, manuals, buildings, service agreements, etc., or will be able to obtain them.

The above process normally requires two to four weeks. If the DGAC is satisfied as to the viability and legality of the operation, the certification process may proceed to the next step.

4. Preliminary Technical Assessment of the Application.

Before this phase can commence, the applicant must submit to the IIII of the DGAC the following documents or their equivalents:

! A revised or updated Basic Operations Manual (BOM) which incorporates general information, guidance, and instructions pertaining to the new aircraft type, and reflects the current operating environment of the airline.

! An Aircraft Operating Manual (AOM) or Airplane Flight Manual (AFM), either developed specifically by the airline or adopted directly from the manufacturer, which contains information on aircraft systems, limitations, performance, and normal and abnormal operating procedures for the airplane.

! A Maintenance Manual which describes the maintenance organization and procedures which will be employed by the operator.

! A Minimum Equipment List (MEL) which reflects the Master Minimum Equipment List approved by the state of manufacture, and is tailored to the specific airplane model and operating environment of the airline.

! Configuration Deviation List or equivalent document which contains information regarding flight with missing aircraft components

! All normal, abnormal, and emergency checklists, including abbreviated checklists for use in the cockpit.

! Passenger briefing cards in English and JJJJ languages.

! A Flight Attendant Manual or other suitable reference for flight attendants concerning the configuration of the new aircraft type, location and operation of installed cabin equipment, and duties and responsibilities during normal and abnormal operations.

! A Weight and Balance Manual containing information and procedures on aircraft loading and weight distribution

! Airport Analysis charts or equivalent reference material for use by aircrew for determining maximum gross takeoff and landing weights for specific airports and runways; taking into account obstacle clearance, runway length and slope, aircraft configuration, and current meteorological conditions.

- A Route Manual containing takeoff, enroute, terminal, and approach charts and information for the routes and airports which the applicant intends to use.
- A Training Manual containing detailed training programs for cockpit and cabin crewmembers and flight dispatchers/flight operations officers.
- A Dangerous Goods Manual which contains information on the identification, packaging, and handling of hazardous materials.

Detailed information on the structure and content of the above manuals or their equivalents may be obtained from the IIII.

The DGAC will require approximately 30 days to evaluate the adequacy of the above documents and provide specific approval for training programmes, checklists, and minimum equipment lists.

5. Operational Inspections and Demonstrations.

Prior to the commencement of this phase, all crewmembers, dispatchers (operations officers), and other appropriate ground support personnel must have completed their required training as outlined in the training programme which will have been submitted and approved in accordance with paragraph 4 above.

This phase will consist of the following demonstrations and inspections:

- Emergency evacuation and ditching drills will be conducted by the applicant in order to demonstrate the ability of the cabin crew to safely evacuate passengers and utilize aircraft emergency equipment.
- A least 10 hours of proving flights will be conducted by the applicant in order to demonstrate his ability to safely operate the airplane on a day to day basis. The airline will required to submit a proving flight plan which contains the number of flights, dates, crew composition, and destinations.
- The DGAC will inspect each transit or line station to ensure that ground personnel are adequately trained to support the aircraft type and that support equipment and facilities are adequate for the operation. Transit stations may be inspected during proving flights or as separate events prior to the first revenue flight.
- The Dispatch/Operational Control center will be inspected to ensure adequacy of flight planning, briefing, dissemination of weather data and NOTAMS, and record-keeping.
- The applicant's Maintenance Organization will be inspected for adequacy of facilities, equipment, procedures, staffing, and training.
- The applicants organization and procedures for keeping required records (crew flight and duty time, trip records, training and qualification, etc.) will be inspected to ensure its adequacy.

An additional two four weeks will be required to perform the above inspections.

6. Decision on application - Issuance of AOC and Operations Specifications

After all of the requirements of the above paragraphs are satisfactorily met, the DGAC will issue and Air Operator Certificate to the applicant. Additionally, Operations Specifications will be issued which contain specific operating authorizations and limitations such as approved aircraft and capacities, route and terminal authorizations, weather minimums, description of the approved maintenance organization, and other provisions unique to the operator. Thereafter, the operator will be required to adhere to all provisions of its AOC and Operations Specifications in addition to applicable CASR and ICAO annexes.

After the AOC is granted, the operator will be subject to continuing inspection by the DGAC in order to ensure that he continues to operate to the same standards upon which the issuance of the AOC was based.