

KINGDOM OF BAHRAIN
Ministry of Transportation
and Telecommunications



مملكة البحرين
وزارة المواصلات والاتصالات

CIVIL AVIATION PUBLICATION

CAP 15

APPROVAL OF ANTR 147 ORGANISATIONS

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CAP 15

APPROVAL OF ANTR 147 ORGANISATIONS – PROCEDURES FOR APPROVAL/RENEWAL/CHANGE IN SCOPE OF APPROVAL

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TPM:

The following pages have been amended to Issue 01, Revision 01 dated 19 February 2023.

Item	Paragraph / Chapter Number	Page(s)	Reason
1.	Revision Highlights	iii	To indicate the current revisions applied
2.	Record of Revision	iv	To indicate the current revisions status
3.	LEP	v	Indicate the affected pages in this revision
4.	1.3	1	To correct the document identification number
5.	1.5	1	To correct the document type
6.	3.1	2	Introduce clarification to the approval credits
7.	3.3	2	To indicate the limitation of the Knowledge examination conducted.
8.	4.1.2	6	To correct the document type and appendix reference number
9	Appendix 10, Page 2 of 2	App 10-2	Minor amendments to format
9	Appendix 13, 147.A.105(d)	App 13-46	To correct the Key Post Holder Form reference



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RECORD OF REVISION

CAP 15 APPROVAL OF ANTR 147 ORGANISATIONS

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1. INTRODUCTION

- 1.1 The regulation ANTR 147 for the approval of a training establishment is issued under the provisions of Article 5 of Civil Aviation Law 14 of 2013. The ANTR 147 is issued for administering the maintenance personnel training and qualification.

Further, the Article 74 of Civil Aviation Law 14 of 2013 mandates approval of an establishment by the Civil Aviation Affairs before it could conduct the aviation related activities including that of a training organization.

- 1.2 ANTR 147 specifies the requirements to be met by organizations seeking approval to conduct aircraft maintenance training and examination as specified in ANTR 66. The ANTR147 also specifies the conditions for issue, renewal, suspension and revocation of certificates attached to the approval and privileges thereof.

- 1.3 This CAP explains the procedures and guidelines to be followed by organisation for seeking approval and BCAA for granting approval to an applicant for issuance/ extension/ renewal of approval under ANTR147 (Basic/Type) for imparting basic aircraft maintenance training.

- 1.4 Five-phase process shall be followed for grant of approval. The five-phase shall consist of pre-application phase, formal application phase, documentation evaluation phase, inspection & demonstration phase, and certification phase. The process normally takes three to six months which may vary depending on the preparedness and compliance by the applicant.

- 1.5 It is important to note that this publication is for guidance purpose only and on its own does not change, create, amend or permit deviations from regulatory requirements, nor does it establish minimum standards.

2. REGULATORY REFERENCES

- 1.1 Civil Aviation Law 14 of 2013

- 1.2 ANTR 147

- 1.3 ANTR 66

3. GENERAL REQUIREMENTS FOR APPROVAL OF AN ORGANIZATION TO CONDUCT BASIC / TYPE TRAININGS

3.1 General

The BCAA will assess an organisation for the approval of an ANTR 147 basic/type training course, which must consist of knowledge training, knowledge examination, practical training and practical assessment as relevant to the type of training. The BCAA may however, exempt the organisation from having to give knowledge and/or practical training in one or more of the subjects covered by the approved basic training course subject to its being satisfied that the subject matter was or is to be taught to the ANTR 66 standard elsewhere.



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The BCAA may, in addition, accept that the maintenance training organisation approved under ANTR 147 conduct examination of students.

Where agreed by the BCAA and in accordance with ANTR 66, should an organisation choose to contract out an element to another ANTR 147 organisation, the organisation in question must take responsibility for ensuring all of the following elements of the training course have been completed satisfactorily.

No credit may be considered for MTOs holding approval issued by ICAO contracting states while processing the application for Basic Training course. The MTO approval by BCAA for Basic Training will be processed based on the procedures enumerated hereunder.

3.2 Knowledge Training

This element must cover the subject matter for an ANTR 66 category or sub-category A, B1 or B2 aircraft maintenance license. Each Category or sub-category may be subdivided into modules or sub-modules of knowledge and may be inter-mixed with the practical training.

3.3 Knowledge Examination

This element must cover a representative cross section of subject matter from the relevant training. Requirements for basic knowledge exams can be found in ANTR 66 Appendix I (Basic Knowledge Requirements), which determines the appropriate module examinations and level of knowledge to be examined for any particular licence category.

Note: The BCAA has established the regulation and procedures for issuance of the Aircraft Maintenance Licenses only under the conversion provisions of ANTR 66 and hence, the knowledge examinations on Basic Aircraft Maintenance Training conducted by the MTO are neither monitored and nor validated by the BCAA for the purpose of issue of the said license (Reference - ANTR 147.A.145).

3.4 Practical Training

This element must cover the use of common tooling/equipment, the disassembly/assembly of a representative selection of aircraft parts and the participation in representative maintenance activities being carried out relevant to the particular module.

3.5 Practical Assessment

This element must cover the practical training and determine whether the student is competent at using tools and equipment and working in accordance with maintenance manuals.

3.6 Approval of Organisations to Conduct Type Training

If an organisation is to be approved to conduct aircraft type training, the training may be subdivided in Airframe, Powerplant or Avionic Systems. The organisation may be approved to conduct training for all or one of the elements. Requirements for Type Training, Examination Standards and On The-Job-Trainings can be found in ANTR 66, Appendix III, which determines the appropriate level of knowledge to be examined for any particular licence category.



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- (a) **Airframe** Type Training means type training including all relevant aircraft structures and systems including powerplant.
- (b) **Powerplant** Type Training means type training on the bare engine, including the build-up to a quick engine change.
- (c) **Avionic Systems** Type Training means type training on avionics systems covered by Autoflight, Communications, Equipment and Furnishings, Flight Controls, Instruments, Lighting, Navigation, BITE, APU, Fuel Control, and Indication (or equivalent). Type training may not necessarily be limited to the above.

3.7 Quality System

The organisation is required to have a quality system in place for both the management of the training and the quality audit function to ensure compliance with the requirements. A key issue is therefore the preparation of procedures to support the organisation's activities. The topics to be covered will vary according to the way in which the organisation structures itself. It is not expected however that procedures covering unrelated activities would figure in the ANTR 147 procedures. The information should be concise, relevant and workable.

The contents of the Maintenance Training Organisation Exposition must be verified against Part 3 of ALD/LIC/F154 (Appendix-7) to ensure compliance, prior to granting/renewal of approval.

3.8 Validity and Variations

Under ANTR 147, approval shall be issued for for a period of two (2) years duration. The approval will remain valid subject to the following.

- (a) The organisation remaining in compliance with ANTR 147 and in accordance with the BCAA provisions related to the handling of findings; and
- (b) The CAA being granted access to the organisation; and
- (c) The certificate not being surrendered or revoked.

Note: If surrendered or revoked, the approval must be returned to the BCAA.

The organisation must inform the BCAA of any proposed changes to the organisation that may affect the approval, prior to the change taking place. Failure to inform the BCAA and subsequent approval as necessary of any changes may result in suspension or revocation of approval.

3.9 Maintenance Training Organisation Exposition

The organisation's exposition, describing the organisation and its procedures, should include the following.

- (a) A statement signed by the Accountable Manager confirming that the maintenance training organisation exposition and any associated manuals, define the maintenance training organisation's compliance with ANTR 147 and shall be complied with at all times.



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- (b) The title(s) and name(s) of the person(s) nominated in accordance with ANTR 147.A.105(b).
- (c) The duties and responsibilities of the above, including matters on which they may deal directly with the competent authority on behalf of the maintenance-training organisation.
- (d) A maintenance training organisation chart showing associated chains of responsibility of the person(s) specified.
- (e) A list of training instructors, knowledge examiners and practical assessors.
- (f) A general description of the training and examination facilities located at each address, specified in the maintenance training organisation's approval certificate, and if appropriate any other location, as required by ANTR 147.145(b).
- (g) A list of the maintenance training courses which form the extent of the approval.
- (h) The maintenance training organisation's exposition amendment procedure.
- (i) The maintenance training organisation's procedures (ANTR 147.A.130(a)).
- (j) The maintenance training organisation's control procedure, as required by ANTR 147.A.145(c), when authorised to conduct training, examination and assessments, in locations different from those specified in ANTR 147.A.145(b)
- (k) A list of the locations pursuant to ANTR 147.A.145(b).
- (l) A list of organisations, if applicable, as specified in ANTR 147.A.145(d).

Note 1: Refer to ANTR 147.A.140, AMC 147.A.140, Appendix I to AMC of ANTR 147 for the detailed requirement of MTOE

Note 2: Guidance and recommended format for the exposition can be found at Appendix-I to this CAP.

3.10 Resources of BCAA

- a. The Chief of Aviation Permits & Licensing / DAL will decide the number of inspectors required to be deputised for handling the approval process of the MTO depends on the –
 - i. Size of the applicant organization
 - ii. Complexity of the organization approval applied for
 - iii. Intended scope of the facility, applicant intent to apply and the expected task required to be accomplished
 - iv. Number of sites / locations proposed to be covered by the approval
 - v. Nature of the services to be covered by the organization and its impact to aviation safety



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- b. The Chief of Aviation Permits & Licensing / DAL will nominate a competent team for the MTO approval process in accordance with the ANTR 147 comprising of inspectors-
- i. appropriately qualified (Refer GAPM Chapter 2.4 / 2.5), experienced and have all necessary knowledge, experience and training to perform their allocated tasks and

Note: Appropriately qualified means the BCAA Inspector should have gained a relevant engineering degree (aeronautical / mechanical / electrical / electronic / avionics or other studies relevant to the aircraft maintenance and continuing airworthiness of aircraft / aircraft components) or an aircraft maintenance training.

- ii. comprehensive knowledge of:
- a) relevant parts of implementing rules, certification specifications and guidance material;
- b) the APM procedures;
- c) the rights and obligations of a Inspectors;
- d) quality systems;
- e) continuing airworthiness management.
- iii. have received training/continuation training on ANTR 147 and any other topics related to approval of an MTO.
- iv. have received training/continuation training on Auditing Techniques
- v. knowledge of a relevant sample of aircraft types;
- vi. knowledge of maintenance training standards.
- vii. In addition to technical competency, Inspectors should have a high degree of integrity, be impartial in carrying out their tasks, be tactful, and have a good understanding of human nature

4. APPROVAL PROCESS

4.1 Application process:

4.1.1 Pre-application Phase

During this phase, the prospective applicant can make initial enquiry regarding regulatory requirements/ processes to be followed to obtain the approval.

The BCAA will brief the applicant regarding regulatory requirements, processes, timelines etc. to be followed for grant of approval. As a minimum, the following points will be discussed during this meeting:

- a) The specific requirements particular to the proposed operation, and relevant regulatory requirements.



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- b) The qualifications and experience required for the nominated post holders.
- c) The certification process - the applicant must closely liaise with the BCAA certification team.
- d) The required form and content of the Formal Application and its attachment
- e) The fee, which shall accompany the formal application,

4.1.2 Formal Application Phase

- a) The applicant shall apply to the BCAA on **ALD / LIC / F152 (Appendix-8)** along with Maintenance Training Organisation Exposition (MTOE) prepared in accordance with Appendix I to AMC to ANTR 147 and other documents as follows:
 - i) The registered name and address of the applicant;
 - ii) The address of the organisation requiring the approval or change to the approval;
 - iii) The intended scope of approval or change to the scope of approval;
 - iv) BCAA Form ALD/AIR/F018 (Appendix-6) Key Management Personnel and examiners detailing their responsibilities within the organisation as required by ANTR 147. This form must also be completed for any personnel changes involving those staff.
 - v) the name and signature of the accountable manager;
 - vi) Fee as per Schedule of Charges (CAP-18).
 - vii) FAA/EASA/UK-CAA/TC and Local Authority approval and approved Capability List if such approvals held.
 - viii) Intend letter from the Bahraini Operator desirous of utilising the facility whether inland or abroad.
 - viii) Recent internal audit report.
 - ix) Resolution of the audit findings.
 - x) Experience of the institute in Training on similar scope
- b) In addition, following documents will be required to be submitted:
 - i) Maintenance Training Organisation Exposition (Appendix-1; Guidance for MTOE).
 - ii) Standard Operating Procedures (SOP), detailing the responsibility / control procedures of the training institute and the contracted / sub-contracted maintenance organization
 - iii) Training Procedure Manual
 - iii) Certificate by the proposed Accountable Manager on the number of employees in the organization in accordance with the ANTR 147.A.105.
 - iv) Schedule of Events describing the list of activities, and/or facility acquisitions, which must be accomplished or made ready, including the dates on which they will be ready for the BCAA to inspect. The schedule should be realistic and contains sufficient flexibility to allow for unforeseen contingencies.



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- v) The ANTR 147 compliance Report (refer to Appendix - 13 for the sample format)

Note 1: The intended scope of approval should be detailed as much as possible. It should mention class and the ratings sought.

Note 2: Only applications for a full Basic Training Course for Category/ sub-Category of a licence will be considered.

- c) Upon receipt of application, the same will be scrutinised to determine eligibility and completeness of the application according to ANTR147.
- d) Schedule of Events will be scrutinised for realistic timelines which will be mutually agreed. Any change in the timelines may affect the process.
- e) Incorrect or incomplete application will not be processed further and the applicant notified accordingly.
- f) While submitting the application, the applicant should provide evidence of compliance of following requirements:

i) Personnel Requirements:

- a) The persons nominated in accordance with ANTR147.A.105 (a) and (b) to hold the function as Accountable Manager, Training Manager, Examination Manager and Quality Manager.
- b) Knowledge and practical Instructors, knowledge examiners and practical assessors required by 147.A.105 (c) to perform trainings and conduct associated examinations/ practical assessments.
- c) Details of personnel necessary to administrate training/ examination activities such as the planning of training/ examinations, the management of the library and of the training materials, the update and maintenance of the training devices, the administration of trainees applications and the issuance/ retention of Certificates of Recognitions, the management of contractors and the Quality Monitoring of the approval holder's training/ examination activities. The declared staff shall cover all sites present on the Approval Certificate and the MTOE related section.
- d) Staff not belonging to the approved Maintenance Training Organisation but involved into the ANTR147 training and examination/ assessment activities must be declared (for example, instructors of a ANTR145 aircraft maintenance organisation)

Note 1: Existing Institutes should demonstrate to BCAA that the number of available instructors are adequate to smoothly conduct the training programme for the enrolled batches of students. In general, a training school should have at least two instructors for each range of subjects to ensure continuity of program in the event one instructor being absent.

*Note 2: Refer to **Appendix-5** for guidance on assessing the qualification, skills, competency and the revalidation of ANTR 147 Instructors, Knowledge Examiners and Practical Assessors.*



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ii) Facility Requirements:

- a) The institute should preferably have its own premises, or premises taken on long term lease (the period should cater for the completion of the training for batches of students enrolled / inducted). The institute should be established in areas permitted by the concerned authorities of Kingdom of Bahrain.
- b) Adequate number of class rooms for theoretical classes should be available commensurate to the number of students and the training scope, each properly equipped with training aids/instructional equipment in accordance with 147.A.115. The classrooms should be properly lighted, well ventilated, furnished and free from noise. The size of the rooms should be appropriate to accommodate 25 (Basic)/ 28 (Type) number of students at a time. As a guideline, each room should be at least of 33 sqm area and meets the requirement as given 147.A.100(a), (b), & (c).
- c) The size of accommodation for examination purposes should be such that no student can read the paperwork or computer screen of any other student from his/her position during examinations.
- d) The institute should have facilities commensurate with the scope of approval for imparting practical training on each element of the training syllabus to be covered during the course. The basic training workshops and/or aircraft maintenance facilities separate from training classrooms for practical instruction appropriate to the course, should have all tools and equipment necessary to perform the approved scope of training.
- e) The institute should have hangar/adequate covered area to park the Aircraft/Helicopter for demonstration and for performing practical exercises on the aircraft.
- f) The training institute should have viable arrangements with another organization located conveniently to provide such workshops and / or approved aircraft maintenance facilities in accordance with 147.A.100 (d).

The contract in this regard should address at least the following:

- (i) Scope of contract indicating details of the facilities proposed to be provided by the contracted organisation;
- (ii) Maximum number of students that will be permitted for the practical;
- (iii) Responsibilities of both the organisations;
- (iv) Course plan / programme and slots availability planning for each students on each practical element
- (v) Nodal person of both the organisation and their responsibilities;
- (vi) Condition of access to relevant areas of the facility including issue of Airport Entry Passes to the students (as applicable)
- (vii) Validity of the contract including conditions for renewal of contract;
- (viii) Requirement of SOP / Interface Manual



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Note: Maximum number of students in a session should be limited as per the number of students permitted by the AMO for practical training.

- g) The institute should maintain a dedicated web portal accessible to the public providing information such as course structure, duration, course fees with break up, syllabus, infrastructure, BCAA approval, practical training details, training facilities owned and contracted, details of instructors employed and contracted, details of students admitted, terms and conditions, feedback mechanism, contact details of person responsible for providing information, clarification and any other relevant information to the public.
- h) The institute should have library with adequate number of reference books, technical materials in accordance with 147.A.100 (i) commensurate to the scope and level of training under-taken.
- i) Institute must demonstrate adequacy of infrastructure available/make arrangement with ANTR-145 approved aircraft maintenance organisation for imparting practical training for requested number of students in a batch for a particular course.
- j) A general guideline / recommended facilities, tools and equipment required to accomplish the maintenance skills are given in Appendix 2, 3 & 4.
- k) Maintenance training material relevant to the course should be prepared and provided to the students.

Note: Training course material includes the trainee's notes and the instructor's material (slides etc.); in effect it is important for BCAA to assess the information delivered by instructors and to ensure an acceptable ratio with student self-study notes.

4.1.3 Document Evaluation Phase

The application and the documents will be evaluated. The evaluation and assessment shall consist of following items:

- a) Post holders,
- b) Instructors, examiners, practical assessors;
- c) Compliance of ANTR 147 and internal audit report;
- d) MTOE and associated procedures;
- e) Contracts and associated interface / procedure manual / SOPs, including that of contracted organisation / facility.

4.1.3.1 Evaluation and acceptance of Post holders and other personnel

- a) The Accountable Manger should demonstrate to BCAA that he has a reasonable understanding of applicable regulations and of his role within the approved organisation, but also that he has all necessary means, in particular financial, to



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fulfil the Accountable Manager's duties as detailed in the MTOE. The Accountable Manager is accepted via approval of the MTOE containing the Accountable Manager's commitment statement.

- b) The proposed post holders are required to demonstrate to BCAA appropriate essential requirements of qualification, experience in accordance with 147.A.105 and are competent to perform the function. If satisfied, the formal acceptance of the post holders is granted through the corresponding ALD/AIR/F018 (**Appendix-6**) by BCAA. Once the post holders have been accepted by the BCAA, the names of the post holders shall be included in the MTOE.
- c) Assessment and acceptance of Instructors, examiners and assessors should be performed by the approved training organization in accordance with the dedicated procedure described in the MTOE (as approved by the BCAA). The list of those staffs should be included into the MTOE or cross-referred document. ALD/AIR/F018 is not required to be submitted for these personnel.
- d) Once satisfactorily completed, the detailed result of this assessment must be provided with the list of concerned staff and supporting documents to BCAA.

Note: BCAA will assess that the training organization has an acceptable system in place to ensure that each proposed instructor, examiner and assessor is competent, but also that the organization can demonstrate that it has enough qualified instructors, examiners and assessors to cover, without any gap, the integrality of the approved courses.

- e) Whenever possible, a review of the proposed instructor's file, followed by an interview of the person and the partial attendance to an event led by the person (lesson, exam, assessment) should be prioritized by BCAA.
- f) Whenever the direct interview of the proposed instructor is not possible or not appropriate, the background of the person (education/ experience etc.) should be carefully reviewed in order to determine that the details provided are adequate to demonstrate the qualities of the person.

Note 1: In order to assist with the completion of this task, a number of generic acceptable means of demonstration (i.e. qualification, experience requirements etc.) have been summarized included into the MTOE User Guide.

Note 2: In any case, samplings including interviews and event witnessing must be performed by the BCAA when approving a new organization, or when significantly extending the scope of an existing approval and repeated as part of the continued surveillance carried out within the organization.

Note 3: Instructors, examiners and assessors accepted and exercising their privileges, or part thereof, at the entry into force of ANTR147 (Basic / Type), are considered as fulfilling the knowledge and experience requirements. However, an assessment of the gap between actual qualifications and this standard should be performed and provided to the BCAA.



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4.1.3.2 Scrutiny of MTOE and Associated Procedures

The certification team should evaluate the MTOE to ensure the contents of the MTOE and associated procedures meet the requirements of ANTR 147 (Basic/Type). The format of MTOE should be in accordance with the **Appendix-1** and customized as per the scope of approval sought.

4.1.3.3 Assessment of ANTR 147 compliance Report and Internal Audit Report (**Refer Appendix-13**)

The certification team should assess the ANTR 147 compliance report and the internal audit report of the applicant to verify that the applicant meets the intent of ANTR 147 (Basic/Type) for the intended scope of approval.

4.1.3.4 Contracts and associated interface / procedure manual / SOPs

The certification team should evaluate the contract executed between the applicant and the AMO which should address the following aspects for the intended scope of approval:

- a) Scope of contract indicating details of the facilities proposed to be provided by the contracted / sub-contracted organisation;
- b) Maximum number of students that will be permitted for the practical at AMO facility
- c) Responsibilities of both the organisations
- d) Nodal person of both the organisation and their responsibilities
- e) Basic Training Practical & Assessment procedures
- f) Type Training Practical & Assessment Procedure and OJT procedures if administered.
- g) Condition of access to relevant areas of the facility including issue of Airport Entry Passes to the students (as applicable)
- h) Validity of the contract including conditions for renewal of contract
- i) Quality Monitoring Systems and Control.
- j) Other documents / evidences as deemed necessary by BCAA

The certification team should verify the adequacy of the approved facilities available with the contracted AMO including availability of number of aircraft for imparting practical training for the intended number of students on regular basis

4.1.4 Inspection and Demonstration Phase

4.1.4.1 Prior to inspection by BCAA, the Applicant's Quality Department should audit the Organisation in full for compliance with ANTR 147 and subsequent amendments.

4.1.4.2 For an initial approval application, a statement signed by the Organisation's Quality Manager should be provided before the audit takes place, confirming that documents, procedures, training/exam material, facilities and personnel subject to the application have been reviewed and audited showing compliance with all applicable requirements with all necessary supporting documents / evidences.



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- 4.1.4.3 Detailed procedures as documented in this Section-4 for approval of ANTR 147 (Basic/Type) Organisation should be followed to assess the capability of the organisation to undertake the function.
- 4.1.4.4 Once compliance of the applicant with ANTR 147 has been established, the audit team will recommend for ANTR 147 approval of the organisation as per the Procedure given herein this CAP. This includes the recommendation for the MTOE approval and the acceptance of management personnel (Recommendation report is attached as Appendix-7; Form ALD/LIC/F154.
- 4.1.4.5 Audit of the organisation to confirm that the facilities as per proposed MTOE and information provided in the compliance report in terms of facility, personnel, planning and records etc. The audit should be conducted following the surveillance checklist detailed in **Appendix-13** for ensuring the facility for compliance, interviewing personnel and sampling any relevant training course for its conduct and standard.
- 4.1.4.6 Closing meeting lead by the Audit Team Leader will be held to present the audit findings and conclusions to the auditees in order to ensure that they understand the findings. The auditee will be given the opportunity to discuss any non-compliance identified and suggest corrective actions and a timeframe for implementation.
- 4.1.4.7 Findings made during the certification process will be handled by the certification team according to ANTR 147 and its associated Acceptable Means of Compliance (AMC)/ Guidance Material (GM). The audit report should be made as a Recommendation Report attached as **Appendix-7**; Form ALD/LIC/F154. The date each finding was rectified should be recorded together with the reference document.
- 4.1.4.8 For an initial approval, the audit findings should not be classified as Level 1 or 2 as no action need to be taken on the organization yet to be approved. Unless otherwise agreed by the BCAA a maximum of three months shall be allowed to take corrective action for all finding raised during the initial audit. Failure to close these findings during this three-month period could lead the BCAA to terminate the application and the process has to be initiated afresh by the organization seeking approval.
- 4.1.4.9 The formal notification of the findings must be sent to the organisation within a maximum of 15 working days from the end of the audit.
- 4.1.4.10 The certification team will follow up the closure of all findings identified during the audit. When it is satisfied with the actions that have been taken by the organisation in respect of the findings raised during the audit the same should be closed.
- 4.1.4.11 Depending on the extent and nature of findings and the related corrective actions, an additional audit / verification audit to assess the effective implementation of the corrective actions may be necessary.
- 4.1.4.12 Recommendation

Once compliance to the ANTR 147 established, the certification team will recommend to Chief of Licensing / DAL for grant of initial approval of the organisation. This includes the followings:



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- (i) approval of MTOE
- (ii) acceptance of management personnel.
- (iii) scope of approval
- (iv) Number of students for admission in each batch permitted

For that purpose, the certification team will prepare a recommendation report on BCAA Form ALD/LIC/F154 (**Appendix-7**) and subsequently reviewed for quality check by the Chief of Personnel Licensing / DAL.

4.1.5 Certification Phase

4.1.5.1 The recommendation package (Document review and the on-site audit report including closure of findings) will be reviewed for compliance and accuracy. Once satisfied, following documents will be issued to the applicant:

- a) the approval certificate BCAA Form-ALD/LIC/F158 (**Appendix-10**);
- b) the approval letter of the MTOE together with its associated document;
- c) the nominated personnel BCAA Form ALD/AIR/F018 (**Appendix-6**)

4.1.5.2 Maintenance training organisation approval certificate (147.B.125)

- a) The maintenance training organisation approval certificate format BCAA Form-ALD/LIC/F158 (**Appendix-10**); shall be used. The fields on page 2 “Maintenance Training and Examination Approval Schedule” of the maintenance training and examination organisation approval certificate should be completed as follows:

Date of original issue: It refers to the date of the original issue of the maintenance training organisation approval.

Date of last revision approved: It refers to the date of the last revision of the maintenance training organisation exposition affecting the content of the certificate. Changes to the maintenance training organisation exposition which do not affect the content of the certificate do not require the re-issuance of the certificate.

Revision No: It refers to the revision number of the last revision of the maintenance training organisation exposition affecting the content of the certificate. Changes to the maintenance training organisation exposition which do not affect the content of the certificate do not require the reissuance of the certificate

4.1.5.3 The Chief of Licensing shall formally approve the exposition and issue the applicant with an approval certificate BCAA Form-ALD/LIC/F158 (**Appendix-10**), which includes the approval schedule. The certificate of approval shall only be issued when the organization is in compliance with ANTR 147.

4.1.5.4 The approval of the exposition and associated procedures shall be intimated in writing. The following pages shall be stamped and signed:



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- (a) List of effective pages.
- (b) Scope of activities.
- (c) List of nominated persons (Including Accountable Manager).
- (d) Facility details (at each site if applicable).
- (e) Scope of Quality System.
- (f) Authorization System.

4.1.5.5 The conditions of the approval shall be indicated on the approval certificate. The validity of the ANTR 147 approval will be for a period of two (2) years.

4.1.5.6 The reference number shall be included on the approval certificate, BCAA Form-ALD/LIC/F158 (**Appendix-10**). The numeric sequence should be unique to the particular approved maintenance training organisation.

4.1.5.7 Maintenance Training Organisation Exposition (MTOE) Amendment(s) if any.

4.1.5.8 The Inspector shall verify that the procedures specified in the exposition are in compliance with ANTR 147 before formally notifying the approved organization of the approval.

4.1.5.9 A simple exposition status sheet should be maintained which contains information on when an amendment was received and when it was approved.

4.1.5.10 The organization should submit each exposition amendment to the BCAA for approval. On being satisfied that the amendment meets the requirement of ANTR 147, an approval to the same shall be indicated in writing.

5. CHANGE TO ANTR 147 APPROVAL

5.1 An application for change of ANTR147 (Basic) Maintenance Training Organisation approval should be made to the BCAA using the BCAA ALD / LIC / /F152 (**Appendix-8**) along with the following documents:

- a) Soft and hard copy of amended MTOE and associated procedure manuals;
- b) Amendment to Interface manual / SOP as applicable;
- c) ANTR 147 compliance report along with relevant supporting documents.
- d) Details of personnel including post holders, Instructors, examiners, assessors etc.
- e) Applicable fees as per Schedule of Charges published.

5.2 The guidelines as given for the initial approval process as applicable will be followed by both the organization and the BCAA's certification team for change in scope of approval.

5.3 A change of name of the maintenance training organisation requires the organisation to submit a new application as a matter of urgency stating that only the name of the organisation has been changed and a copy of the organisation exposition with the new name. Upon receipt of the application and the organisation exposition, the BCAA should reissue the approval certificate with the present name / address, valid only up to the existing expiry date.



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- 5.4 A name change alone does not require the BCAA to audit the organisation, unless there is evidence that other aspects of the maintenance training organisation have changed.
- 5.5 A change of accountable manager requires the maintenance training organisation to submit such fact to BCAA as a matter of urgency together with the amendment to the accountable manager exposition statement.
- 5.6 Any changes to any of the senior personnel specified in 147.A.105(b) requires the maintenance training organisation to submit to BCAA a Form ALD/AIR/F018 (**Appendix-6**) in respect of the particular person. If satisfied that the qualifications and experience meet the standard required by ANTR 147 (Basic/Type), the BCAA should indicate acceptance in writing to the maintenance training organisation.
- 5.7 A change in the maintenance training organization's exposition requires BCAA to establish that the procedures specified in the exposition are in compliance with ANTR 147 (Basic/Type) and then to establish if these are the same procedures intended for use within the training facility.
- 5.8 Any change of location of the maintenance training organisation requires the organisation to make a new application to BCAA along with the documents required in Chapter 4.1.2 above.
- 5.9 The complete or partial re-organisation of a maintenance training organisation should require the re-audit of those elements that have changed.
- 5.10 Any additional aircraft type training courses require the maintenance training Organisation to make a new application to BCAA with the submission of an amended exposition. BCAA should follow the procedure so far as the change affects such procedures unless the BCAA is satisfied that the maintenance training organisation has a well-controlled procedure to qualify such change when it is not necessary to conduct the audit required for initial grant of ANTR 147 type approval.

6. RENEWAL OF AN APPROVAL (147.A.155)

- 6.1 An application for renewal of ANTR147 (Basic/Type) Maintenance Training Organisation approval should be made to the BCAA using the Form **ALD / LIC / /F152 (Appendix-8)** along with the following documents;
- Internal audit report and status of closure of findings of the organisation;
 - Copy of contractual arrangements;
 - Validity and scope of approval of contracted organisation, as relevant;
 - Details of Post Holders certified by the Accountable Manager;
 - Applicable fees as per Schedule of Charges.
- 6.2 Each organization must be completely reviewed (audited) by BCAA for compliance with ANTR 147 (Basic/Type) at periods not exceeding 24 months. BCAA should complete the recommendation report on **BCAA Form ALD/LIC/F154 (Appendix-7)** for the purpose. It should be ensured that no finding is open at the time of renewal of approval.



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7. INTERNAL AUDITS BY THE ORGANISATION

- 7.1 The Quality Manager of the approved organisation should develop procedure to carry out routine planned and unplanned audits to ensure proper compliance of the documented procedures for the training.
- 7.2 A report should be raised each time an audit is carried out describing what was checked and the findings against applicable requirements and procedures.
- 7.3 If any finding of serious nature (Level-1) is detected during the audits, the same should be intimated to the BCAA immediately. The responsible manager should take appropriate action to mitigate the finding. The root cause analysis along with the measures taken to prevent such finding in future should be intimated in writing by Quality Manager to BCAA.
- 7.4 In case there is any violation of the approved procedures, the Quality Manager is required to investigate the same and take necessary action under intimation to BCAA.

8. ANTR 147 MTO RECORDS

- 8.1 The following records (Basic & Type) shall be maintained for a period of five years after the completion of course. The examination related records shall be maintained for the period as defined by the authority recognising such examinations.
- The records of the employment of the instructor subject wise;
(Records for the MTO staff shall be retained for a minimum period of two years after the instructor or examiner ceases to perform a function for the training organization)
 - Question papers, answer sheets, assessments of each student;
 - List of organizations having tie up with the institute to provide some elements of practical training as permitted by ANTR 147;
 - Module wise performance of the students in BCAA / EASA / UK-CAA / TC licence examination or conducted by the ANTR 147 organisation, if privileged for conducting examination.

Note 1: The record-keeping system should ensure that all records are accessible whenever needed within a reasonable time. These records should be organized in a consistent way (chronological, alphabetical order, etc.).

Note 2: All records containing sensitive data regarding applicants or organizations should be stored in a secure manner with controlled access to ensure confidentiality of this kind of data.

Note 3: All computer hardware used to ensure data backup should be stored in a different location from that containing the working data in an environment that ensures they remain in good condition. When hardware or software changes take place, special care should be taken that all necessary data continues to be accessible at least through the full period specified in 147.B.20.



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Note 4: The BCAA may need to inspect a student's training records before issuing a licence or rating.

9. SURVEILLANCE BY BCAA

- 9.1 The BCAA will carry out planned and unplanned surveillance inspection of organisation as per BCAA established procedures.
- 9.2 A report should be raised each time a surveillance is carried out describing what was checked and the resulting findings against applicable requirements and procedures.
- 9.3 In case there is any violation of the approved procedures, the BCAA should investigate the same and take necessary action as per the procedure detailed in the Enforcement Policy and Procedure manual against the organisation.

10. CONTINUED VALIDITY (147. B.120) – BCAA RESPONSIBILITY

- 10.1 The conditions for continued validity of approval of the maintenance training organisation shall be:
- as per ANTR 147.
 - that each organisation must be completely audited for compliance with this ANTR 147 at periods not exceeding 24 months. Each time of surveillance/ audit, Recommendation Report Form ALD/LIC/F154 (**Appendix-7**) should be used and completed.
 - that all findings are closed.
- 10.2. Audits should be conducted to ensure the continuity of the approval; it is not necessary to sample all training courses, but BCAA inspector should sample, as appropriate, one training course to establish that training is conducted in an appropriate manner. Where no training course is being conducted during the audit, arrangements should be made to return at a later date to sample the conduct of a training course.
- 10.3. It is not necessary to sample all examinations associated with a training course but the BCAA Inspector should sample, as appropriate, one training course examination.
- the specific item audit should be the same as that required by ANTR- 147 (Basic/Type) latest amendment;
 - there should be satisfactory evidence on record that such specific item of audits were carried out and that all corrective actions have been taken;
 - the Inspector should be satisfied that there is no reason to believe that the standards have deteriorated in respect of those specific item audits being granted a back credit; and
 - A meeting with the Accountable Manager shall be convened at least once every 12 months to ensure he/she remains informed of significant issues arising during audit and to ensure he/she fully understands the significance of the approval.



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11. REVOCATION, SUSPENSION AND LIMITATION OF THE MAINTENANCE TRAINING ORGANISATION APPROVAL (147.B.200)

Under the provisions of Article 18 of Civil Aviation Law and the ANTR 147, 147.B.130 & 147.B.200

- a) suspend an approval on reasonable grounds in the case of potential safety threat; or
- b) suspend, revoke or limit an approval.

Note: Enforcement action shall be taken as per the detail procedure(s) given in the Enforcement Manual and ANTR -147.

12. FINDINGS (147.B.130)

- 12.1 Failure to complete the rectification of any level 1 finding within seven days of written notification shall entail revocation, suspension or limitation by the BCAA of the maintenance training organisation approval in whole or in part.
- 12.2 Action shall be taken by BCAA to revoke, limit or suspend in whole or part the approval in case of failure to comply within the time scale granted by BCAA in the case of a level 2 finding.
- 12.3 When during audits or by other means evidence is found showing non-compliance with the requirements of ANTR- 147 (Basic/Type), the following actions shall be taken:
 - (i) For level 1 findings, immediate action may be taken to revoke, limit or suspend in whole or in part, depending upon the extent of the level 1 finding, the maintenance training organisation approval, until successful corrective action has been taken by the organization. In practical terms a level 1 finding is where a significant non-compliance with ANTR 147 (Basic/Type) is found.

BCAA may grant 7 days for the corrective action provided that the non-conformance does not lower the safety standards.

- (ii) For level 2 findings, the corrective action period granted must be appropriate to the nature of the finding but in any case initially must not be more than 30 days. In certain circumstances and subject to the nature of the finding 30 days period may be extended up to 45 days subject to a satisfactory corrective action plan including action required to prevent recurrence is agreed.
- (iii) Where the organisation has not implemented the necessary corrective action within the stipulated period, necessary action shall be taken in line with requirements/guidelines as stipulated in the enforcement manual.

13. RECORD-KEEPING – BCAA (147.B.20)

- 13.1 The BCAA shall have a system of record-keeping that allows adequate traceability of the process to issue, renew, continue, change, suspend or revoke each approval.



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13.2 The records for the oversight of maintenance training organizations shall include as a minimum:

- (i) the application for an organisation approval.
- (ii) the organisation approval certificate including any changes.
- (iii) a copy of the audit program listing the dates when audits are due and when audits were carried out.
- (iv) Continued oversight records including all audit records.
- (v) copies of all relevant correspondence.
- (vi) details of any exemption and enforcement actions.
- (vii) organisation exposition and amendments.

Note 1: The record-keeping system should ensure that all records are accessible whenever needed within a reasonable time. These records should be organized in a consistent way (chronological, alphabetical order, etc.).

Note 2: All records containing sensitive data regarding applicants or organizations should be stored in a secure manner with controlled access to ensure confidentiality of this kind of data.

Note 3: All computer hardware used to ensure data backup should be stored in a different location from that containing the working data in an environment that ensures they remain in good condition. When hardware or software changes take place, special care should be taken that all necessary data continues to be accessible at least through the full period specified in 147.B.20.



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Appendix-1

Guideline for Framing of Maintenance Training Organisation Exposition ANTR 147

1. Scope

This user guide is compiled with a view to provide guidance to applicant for organisation seeking approval for ANTR147 (Basic/Type) for the purpose of compilation of Maintenance Training Organisation Exposition (MTOE). This document is complementary to the requirements of ANTR 147 (Basic/Type) and does not supersede or replace the requirements/ instructions issued by BCAA from time to time.

Note: The MTOE should be customized as per the scope and complexity of the organisation.

2. Important Instruction

This user guide is designed to be used by ANTR 147 (Basic/Type) Maintenance training Organisations - To assist them in the preparation of their own MTOE.

The user guide is provided for guidance only and should be customised by each organisation to demonstrate how they comply with ANTR 147 (Basic/Type). The organisation may choose to use another format as long as all the applicable regulations are addressed and cross-referenced.

For each detailed procedure described within the MTOE, the organisation should address the following questions, but not limited to:

What must be done? Who should do it? When must be done? Where must it be done? How must it be done? Which procedure(s)/form(s) should be used?

3. Exposition format

The MTOE should be submitted in hardcopy and electronic format;

- Hardcopy: BCAA does recommend using white paper (format A4); The MTOE should be provided in a binder with section dividers.
- Electronic Format: The Exposition should be in Portable Document Format (PDF) but a printed copy should be delivered to the BCAA to facilitate the document study.

4. Structure of the Maintenance Training Organisation Exposition (MTOE)

The MTOE may be produced in the form of a single document or may consist of several separate documents.

- Single document: The standard MTOE produced IAW 147.A.140 is a unique and complete document. It must contain all the information required to show compliance with the regulation including detailed procedures including quality system procedures.



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- **Several documents:** The MTOE must contain at least the information as detailed in 147.A.140 and Appendix I to AMC of ANTR 147 (Basic/Type). The additional material may be published in separate documents which must be referenced from the MTOE. In this case:
 - o The MTOE should cross refer to the associated procedures, documents, appendices, forms and all other lists which are managed separately (e.g. the list of instructional or examination staffs, the list of contracted organisations etc.).
 - o These associated documents must meet the same rules as described for the MTOE.
 - o The associated document(s), procedure(s) and form(s) etc. should be provided to and approved by the BCAA (as part of the MTOE).

For some organisations certain sections of the headings defined within 147.A.140 and ANTR 147 Appendix I may be 'not applicable'. In this case they should be annotated as such within the MTOE.

5. Exposition pages presentation

Each page of the MTOE should be identified as follows (this information may be added in the header):

- the name of the organisation (official name as defined on the approval certificate BCAA FORM-ALD/LIC/F158 (**Appendix-10**))
- the issue number of the MTOE;
- the amendment/revision number of the MTOE;
- the date of the revision (amendment or issue depending on the way the organisation has chosen to revise the MTOE);
- the chapter of the MTOE;
- the page number; and
- the name of the document "Maintenance Training Organisation Exposition"

At the beginning of the volume, the first page should specify:

- ANTR147 (Basic/Type) Maintenance Training Organisation Exposition;
- The name of the organisation (the official one defined on the approval certificate - BCAA Form-ALD/LIC/F158 (**Appendix-10**))
- The address, telephone, fax numbers and e-mail address of the Head Office.
- The copy number from the distribution list, and
- The approval reference of the ANTR147 organisation.

6. Corporate Commitment by Accountable Manager

Prior to submission of the 'draft' MTOE to the BCAA for approval the Accountable Manager must sign and date the Corporate Commitment statement (Management 1.1). This confirms that they have read the document and understand their responsibilities under the approval. In the case of change of Accountable Manager, the new incumbent should sign the document and submit a suitable amendment to BCAA for approval.



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Format of Maintenance Training Organisation Exposition ANTR147 (Basic/Type)

This Exposition supports the BCAA ANTR147 Maintenance Training Organisation Approval
of:

Name of Institute Address
Tel: +(XXX) XXXX XXXX Fax: + (XXX) XXXX XXXX
E-mail: training@school.com

ANTR147 APPROVAL REFERENCE ANTR 147.xxxx

Exposition Reference No: XXXX

Copy No: Held By:



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PART 0 - INTRODUCTION

0.1 Table of Contents

For standardization purposes and to facilitate the production of the MTOE by the ANTR 147 (Basic/Type) maintenance training organisation, the following format for the MTOE as per ANTR 147 (Basic/Type) Appendix I to AMC should be followed. The organisation should customise the document to suit their organisation and may add pages / paragraphs as necessary.

CONTENTS

PART 1 – MANAGEMENT

- 1.1 Corporate commitment by Accountable Manager.
- 1.2 Management personnel.
- 1.3 Duties and responsibilities of management personnel, Instructors, Knowledge examiners and Practical assessors.
- 1.4 Management personnel organisation chart.
- 1.5 List of Instructional and Examination Staff.
- 1.6 List of approved addresses.
- 1.7 Details of Subcontractors and their scopes of contract.
- 1.8 General description of facilities at paragraph 1.6 address(s).
- 1.9 Specific list of courses approved by the BCAA
- 1.10 Notification procedures regarding changes to the organisation.
- 1.11 Exposition and associated manuals amendment procedure.

PART 2 – TRAINING AND EXAMINATION PROCEDURES

- 2.1 Organisation of courses
- 2.2 Preparation of course material
- 2.3 Preparation of classrooms and equipment
- 2.4 Preparation of workshops/maintenance facilities and equipment
- 2.5 Conduct of theoretical training & practical training including OJT as applicable (during basic knowledge & practical training and type/task training) including that of contracted organization.



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- 2.6 Records of training carried out
- 2.7 Storage of training records
- 2.8 Training at locations not listed in paragraph 1.6
- 2.9 Organisation of examinations
- 2.10 Security and preparation of examination material
- 2.11 Preparation of examination rooms
- 2.12 Conduct of examinations
(basic knowledge examinations, type/task training examinations and type examinations)
- 2.13 Conduct of Basic practical assessments, Type Practical / OJT assessment
- 2.14 Marking and record of examinations
- 2.15 Storage of examination records
- 2.16 Preparation, control & issue of course certificates
- 2.17 Sub-Contractor control procedure

PART 3 – TRAINING SYSTEM QUALITY PROCEDURES

- 3.1 Audit of training
- 3.2 Audit of examinations
- 3.3 Analysis of examination results
- 3.4 Audit and analysis remedial action
- 3.5 Accountable Managers annual review
- 3.6 Qualifying the Instructors
- 3.7 Qualifying the Examiners/Assessors
- 3.8 Records of qualified Instructors/Examiners and Assessors

PART 4 – APPENDICES

- 4.1 Example of documents and forms used
- 4.2 Syllabus of each training course
- 4.3 Cross reference index, if applicable



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Note: Where a part is not used it should be shown in the Exposition as Not Applicable.

0.2 List of Effective Page (Example)

Page Number	Date of Issue	Revision	Page Number	Date of Issue	Revision

This list of issue/ amendments should allow traceability from the previously approved version. The name of the organisation, the date of approval and the name of the person who has approved the MTOE should be included.



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0.3 List of issues / amendments (Example)

Amendment / issue Number	Amendment / issue Date	Amendment / issue Type
Initial		

Amendment number **Revision 1** dated **----**

This issue/ amendment has been internally reviewed by: **(name & position)**

Date of review:



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0.4 Distribution List

This document should include a Distribution List to ensure proper distribution of the manual and to demonstrate to the BCAA that all personnel involved in maintenance training have access to the relevant information. This does not mean that all personnel have to be in receipt of a manual but that a reasonable amount of manuals are distributed within the organisation so that the relevant personnel have quick and easy access to this manual.

Alternatively, the manual may be made available on organisation intranet system with a hard copy retained by the ANTR 147 organisations quality department and BCAA. The MTOE may be produced on CD format / soft copy version, as long as the disc / soft copy is suitably annotated.

Accordingly, the maintenance training organisation exposition should be distributed to:

1. Management personnel and any person at a lower level as necessary,
2. The BCAA.

The following is for guidance only.

MOE COPY NUMBER	MOE HOLDER	FORMAT
Copy No. 1	Accountable Manager	Hard / Soft Copy
Copy No. 2	Training Manager	Hard / Soft Copy
Copy No. 3	Examination Manager	Hard / Soft Copy
Copy No. 5	Quality Manager	Hard / Soft Copy
Copy No. 5	Contracted Organisation	Hard / Soft Copy
Copy No. 6	library	Hard / Soft Copy
Copy No. 7	Reserved	Hard / Soft Copy
Copy No. 8	Reserved	Hard / Soft Copy



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FOREWORD

It may be preferable to include a foreword that explains the intent of the manual that it is a manual established to comply and to demonstrate compliance with ANTR 147 (Basic/Type) requirements. The following is an example of possible foreword:

This manual has been prepared in order to support the (Name Organisation) ANTR 147 (Basic/Type) Maintenance Training Organisation Approval. The body of this Exposition is divided into four parts.

- PART 1** **MANAGEMENT**
- PART 2** **TRAINING AND EXAMINATION PROCEDURES – BASIC**
- PART 2A** **TRAINING AND EXAMINATION PROCEDURES – TYPE**
- PART 3** **TRAINING SYSTEM QUALITY PROCEDURES**
- PART 3A** **TRAINING SYSTEM QUALITY PROCEDURES – TYPE**
- PART 4** **APPENDICES**

NOTE:

This document is intended as guidance only. The headings and the numbering system should be used but the contents have to be customised to include the applicant procedures and working documents.

Should a different numbering system be used for the Exposition, the applicant will be asked to provide a cross reference document to ensure compliance.



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CONTENTS

COVER PAGE

FOREWORD

CONTENTS

LIST OF EFFECTIVE PAGES

LETTERS OF TRANSMITTAL FOR EXPOSITION/ AMENDMENT APPROVAL

EXPOSITION AMENDMENT RECORD

EXPOSITION DISTRIBUTION LIST

PART 1 MANAGEMENT

PART 2 TRAINING AND EXAMINATION PROCEDURES

PART 3 TRAINING SYSTEM QUALITY PROCEDURES

PART 4 APPENDICES



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PART 1 – MANAGEMENT

CONTENTS

- 1.1 Corporate Commitment by Accountable Manager
- 1.2 Management personnel
- 1.3 Duties and responsibilities of management personnel, Instructors, Knowledge examiners and Practical assessors
- 1.4 Management personnel organisation chart
- 1.5 List of Instructional and Examination Staff
- 1.6 List of approved addresses
- 1.7 Details of Subcontractors and their scopes of contract
- 1.8 General description of facilities at paragraph 1.6 address(s)
- 1.9 Specific list of courses approved by the BCAA
- 1.10 Notification procedures regarding changes to organization
- 1.11 Exposition and associated manuals amendment procedure



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PART 1: MANAGEMENT

1.1 CORPORATE COMMITMENT BY THE ACCOUNTABLE MANAGER ANTR147 (Basic/Type) Maintenance Training Exposition

This exposition defines the organisation and procedures upon which the BCAA, ANTR147 (Basic/Type) Organisation approval is based.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the BCAA from time to time where these new or amended regulations are in conflict with these procedures.

It is understood that the BCAA will approve this organisation whilst the BCAA is satisfied that the procedures are being followed. It is understood that the BCAA reserves the right to suspend, vary or revoke the ANTR 147 (Basic/Type) training system approval of the organisation, as applicable, if the BCAA has evidence that the procedures are not followed and the standards not upheld.

These procedures are approved by the undersigned and must be complied with, as applicable, whenever knowledge or practical training is being progressed under the terms of the ANTR147 (basic) approval.

The undersigned fully accepts the duties and responsibilities of Accountable Manager as defined in paragraph 1.3.1 of this exposition.

Signed

Accountable Manager

For and on behalf of

Note: The Accountable Manager's exposition statement should embrace the intent of the above paragraphs and in fact this statement may be used without amendment. Any modification to the statement should not alter the intent.



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1.1 CORPORATE COMMITMENT (continued):

The duties of the Accountable Manager, as defined in the exposition for the purposes of the ANTR 147 (Basic/Type) approval, are delegated by the Accountable Manager to the:

State position in Organisation

in accordance with ANTR147.A.105 (b). Accountable Managers name and signature

For the delegated Accountable Manager:

Delegated Accountable Managers name and signature

State position in Organisation

Notes: (not for inclusion in the exposition)

1. This is an alternative available to any organisation where the person who would normally be the Accountable Manager, by virtue of his/her position in the company/organisation, wishes to delegate some of the duties and responsibilities to another Manager.
2. Where such duties are delegated, the corporate responsibilities as defined in the corporate commitment must remain with the Accountable Manager.

1.2 Management personnel

Accountable Manager ----- (Insert Name)

Training Manager ----- (Insert Name)

Quality Manager ----- (Insert Name)

Examiner ----- (Insert Name)

Other (as required) -----.(Insert Name)

The Managers specified above are identified and their credentials apart from the Accountable Manager have been submitted to BCAA on BCAA Form ALD/AIR/F018 (Appendix-6) Key Management Personnel and examiners.

Any changes to the above personnel shall be advised to the BCAA. Failure to do so may affect the status of the ANTR 147 (basic/Type) approval.



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1.3 DUTIES AND RESPONSIBILITIES OF MANAGEMENT PERSONNEL

1.3.1 *Accountable Manager: (ANTR147.A.105)*

The Accountable Manager is responsible for:

- Ensuring that all instruction and examinations carried out by the organisation meets the standards required by BCAA.
- Ensuring that the necessary finance, manpower resources and facilities are available to enable the organisation to perform the knowledge and/or practical instruction and examinations to which it is committed under the requirements ANTR 147 (Basic/Type).
- Chairing the annual meeting of senior staff to review the overall performance of the organisation.
- Ensuring that any charges are paid, as prescribed by BCAA.
- Ensuring that during periods of absence, control will be maintained for administration purposes by (*Insert name/position in organisation*), who will accept full responsibility for all training issues and related decisions.
- The operation of (*insert name of organisation*) is efficiently managed and conforms to the requirements of ANTR 147 (Basic/Type) as stipulated by BCAA.

Notes :- (not for inclusion in the Exposition)

- *Any additional duties and responsibilities within the organisation may be added or delegated provided they do not conflict with those above, which constitute the Accountable Managers responsibilities under ANTR 147 (Basic/Type).*
- *The organisation should decide who will be responsible for liaison with the BCAA and show this in his/ her terms of reference. If more than one person is nominated, it must be clearly shown what each person is responsible for with, as a general rule, no overlapping of responsibility.*

1.3.2 *The Training Manager: (AMC ANTR147.A.105)*

The Training Manager will undertake:

- The responsibilities of the BCAA nominated person at (*insert name of ANTR 147(Basic/Type) organisation*).
- The duties and responsibilities of the ANTR 147 (Basic/Type) approved examiner during any absence of the nominated person(s).
- The delegated duties and responsibilities of the Accountable Manager during prolonged absence.



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The Training Manager will ensure that:

- The Accountable Manager is kept informed as to the state of compliance of the organisation with ANTR 147 (Basic/Type).
- The operation of (*insert name of organisation*) is efficiently managed and conforms to the requirements of ANTR 147 (Basic/Type) as stipulated by BCAA.
- Sufficient staff with appropriate qualifications are selected, trained and developed, to plan, perform, supervise, examine and assess students as required.
- All necessary Airworthiness data published by BCAA and Aircraft manufacturers (where applicable) as appropriate, is made available.
- All changes to the Exposition and associated manuals are notified immediately to BCAA.
- The Exposition and associated manuals are amended as required.
- Knowledge examiners, instructors and assessors are fully trained and assessed regularly for competence and that all records pertaining to these personnel are kept up to date.
- Sub-contract staff including any part time staff conform to the requirements of ANTR 147 (Basic/Type) and the training procedures.
- Office accommodation and facilities are available appropriate to the management of the planned training and for the use of training staff.
- Staff development and update training is undertaken and recorded.
- That all approved courses and examinations are delivered to the standard and content at the required level of knowledge, as specified in ANTR 147 (Basic/Type).
- A working environment is provided appropriate to the tasks being undertaken.
- There are sufficient storage facilities, tools, equipment, materials and publications available to perform the planned practical tasks.
- Secure facilities are available for the storage of examination papers prior to the examination and for the storage of completed students answer papers.
- The interviewing of students prior to, during and on completion of the course is effective and without bias.
- Student and staff records are produced and stored in secure conditions.
- Any person to whom any of these responsibilities may be delegated is aware of current regulations.
- Corrective action is carried out for the findings of quality audits.
- The follow up and rectification of findings required to re-establish the required standards of training, examination or maintenance standards.
- That sufficient questions are available to produce the examination papers required to cover the syllabus in accordance with ANTR 66 Appendix II. Questions utilised for progress examinations (phase tests) should not be used in the final examination.
- The security and validity of all examinations are in accordance with the requirements of ANTR 66 and ANTR 147 (Basic/Type).
- All examinations and assessment time-tables are coordinated.
- Compliance with the examination question review procedures is as required by ANTR 66 and/or ANTR 147 (Basic/Type).

Note: This paragraph should emphasise that the nominated post holder for training is responsible to ensure that all training is carried out to an approved standard and describes the extent of his authority as regards to his ANTR 147 (Basic/Type) responsibility.



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These duties may be adjusted to suit the requirements of the ANTR 147 (Basic/Type) approved organisation but should not detract from the particular requirements of ANTR 147 (Basic/Type) or ANTR 66.

1.3.3 Quality Manager: (AMC ANTR147.A.105)

The Quality Manager has direct access to the Accountable Manager in the event of any reported discrepancy not being adequately attended to by the relevant person, or in respect of any disagreement over the nature of the discrepancy.

The Quality Manager is responsible for:

- Establishing an independent quality system to monitor compliance with ANTR 147 (Basic) requirements.
- Implementing a quality audit programme in which compliance with all training procedures is reviewed at regular intervals, and any observed non-compliances or poor standards are brought to the attention of the person concerned via his/ her Manager.
- Proposing all corrective action necessary for eliminating non-compliance, and ensuring that these corrective actions are initiated and when completed are efficient and meet their intended purpose.
- Requiring remedial action, as necessary, by the Training Manager or the Accountable Manager.
- The Exposition and associated manuals are amended as required.

Notes:

These duties may be adjusted to suit the requirements of the ANTR 147(basic) approved organisation but should not detract from the particular requirements of ANTR 147 (Basic/Type) or ANTR 66.

It must be remembered that the quality audit system is required to be independent and where possible the Quality Manager and quality audit personnel should not be directly involved in the training process. Where for reasons of expediency, it is necessary to utilise training staff (in accordance with AMC 147. A.105 for smaller training organisation), it would then become necessary for a second member of staff to be nominated to audit those functions performed by the Quality Manager.

1.3.4 Examiner: (AMC ANTR147.A.105)

The Examiner is responsible for:

- The selection of examination questions/papers to be set, appropriate to the particular phase of the training course.
- The invigilation of examinations, ensuring that the conditions for examination comply with Appendix II to ANTR 66 (*for basic/type training*).
- The allocation of examination papers at the beginning of the examination and retrieve them on completion.
- Marking of the examination papers using acceptable marking standards.



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1.3.5 *Instructor: (AMC ANTR147.A.105)*

The Instructor will:

- Carry out instructional duties for which he/she is qualified.
- Compile questions for examination banks for which he/she is qualified.
- Undertake duties of invigilator where he/she is not involved in the instruction of that particular phase examination.

1.3.6 *Practical assessor: (AMC ANTR 147.A.210)*

The Practical assessor will:

- Be responsible for monitoring and assessing students during pre-set practical tasks and/or hand-skills. This will include handling of tools and calibrated equipment.

Note: The above paragraphs should emphasise that the nominated post holders for examiner and/or assessor are responsible for ensuring that all examinations and assessments are carried out to an approved standard and describes the extent of his/her authority with regard to his/her ANTR 147 (Basic/Type) responsibility. These duties may be adjusted to suit the requirements of the ANTR 147(Basic/Type) approved organisation but should not detract from the particular requirements of ANTR 147 (Basic/Type) or ANTR 66.

1.4 Management personnel organisation chart (ANTR 147.A.105)

A flow chart should provide a comprehensive understanding of the whole training organisation. It should give further details on the management system, and should clearly show the independence of the quality monitoring system, including the links between the Quality assurance department and the other departments. This flow chart may be combined or subdivided as necessary, depending on the size and the complexity of the organisation.

Note: The MTOE must also define who deputises for any senior person in case of lengthy absence

1.5 List of Instructional and Examination staff (ANTR 147.A.105)

This paragraph should give broad figures to show that the number of people dedicated to the performance of the approved training activity is adequate. It is not necessary to give the detailed number of employees of the whole company but only the number of those involved in training.

This could be presented as follows:



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Appointment	Name	Competencies
Training Manager		Enter the areas of each person
Dy. Training Manager		qualified to instruct using ANTR 66
Quality Manager		modules / sub-modules
Examiner		
Instructor		
Assessor Practical / OJT		

Notes:

- 1. According to the size and complexity of the organisation, this table may be further developed.*
- 2. The ANTR147(Basic) examiners are the only persons allowed to produce/ select examination papers. They may nominate other persons to mark completed examinations. The examiners and these persons should be other than the knowledge instructors involved in the instruction of that particular module / sub-module.*

1.6 List of approved address(s)

This paragraph should list those address(s) at which instruction and/ or practical training are to be carried out for the duration of the ANTR 147(Basic/Type) course.

The names, address(s) and approval numbers of any proposed Aircraft Maintenance ANTR-145 Organisation at which it is proposed to carry out student practical training in order to fulfil the requirements of ANTR 147 (Basic/Type) may be kept in another document or procedure and cross referenced here.

1.7 List of Sub-contractors: (ANTR 147.A.100/AMC ANTR147.A.145)

Details if the practice / procedure approved by BCAA

1.8 General description of facilities at paragraph 1.6 address(s): (AMC ANTR 147.A.100)

Include here the facilities such as desks, chairs, lockers, overhead projectors, other teaching aids etc. for each of the offices, classrooms, practical training workshops and examination rooms provided.

The training institute shall prepare a teaching aid requirement against each topic to be taught giving the details as follows: (May be made as a separate document and cross referred to MTOE or Training Procedure Manual)



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1. *Syllabus description (eg. Syllabus Index)*
2. *Topic / Sub-Topic of Theoretical training (eg. Electron Theory, DC Motor or Generator Theory, Logic Circuits, Screws / Bolts / Studs, Control Cables, Flight Controls, Hydraulic Power, Landing Gear, etc...)*
3. *Level of Knowledge required to be imparted (such as Level 1, 2 or 3)*
4. *Hours allotted for each Topic/Sub-Topic*
5. *Teaching Aids required for Theoretical training (eg. White board, LCD / LED Projector, Diagrams for Electron Theory; DC Motor Parts / DC Generator Parts, Diagram for DC Motor/Generator theoretical training, etc)*
6. *Tasks / Sub-Tasks of Practical training (eg. Test bench with DC Generator, Power Source etc for DC Motor/Generator; Hydraulic Cart, Flow Meter, Pr. Gauge etc for Hydraulic systems etc...)*
7. *Hours Allotted for each task/sub-task*
8. *Training Aids, Tools, Equipment and consumables required*
9. *Procedure Sheet number*

1.9 Specific list of courses approved by the BCAA.

This paragraph must contain a list of the ANTR 147 (Basic/Type) course(s) for which approval is held.

- a. This section must describe the name of the course(s) and its duration in days & total hours required for each theoretical / practical / OJT as applicable and as approved.*
- b. Syllabus for the Type Training*

1.10 Notification procedures regarding changes to organisation: (ANTR 147.A.150)

Include here any cross references to the intended procedures for continued validity of the approval in compliance with the requirements of ANTR 147.A.155.

The organisations 'nominated person' is responsible for informing the BCAA of any proposed changes. (Ref Part 1-Management, paragraph 1.3.2 of this user guide as example)

1.11 Exposition and associated manuals amendment procedure

Detail here or cross refer to the procedures to be followed for the amendment of the exposition and any associated procedures and or documents.



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PART 2 TRAINING AND EXAMINATION PROCEDURES CONTENTS

- 2.1 Organisation of courses
- 2.2 Preparation of course material
- 2.3 Preparation of classrooms and equipment
- 2.4 Preparation of workshops/maintenance facilities and equipment
- 2.5 Conduct of Basic & Type Theoretical & practical training
- 2.6 Records of training carried out
- 2.7 Storage of training records
- 2.8 Training at locations not listed in para 1.6
- 2.9 Organisation of examinations
- 2.10 Security and preparation of examination material
- 2.11 Preparation of examination rooms
- 2.12 Conduct of examinations
- 2.13 Conduct of Basic practical assessments / Type OJT assessment
- 2.14 Marking and record of examinations
- 2.15 Storage of examination records
- 2.16 Preparation, control & issue of training course certificates
- 2.17 Reserved

Each section must outline the Purpose, Policy, Responsibilities, Procedure involved.

2.1 Organisation of courses: (ANTR 147.A.200)

In this paragraph, the organisation should detail the procedures in place in order to organise the courses and to ensure that all necessary means are available to deliver in good conditions and by appropriately qualified staff all the course elements as required by the ANTR 66 syllabus. Such procedures may include a formalised review of the availability of required appropriate training rooms, materials, STDs, specialists... and resulting in tuition programme. It should contain sub-chapters like

2.1.1 *Policy*

2.1.2 *Responsibility*

2.1.3 *Procedure*

2.1.3.1 *Procedure for assessment of manpower requirement and its adequacy*

2.1.3.1.1 *Module wise Manpower assessment for Instructional duties*

S. No	Module	Hours allotted			Number of Instructors required for each batch	Instructors Available
		Theory	Practical (at MTO)	Total (at MTO)		

Subject Allotment to Instructors:

S. N	Name	Competence	Subjects Allotted



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2.1.3.1.2 Module wise Manpower assessment for Examiners and Practical Assessors

S. N	Module	Number Examiners required	Examiners Available	Number of Practical Assessors required	Practical Assessors Available
------	--------	---------------------------	---------------------	--	-------------------------------

2.1.3.1.3 Module wise Manpower assessment for Examination Invigilation Duty

Name of the Examination	Subjects	Number of Invigilators required for Semester Examination	Invigilators Available
-------------------------	----------	--	------------------------

2.2 Preparation of course material: (ANTR 147.A.120)

Training material should meet the requirements of ANTR 66. Once completed, this should be sent to the BCAA for review for approval of the course. This list must be given a unique reference number and revision status. In order to get the course approved a set of multi-choice questions and a copy of the course notes used by the student must also be submitted.

The course notes must reflect the training programme and be given the same reference number and revision status.

This may cross refer to a separate procedure in which details of how the standard course lecture notes are produced which would include content, indexing, chapter and page numbering, font etc.

This same procedure should also be utilised to list the responsibilities by ANTR 66 module for the production, review & amendment of lecture notes.

Include cross references to any procedures used for the inclusion of other course material, e.g. Aircraft Manuals, BCAA publications, and/or Standard Text Books used for note preparation and available to students as reference material.

It should contain sub-chapters like

2.2.1 *Policy*

2.2.2 *Responsibility*

2.2.3 *Procedure*

2.2.4.1 *Module wise list of training notes for CAT B1.1 / B1.2 / B2 Basic Training Course*

2.2.5 *Module wise Recommended Reference Books*

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.



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2.3 Preparation of classrooms and equipment: (ANTR147.A.115)

Cross reference to any procedures for the preparation of classrooms and reporting of faults to any classroom equipment, general maintenance procedures and the control of the teaching environment.

It should contain sub-chapters like

- 2.3.1 Policy
- 2.3.2 Responsibility
- 2.3.3 Classroom Facilities
- 2.3.3.1 Classroom wise teaching aids
- 2.3.4 Topic / Sub-Topic wise teaching aids

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

2.4 Preparation of workshop/ maintenance facilities and equipment: (ANTR147.A.100)

Cross reference to any procedures for the reporting of faults to any workshop equipment, general maintenance procedures and the control of the teaching environment.

Cross reference to procedures for practical tasks, and for the ordering and acquisition of any equipment required to complete the tasks.

Cross reference to the procedures for ensuring that all test equipment and/or tooling requiring calibration are correctly forecast and expedited. Also cross reference to the procedure for ensuring that all electrical equipment power supply feeder cables (from wall socket to equipment) throughout the organisation are tested as required.

It should contain sub-chapters like

- 2.4.1 Policy
- 2.4.2 Responsibility
- 2.4.3 Procedure
- 2.4.3.1 Training Aids Tools / Equipment / Consumables required for imparting practical training – Module wise

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

2.5 Conduct of Basic theoretical and practical training: (AMC ANTR 147.A.200)

Describe the method utilised in teaching the Basic/ knowledge and practical training courses for which the organisation is approved.



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Cross refer to the low level document referred to in 2.1 above.

It should contain sub-chapters like

2.5.1 *Policy*

2.5.2 *Responsibility*

2.5.3 *Procedure*

2.5.3.1 *The Duration of basic training courses planned in accordance with Appendix I to ANTR 66*

Sl. No.	Training Course	Theory (---%)	Practical (---%)	Total Duration Hrs.
1	B1.1 (AEROPLANES TURBINES)	-----	-----	-----
2	-----	-----	-----	-----

2.5.3.2 *Module wise Training Programme for CAT- ----*

S. N.	Subject	Theory -- to --%	Practical -- to --%	Total Hours
1	Module -----	--	--	--

2.5.4 *Conducting Basic Theoretical Training*

Sl. No.	Subject	Total Practical Hours	Practical at MTO (Max.--%)	Practical at Contracted Org (Min. --%)
1	Module -----			

2.5.5 *Conducting Basic Practical Training*

2.5.6 *List of Nodal Persons for overseeing the Practical training if conducted at contracted facility*

2.5.7 *Practical Training duration for CAT (mention category) Training Course at MTO & Contracted Organisation*

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

2.6 Records of training carried out: (ANTR 147.A.125)

Cross refer to procedures for the production, maintenance and security of student files. These should include details of all student attendance's, final knowledge examinations, practical assessments and any re-examination carried out and their results by ANTR 66 complete module for ANTR 147 (Basic/Type) courses information of those courses completed, their content and at which levels at which they were instructed and examined.

There should also be reference to the Basic work experience' records required to be kept by the student whilst he is undergoing his live operating aircraft experience.



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The use of an “Aircraft Maintenance Engineers Logbook” is a good example.

It should contain sub-chapters like

- 2.6.1 *Policy*
- 2.6.2 *Responsibility*
- 2.6.3 *Procedure*

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

2.7 Storage of Records: (ANTR 147.A.100)

Cross refer to procedures for the storage of staff and students records. These may be electronically based provided that adequate safeguards are in place to prevent unauthorised access and alteration.

It should contain sub-chapters like

- 2.7.1 *Policy*
- 2.7.2 *Responsibility*
- 2.7.3 *Procedure*
- 2.7.3.1 *Students Records*
- 2.7.3.2 *Instructor / Examiner / Assessor Records*
- 2.7.4 *Training Records*

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

2.8 Training at locations not listed in paragraph 1.6: (AMC ANTR 147.A.145)

Should the Management wish to contract out part of the practical training (not including live operating aircraft experience), control procedures must be in place. These procedures should effectively reflect those of the BCAA in auditing the ANTR147 (Basic) Organisation.

Any training carried out at address not listed at 1.6 above must be approved by the BCAA and control procedures must be in place to ensure that the proposed contract organisation is in compliance with the requirements of ANTR 66 and ANTR147 (Basic).

A contract must be in place with the proposed organisation in which it is agreed that access is granted to the BCAA for the purpose of Audit.

The chapter should also describe such details for Type Training Courses conducted by the MTO.



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2.9 Organisation of examinations: (AMC ANTR 147.A.135/AMC ANTR 147.A.205)

For Aircraft Maintenance Licence (AML) course a high-level document detailing the course examinations, when each ANTR 66 module is to be examined and to what ANTR 66 level. This should include the knowledge and practical training elements and how the number of hours of each comply with the percentage requirements of AMC 147.A.200.

- 2.9.1 Policy
- 2.9.2 Responsibility
- 2.9.3 Procedure
 - 2.9.3.1 Eligibility for appearing in module examinations
 - 2.9.3.2 Qualifying Marks for the Module Examinations
 - 2.9.3.3 Re-Examination
 - 2.9.3.4 Additional Coaching

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

2.10 Security and preparation of examination material: (ANTR 147.A.100/135)

For AMEL courses, detail the preparation and security of Examination papers. Number of Questions and Timing must be in accordance with ANTR 66 Appendix II.

Cross reference to procedures for the production of examination questions, their validation and security of the data bank.

- 2.10.1 Policy
- 2.10.2 Responsibility
- 2.10.3 Procedure

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

2.11 Preparation of examination rooms: (ANTR 147.A.100b)

Cross refer to procedure to be followed by the Examiner and Invigilator in preparing the examination room for examinations.

An invigilator's ready reference sheet for briefing the candidates prior to the examination should be available in procedures and cross referenced here.

The chapter should also describe such details for Type Training Courses conducted by the MTO.

2.12 Conduct of examinations: (ANTR 147.A.135/205)

Any student found during a knowledge examination to be cheating or in possession of material pertaining to the subject of the examination, other than that supplied for the examination, will be disqualified from passing the examination and may not then retake the examination for at least 12 months.



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Any examiner/invigilator found to be providing answers to examination questions to any student will be immediately disqualified from acting as an examiner/invigilator, and the BCAA will be informed within 1 calendar month.

Candidates should only be identified by a numbering system, the only identifying document being held by the nominated Examiner.

Examination paper security should be assured by a numbering system, e.g. "1 of 15" etc.

A procedure should be in place for checking that all the pages of each examination paper are complete at examination completion and that all examination papers are accounted for.

Nothing other than the actual examination/answer paper is permitted to be on the candidate's desk.

All wall charts and/ or other visual teaching aids should be removed from the examination room.

- 2.12.1 *Module Examination Policy*
- 2.12.2 *Preparation of Question Bank*
- 2.12.3 *Scheduling of Examinations*
- 2.12.4 *Policy on selection of Examiners in Examination Board*
- 2.12.5 *Selection of particular Question Paper for the examination from the Question Bank*
- 2.12.6 *Preparation of Examination Room*
- 2.12.7 *Nomination of Invigilators & Briefing*
- 2.12.8 *Procedure for conducting Examination*
- 2.12.9 *Duration of examinations and number questions per module against each category*

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

2.13 Conduct of Basic practical assessments: (ANTR 147.A.210)

Cross refer to procedures used for assessment of student hand skills, and the standard tasks set throughout the course. A set number of mandatory tasks should be assessed to have been completed to a satisfactory standard.

The chapter should also describe such details for Type Training Courses conducted by the MTO.

2.14 Marking and records of examinations: (ANTR 147.A.100/125)

Cross refer to procedures for the marking of completed examination papers and the recording of results.

Cross refer to a procedure for practical assessments and recording of results.

- 2.14.1 *Policy*
- 2.14.2 *Responsibility*
- 2.14.3 *Procedure*



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The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

2.15 Storage of examination results: (ANTR 147.A.100/125)

A copy of each examination paper, the student number/identification list, a practical task results list, an examination results list and all examination papers for each complete module must be stored for a period of five years.

Electronic means of storage may be utilised as required, provided the usual computer security systems are in place.

2.15.1 *Policy*

2.15.2 *Responsibility*

2.15.3 *Procedure*

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

2.16 Preparation, control and issue of Basic / Type training course certificates: (ANTR 147.A.145)

The certificates should be prepared to reflect that illustrated in Appendix-XI / XII to this CAP and appropriately controlled prior to issue, with a system in place to ensure that each copy is numbered as part of a sequence and recorded as issued to a candidate by name.

2.17 Control of sub-contractors: (ANTR 147.A.100 and 147.A.145)

2.17.1 *Policy*

2.17.2 *Responsibility*

2.17.3 *Procedure*

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

ANTR 66 Examination Module Record

The Categories numbers shown in the Category column is for a sample illustration of a typical Category B2 course only. As noted below the module may be satisfied at a higher level than the category requires.



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ANTR 66 Module						
Number	Title	Category	Examination	% Mark Achieved	Signature	Date Passed
3	Electrical Fundamentals	B2	MCQ			
4	Electronic Fundamentals	B2	MCQ			
5	Digital Techniques/ Electronic Instrument Systems	B2	MCQ			
6	Materials & Hardware	B2	MCQ			
7	Maintenance Practices	B1	MCQ			
8	Basic Aerodynamics	B2	MCQ			
9	Human factors	B2	MCQ			
10	Aviation Legislation	B2	MCQ			
11a	Turbine aeroplane Aerodynamics, Structures and Systems	N/A	MCQ			
11b	Piston aeroplane Aerodynamics, Structures and Systems	N/A	MCQ			
12	Helicopter Aerodynamics, Structures and Systems	N/A	MCQ			
13	Aeroplane Aerodynamics, Structures and Systems	B2	MCQ			
14	Propulsion	B2	MCQ			
15	Gas Turbine Engine	N/A	MCQ			
16	Piston Engine	N/A	MCQ			
17	Propeller	N/A	MCQ			

Practical Training		Assessment	Date of Competence	Signature
Basic Practical Skills	B1	Competent		
Basic Maintenance Skills	B2	Competent		

Note: When the Category shown in the "Category" column is different to the course category approved for, it indicates that the Training and Examination in that Module has been carried out to a higher knowledge level.



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PART 3 TRAINING SYSTEM QUALITY PROCEDURES

CONTENTS

- 3.1 Audit of training**
- 3.2 Audit of examinations**
- 3.3 Analysis of examination results**
- 3.4 Audit and analysis of remedial action**
- 3.5 Accountable Manager annual review**
- 3.6 Qualifying the Instructors**
- 3.7 Qualifying the Examiners/Assessors**
- 3.8 Records of qualified Instructors/Examiners and Assessors**



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3.1 Audit of training: (AMC ANTR 147.A.130)

As per the AMC ANTR 147.A.130 (2), an external auditor may be contracted by the smaller organisation for the purposes of the quality audit.

The purpose of the audit plan is to meet part of the needs of the ANTR 147(Basic/Type) approval.

The Approved Organisation should develop a form/ audit checklist to be used by the auditor that would demonstrate that all the requirements of ANTR 147(Basic/Type) have been reviewed during the audit process. The audit plan should indicate applicability of the various activities to be monitored and more than one list may be necessary (rolling audit). Each list should be shown against a timetable to indicate when the particular item is scheduled for audit and when the audit was completed. A complete audit of the ANTR 147 (Basic/Type) organisation must be completed every 12 months.

Cross refer to the various procedures required for quality auditing, reporting findings and levels with any corrective actions required.

A management control and follow up system must also be in place and cannot not be contracted out.

Cross reference to any quality procedures manual if available is permitted, but this system must relate to and make reference to the relevant ANTR 147(Basic/Type) paragraphs.

3.1.1 *Policy*

3.1.2 *Responsibility*

3.1.3 *Procedure*

3.1.4 *Audit of Contracted Organisations for the Practical Training*

3.1.5 *Details of Internal Auditors*

3.1.6 *Training requirement for Auditors*

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO.

3.2 Audit of examinations: (AMC 147.A.130)

Must be audited annually, but may be part of the rolling audit procedure.

3.3 Analysis of examination results: (GM to ANTR 147.A.130)

Examination results should be analysed on completion of each examination and any questions amended as necessary. Cross refer to procedures detailing responsibilities.

3.4 Audit and analysis remedial action: (GM to ANTR 147.A.130)

Cross refer to procedures for the reporting of findings and for corrective actions.

The policy & procedure for analysis of findings and remedial action should cover for both internal & BCAA / any authority's audits



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- 3.4.1.1 Policy
- 3.4.1.2 Responsibility
- 3.4.1.3 Finding Level
- 3.4.1.4 Procedure
- 3.4.1.5 Contracted Organisations for the Practical Training

The Sub-chapters should also describe such details for Type Training Courses conducted by the MTO

3.5 Accountable Manager annual review: (GM to ANTR 147.A.130)

Points discussed on a set date should include:

- *Projects requiring financial support*
- *Sufficient staff employed to meet foreseen training program.*
- *ANTR 147 (Basic) organisation review.*
- *Examinations and assessments.*
- *Student achievements.*
- *Student support.*
- *Quality Assurance review.*

3.6 Qualifying the Instructors: (AMC ANTR 147.A.105)

List acceptable staff qualifications.

Include procedures for the induction of inexperienced instructors as required.

Where relevant include procedures for the employment of part time or contract instructors.

All staff should be knowledgeable on the contents of ANTR 66 and ANTR 147 (Basic/Type).

Cross refer to the list of present staff/ qualification.

Note: Staff employed prior to ANTR 147 application whose qualifications were previously acceptable, will continue to be accepted.

Cross refer to procedures for staff development.

3.7 Qualifying the Examiners/Assessors: (ANTR 147.A.105)

Examiners should have a full understanding of all the requirements of ANTR 66 and ANTR 147(Basic).

Cross refer to procedures for staff development. Cross refer to the list of staff/ qualifications.

Practical work assessors should be assessed as being competent in accordance with an approved process.



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3.7.1 Update Training Requirements

3.8 Records of qualified Instructors, Examiners and Assessors: (147.A.110)

The organisation must maintain a record of all training staff which must include details of the scope of their authorisation.

Training staff must be provided with evidence of the scope of their authorisation.

The following minimum information should be kept on record in respect of each instructor:

- *Name*
- *Date of Birth*
- *Personnel Number*
- *Experience*
- *Qualifications relevant to the approval*
- *Training History (before entry)*
- *Training (Basic Training, Type Training, Continuation Training)*
- *Scope of activity*
- *Date of first issue of the authorisation*
- *If appropriate – expiry date of the authorisation*
- *Starting date of employment*

The records may be kept in any format (hard copy or computer based) subject to the usual security requirements.

Persons authorised to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorised manner or that such confidential records become accessible to unauthorised persons.

The instructor should be given reasonable access on request to his/ her own records.

The authorisation document should be in a style that makes its scope clear to instructors and any authorised person that may be required to examine the document. Where codes are used to define scope, an interpretation document should be readily available.

Instructional staff are not required to carry the authorisation document at all times but should produce it within a reasonable time of a request from an authorised person. Authorised persons, apart from the organisation's quality department must include BCAA.

Any officer of the BCAA is classed as an authorised person when investigating the records system for initial and continued approval or when the BCAA has cause to doubt the competence of a particular instructor.



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PART 4 – APPENDICES CONTENTS

4.1 Examples of documents and forms used

This section should include examples of all documents and forms used by the organisation in the conduct of its ANTR 147(Basic) functions.

Some examples are listed below:

- *Student attendance record*
- *Course certificate(s)*
- *Certificate(s) of training*
- *Classroom plan (exam purposes)*
- *Course critique*
- *Course results*
- *Course design/change plan*
- *Exam answer sheet*
- *Exam results*
- *Internal audit procedure*
- *Internal audit schedule*
- *Internal audit report*
- *Interview report form*
- *MTOE amendment request*
- *MTOE amendment request log*
- *Staff training record. (to include qualifications, history and subjects taught).*
- *Staff terms of reference*
- *Student training/examination and assessment form*
- *Training course review*
- *Quality system*
- *Aircraft visit form*

4.2 Syllabus of each training course

Self-explanatory.

4.3 Cross reference Index - if applicable

Self-explanatory.



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Appendix-2

Practical Maintenance Skills: Airframe – Facilities, Tools and Equipment

This appendix provides guidance for the kind of facilities, tools and equipment that are likely to be needed to meet the Training Objective. This facility is general in nature however, need of each item should be determined depending upon scope and level of the courses to be undertaken.

1. METALWORK AND SHEET METAL WORK WITH HAND TOOLS

1.1 For basic skills training, the training workshop should be equipped with sturdy benches mounted with vices at approximately 2-m intervals, one vice per student. Other items may be required include:

- a) powered grinding wheel for tool sharpening
- b) powered drilling machine
- c) large surface table for precision marking–off
- d) Compressor air supply suitable for use with pneumatic hand tools
- e) Powered hacksaw for cutting stock material
- f) Sheet metal guillotine
- g) Chalkboard / whiteboard for workshop instruction and work schedule

1.2 For aeroplane/helicopter skills training, the workshop should ideally include the following:

- a) The basic training workshops and/or basic maintenance facilities as specified in point 147.A.100 (d) must have an appropriate selection of aircraft, engines, aircraft parts / equipment's and avionics equipment.
- b) A complete pressurized aircraft of all-metal construction with retractable landing gear, complete with engines in running order, and suitable for practicing repair and inspection duties
- c) Hydraulic lifting jacks, trestles, fuselage cradles, lifting slings, cables and steering bars, dihedral and incidence boards, and work and tools suitable for aircraft types provided
- d) Desk for manuals and notices
- e) Display board for inspection worksheets
- f) Ground electrical power trolley
- g) Apron–type fire extinguisher trolley
- h) Hangar access equipment such as benches, trestles, ladders, chocks.
- i) Mobile lifting equipment, i.e. small crane or overhead gantry
- j) Spray guns for aircraft paint and dope
- k) Oil and fuel replenishing browsers
- l) Cable swaging machine



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- m) Mobile hydraulic test trolley
 - n) Landing gear oleo cylinders and retraction jacks, and wheel and brake units
 - o) Hydraulic pumps (both fixed and variables delivery)
 - p) Flying control surface hydraulic actuators
 - q) Flap / slat drive motors gearboxes and screw jacks
 - r) Airflow control valves and actuators.
 - s) Air cycle machines (cold air units)
 - t) Flying control pulley, lever assemblies, tensioners, and spring tab units
 - u) Seat and safety equipment
- 1.3 Institutes should have adequate tools. This may be issued on a shop basis, i.e., a kit issued in the basic metalwork shop and be retained by the shop when the students' progress to the next phase. The following items are suggested for basic metalwork.
- a) Measuring and marking-off tools
 - 30-cm steel rule graduated in fractions of inches and millimeters
 - Outside and inside callipers
 - Try square
 - Set of feeler gauges
 - 15-cm dividers
 - Scriber
 - b) Fitter's tools
 - Round-nose and side-cutter pliers
 - 15-cm long screwdriver
 - Hacksaw
 - Selection of files of different sections, lengths and cuts
 - Hand drill and a set of small diameter drills
 - Set of centre and pin punches
 - Ball-pen and cross pane hammers
 - 20-cm flat chisel and a set of small chisels (including flat , cross cut and round nose)
 - plastic or hide- faced hammer
 - sheet metal snips
 - various sizes and types of screw drivers
 - set of double – ended, open ended and ring spanners of appropriate range in sizes and appropriate type (American, BSF, Unified, or Metric) to suit available airframes
 - set of sockets wrenches with handles and accessories to suit available airframes



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2 METALWORK WITH MACHINE TOOLS

- 2.1 Workshop equipment: It is not important for AMEs to acquire a high degree of skill as machine tool craftsman, but they should understand the principles of turning, screw cutting etc. For this reason, it is generally sufficient to have one or two center lathes while a capstan or turret lathe is not essential. A small machine shop can be incorporated in the basic metal workshop or can be housed separately, according to the premises available. It is suggested that machine tools provided should generally be the simple, robust types suitable for training and might include the following:
- Sensitive drill machines
 - Surface grinding machine
 - Buffing machine
 - Center lathe
 - Horizontal milling machine
- 2.2 Trainees will not normally need any specific personal tool kit. Other items may be included to suit local needs.

3 SPECIALIST ACTIVITIES: WOOD AND FABRIC, WELDING, AND COMPOSITES

3.1 Introduction

Equipment in the training areas for these specialist activities depends on the training requirements.

3.2 Woodwork and fabric workshop

Reserved

3.3 WELDING

- 3.3.1 The purpose of a short course on welding is to impart enough knowledge of welding techniques to enable students to assess the airworthiness of welded joints and structures. It is not intended to produce skilled welders. The welding shop must be chosen and equipped to comply with the safety regulations for oxyacetylene and other types of welding. Metal-screened working bays with metal work benches should be built according to the number of workstations required
- 3.3.2 Welding equipment might include the following
- Set of oxyacetylene welding equipment
 - Electric or arc welder
 - Electric TIG or MIG welder
 - Eye face shield, goggles, leather gloves and aprons
 - Electrodes, welding rods and welding fluxes
 - Electric resistance welder for spot welding (may be stored in sheet metal shop)



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3.4 **Fiberglass and reinforced plastic workshop**

3.4.1 Many aircraft are fitted with secondary structures constructed from fibre or glass materials. (Indeed, some aircraft even have their primary structures made of fibre or glass material) From the training point of view, only secondary structures should be of concern. The repair of structures is a complex and specialized operation that requires expertise often available only from the aircraft manufacture.

3.4.2 As far as space, a dust free, humidity-controlled atmosphere, lighting and doors are concerned the workshop should follow the general pattern of the fabric shop. Fireproof storage facilities for highly inflammable and corrosive resins and activators are also required. The correct type of extinguishers must be available. The following tools should be provided for the fiberglass and reinforced plastic workshop

- a) Laying up tables
- b) brushes and spatulas
- c) Scissors and cutters
- d) Sanders
- e) Measuring Cup
- f) Heat lamp
- g) Pots and trays



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Appendix-3

Practical Maintenance Skills: Engine and Propeller – Facilities, Tools and Equipment

This appendix provides guidance for the kind of facilities Tools and equipment that are likely to be needed to meet the Training Objectives.

1. For engine skill training, the workshop should ideally the following:
 - a) Sectioned engines (piston or turbine, according to the needs of the com
 - b) Solvent washing plant for cleaning parts
 - c) Mobile lifting gantry for hoisting engines and heavy equipment.
 - d) Engine slings and work stands for each type of engine in the shop
 - e) Manufacturer's tool kits for each type of engine (including extractors, assembly jigs, etc.) used for the complete dismantling of engine
 - f) Electromagnetic (magnetic particle) crack detection equipment.
 - g) Medium-sized surface table with vee-blocks detection Equipment.
 - h) Propeller assembly bench with tools for measuring blade torque.
 - i) Propeller manufacturer's tool kit for each type of propeller used.
 - j) Example of contemporary propeller controllers.
 - k) Example of various types of magnetos.
 - l) Example of various high-energy and other types of gas turbine igniter.
 - m) Example of various types of carburettor and petrol Injection equipment
 - n) Example of turbocharger.
2. ENGINE FAMILIARIZATION WORKSHOP
 - 2.1 The supply or provision of engines in the workshop is determined according to the requirements of the students undergoing training (e.g., piston or turbine engines). A complete piston engine and a turbine engine.
 - a) Mobile lifting equipment (i.e., a small crane or over-head gantry lifting slings) and tools suitable for engine types provided.
 - b) Desk for manuals and notices.
 - c) Display board for inspection work sheets.
 - d) Access and storage equipment such as benches, trestles, shelves, etc.
 - e) Oil and fuel replenishing bowsers.

Test board designed to represent sections of typical aircraft/engine cable, air and fluid system. These should be complete with rigging instructions so that student errors are detected immediately.



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Appendix-4

Practical Maintenance Skills: Avionics – Facilities, Tools and Equipment

1. Introduction

This appendix provides guidance for the kind of facilities, tools and equipment that are needed to meet the training objectives for institutes seeking approval in Avionics stream.

2. Avionics Workshop: Electrical

2.1 Shop equipment:

The electrical shop should be equipped with demonstration mockups representing typical aircraft circuits. If made realistically, these can be of value for practicing adjustments and troubleshooting as well as for demonstration. All areas of electrical shop should have adequate benches, racks, shelves and storage bins; electric power points and piped compressed air to operate powered hand tools; factory safety precautions with fire warnings and extinguishing provisions. Benches should be smooth topped and have sufficient vices and power points (for soldering irons) to suit the class size planned. The following major equipment items should also be available:

- a) workshop test units for testing electrical machines (universal types are available for testing a wide variety of generators and motors)
- b) Appropriate special tools and test meters (necessary because of the considerable range and variety of electrical equipment on the modern aircraft)
- c) battery charging plant, preferably housed in a separate, well ventilated charging room. For lead acid batteries, the charging plant should be of the series type suitable for charging several batteries at different rates.

Note: For charging lead acid and nickel cadmium batteries, a separate and totally isolated charging rooms and equipment will be required for each type. For nickel cadmium batteries, a constant current charger and battery analyser must be specified.

2.2 Personal tool kit:

Students should have their own tools and toolbox. This may be issued on a shop basis i.e., a kit in the electrical shop may contain only tools required for training in this shop and be retained by the shop when the students' progress to the next phase, or students may be issued, and retain on permanent basis, a personal basic kit which is their own property until the completion of their training. Some schools may require students to purchase their own tools, their kits becoming more complete as their training advances. The following items are required for basic electrical work:

- a) one electric 5-mm point temperature controlled soldering iron (Soldering copper)
- b) one wire stripper for removing insulation
- c) a selection of small screw drivers (including a Phillips)
- d) one adjustable hook wrench (18 to 50 mm)
- e) one set of Allen Keys



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- 2.3 The exercises with components should be designed to develop skills in dismantling, inspection, decision making and assembly. The following types of components should be available and used as appropriate according to the potential need of the trainees:
- a) Lengths of the aircraft cabling with typical plugs, sockets, bulk head sealing bungs, grommets etc., for practicing wire work and making up looms
 - b) A selection of switches, fuses, thermal circuit breakers, wire connecting devices, junction boxes and other electrical system elements
 - c) Specimens of airborne batteries (both lead acid and nickel cadmium): sectioned, serviceable and chargeable.
 - d) DC generators and AC alternators (constant speed drives)
 - e) Voltage regulators, generator control units (GCU) and other types of current limiting devices (i.e., vibrator types and variable resistance types)
 - f) Various types of DC and AC motors, including engine starters, continuously rated motors, rotary and linear actuators.
 - g) Static and rotary inverters and specimens of other types of current conversion devices, such as transformer current rectifier units (TRUs)
 - h) Specimens of various types of airborne electrical instruments, including instruments embodying principles of the voltmeter, ammeter, ohmmeter, Wheatstone bridge, thermocouple, ratio meter, servos and synchro etc.
 - i) Specimens of aircraft electrical heating devices, such as pitot heads, thermal deicing shoes etc.
 - j) Specimens of aircraft lighting appliances, such as cabin fluorescent lamps, landing lamps, navigation lights etc.

3.1 AVIONIS WORKSHOP: INSTRUMENT

3.1 Workshop equipment.

The shop should be a “clean area” i.e., it should be protected from dust, workshop fumes and industrial contaminants. Ideally, a separate building or room with filtered ventilation is desirable and in a very humid climates air-conditioning is essential. Benches should be topped with smooth hard wood or covered with a Formica top. If air conditioning is not installed, it may be necessary to provide sealed cabinets with silica gel (for air drying) for storage of some of the test equipment and instruments specimens.

- 3.2 The instrument shop should be equipped with demonstration mock-ups representing typical aircraft circuits. If made realistically, these can be of value for practicing adjustments and troubleshooting as well as for demonstration. Benches should be smooth topped and have sufficient vices and power points (for soldering irons) to suit the class size planned. The following major equipment items should also be available:
- a) Dead weight tester for pressure gauges.
 - b) Altimeter test chamber with sub-standard instrument.
 - c) Mock-up air speed indicator (ASI) system for leak test practice.
 - d) Gyroscopic instrument test table.
 - e) Mockup for compass swinging practice (i.e., an old aircraft or a specially made trolley which can be used on an outdoor site selected as compass base
 - f) Bridge Megger for insulation testing of electrical items.



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- 3.3 The personal basic tool kits of students should be supplemented by the following items
- one set of watch makers screw drivers
 - one set of miniature spanners
 - one set of Allen keys (appropriate size)
 - one set of Bristol spline keys
 - one electric temperature controlled soldering iron with fine point (similar to that issued in electrical shop)
- 3.4 The exercises with components should be designed to develop skill in dismantling, inspection, decision making and assembly. The following types of components should be available and used as appropriate according to the potential need of the trainees:
- Boost or manifold pressure gauge
 - Hydraulic pressure gauge
 - Engine oil pressure gauge (Bourdon tube type)
 - Engine oil pressure gauge (electrical type)
 - ASI
 - Pitot static head
 - Altimeter (simple and sensitive type)
 - Rate of climb indicator
 - Turn and slip indicator (air driven and electrical type)
 - Directional gyroscope (air driven and electrical type)
 - Artificial horizon (air driven and electrical type)
 - Engine speed indicator (DC and AC types)
 - Oil thermometer (physical and electrical type)
 - Cylinder head or jet pipe thermo couple
 - Fuel content gauge (float operated and capacitance type)
 - Magnetic compass
 - Simple type autopilot

4. AVIONICS WORKSHOP: AUTOPILOT, NAVIGATION AND RADIO

- 4.1 The shop should be a “clean area” i.e., it should be protected from dust, workshop fumes and industrial contaminants. The shop could be combined with the instrument shop. Ideally, a separate building or room with filtered ventilation is desirable and in a very humid climates air-conditioning is essential. Benches should be topped with smooth hard wood or covered with a Formica top. If air conditioning is not installed, it may be necessary to provide sealed cabinets with silica gel (for air drying) for storage of some of the test equipment and instrument specimens.
- 4.2 The following test equipment items should also be available:
- Variable stabilized power supply unit
 - Signal generator (high grade)
 - Signal generator for bench
 - Signal generator(UHF/NHF)
 - Audio frequency oscillators
 - Spectrum analyzer
 - Cathode ray oscilloscope
 - Frequency meters



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- i) Moving coil , volt-ohm-milliammeter and multi meters
 - j) Variac
 - k) Digital analyzer
 - l) Valve and transistor characteristic tester
 - m) Digital voltmeter/ ohmmeter/ammeter
 - n) Logic probe
 - o) RLC bridge
 - p) Voltage standing wave meters
 - q) Absorption and thermocouple watt meter
- 4.3 The workshop should be equipped with demonstration mock-ups representing typical aircraft circuits. The following equipment may be of value for practicing adjustments and troubleshooting as well as for demonstration.
- a) High frequency transmitter receiver (HF)
 - b) Very High frequency transmitter receiver (VHF)
 - c) automatic direction finder system
 - d) Very High frequency omnidirectional radio range / instrument landing system (VOR/ILS) system (including glide scope and marker receivers)
 - e) Distance measuring equipment system
 - f) Air traffic control transponder system (including altitude reporting mode)
 - g) Radio altimeter
 - h) Weather radar
 - i) Very low frequency (VLF) omega navigation system
 - j) Loran-C-system
 - k) Doppler navigation system
 - l) Navigation indicators capable of presenting combined navigation information, typically a radio magnetic indicator (RMI) and horizontal situation indicator (HSI) wired for both compass and various radio navigation inputs.
 - m) Instrument systems with electronic amplifiers (e.g., capacitance type fuel content gauges, cabin temperature controllers, and automatic pilots)
- 4.4 The radio section of the workshop needs a screened room or “cage” to prevent undue radiation from equipment undergoing testing and to provide an interference free region for fine measurement. Although it is desirable to have this room adjoining radio workshop, they should not be close to the sources of interference, such as an electric overhaul shop or spark plug testing equipment. As a further safeguard against interference all power supplies to the radio workshop should be filtered and outgoing interference should be suppressed by adequate screening of aerial cables and artificial aerials. Alternatively, if a screened room is un-available, for certain types of equipment's, it is possible to use a field simulator specified by the manufacturer. (A metal box in which the respective antenna is placed to eliminate unwanted radiations and interference). The following power supply will be required
- a) AC main supply for lighting, heating, air conditioning, mains rectifiers, test instruments, soldering irons etc., (This will be at the standard voltage of the locality and the supply should be wired throughout in screened conduit)
 - b) 30-volt DC supply, surge free and of adequate capacity for the size of the workshop. (A ring main supply from lead acid or alkaline cells, ripple free and filtered is suitable or a main rectifier /regulator can be used)
 - c) 15-volt DC supply, also surge free



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- d) 115-volt, 400 cycles, single phase, AC supply (This should be frequency monitored and can be taken from a static inverter)
 - e) 115-volt, 400 cycles, three phase AC supply, frequency monitored and wired to the working benches by screened cable
 - f) 26-volt, 400 cycles, single phase, AC supply taken from 115-volt AC supply through a transformer or from the 26-volt AC output from the static inverter
 - g) Compressed air and vacuum supplies
- 4.5 The personal basic tool kits of students should be same as specified for instrument workshop but may be supplemented to suit local needs.
- 4.6 The exercises with components and system demonstration rigs should be designed with a view to developing skills in inspection fault finding and decision making.



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Appendix-5

Guidance for Assessing the Qualifications, Skills, Competency, and the Revalidation of ANTR 147 Instructors, Knowledge Examiners and Practical Assessors

1 General

- 1.1 This document is intended to provide guidance to ANTR 147 training organizations, for the initial assessment of qualifications, competencies, and skills for the appointment of Instructors, Knowledge Examiners and Practical Assessors. This document also provides guidance for the Continuance / Revalidation of existing ANTR 147 Instructors, Knowledge Examiners and Practical Assessors.
- 1.2 The Assessment process and the Continuance / Revalidation process should be developed by the Maintenance Training Organization and referenced in the Maintenance Training Organization Exposition (MTOE).
- 1.3 Training organizations should retain a record of the Instructors, Knowledge Examiners and Practical Assessors training, qualifications, and experience.
- 1.4 A record system should be established to record the skills, proficiencies and competencies for the continuance / revalidation of Instructors, Knowledge Examiners and Practical Assessors within the approved training organization. Periodicity of these checks should be recorded and retained in the individual's personal training record file.
- 1.5 The BCAA shall have access to these records during compliance audits.

2 Definitions

- 2.1 Qualification assessment: A check of the authenticity of the applicants Curriculum Vitae (CV), Training certificates and experience.
- 2.2 Revalidation Check: A periodic review carried out by the training organization to check instructors' recency in accordance with the ANTR 147 regulation.
- 2.3 Scope of approval document: A personal approval document indicates the scope of approval for each Instructor / Examiner / Practical Assessor. The document should list subjects and or modules that the individual is approved to deliver / examine / assess.
- 2.4 "Shall" and "Must" are used to indicate a mandatory requirement.
- 2.5 Skills Test: demonstration of knowledge and skill.
- 2.6 Update training: The scope of this training can include, but is not restricted to, changes in technologies, new instructional techniques, and knowledge of aircraft maintenance processes etc.

3 Instructor Requirements

3.1 General



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- 3.1.1 All Instructors, whether permanently or temporally employed, must have undergone an instructor techniques course and be able to demonstrate an understanding of the ANTR 66 and ANTR 147 regulatory requirements. Additionally, they should have a practical working knowledge of the ANTR 147 (Basic/Type) Maintenance Training Organizations Exposition (MTOE) and associated training procedures.
- 3.1.2 All Instructors, Knowledge Examiners and Practical Assessors permanently employed within the ANTR 147 must be listed in Part 1.5 of the MTOE, (List of Maintenance Training Instructors, Knowledge Examiners and Practical Assessors).
- 3.1.3 Instructors may also hold other positions within the training organizations, i.e., Knowledge Examiner, Practical Assessor; these other roles must be clearly identified against the individual within the MTOE.
- 3.2 Type Training Instructor
- 3.2.1 The basic criteria for an aircraft Type Training Instructor must be, to either:
- a) Hold an aircraft maintenance engineer's license endorsed with the type rating relevant to the type course being taught and successfully completed a formal instructor instructional techniques training program course.

Or

 - b) Hold an aeronautical / electrical / electronic or mechanical engineering degree and successfully completed a formal instructor instructional techniques training programme course.

Or

 - c) Have evidence of previous employment as an aeronautical type training instructor and successfully completed a formal instructional techniques training programme.
- 3.2.2 With respect to Para: b) and c) above the prospective Type Training Instructor should undergo a type course specific to the category and type to be taught and passed the examinations.
- 3.2.3 The Instructor should attend a number of lesson "sit-ins" of the type-training course on the material he or she is to deliver. The instructor should then prepare and deliver a training session in a monitored environment, attended, and assessed by either the Training Manager or his delegated representative as part of the organizations assessment process, prior to the instructor being approved to deliver a course.
- 3.3 Update Training for Type Training Instructor:
- 3.3.1 Update training should consist of 35 hours. It may be sub-divided over 24 months into more than one element and should include such activities as awareness of the latest training techniques, any specific technical upgrade to the aircraft type, attendance at relevant lectures and symposiums etc. Records should indicate when update training was scheduled and when it took place for each instructor / examiner and practical assessor.
- 3.4 Basic skills instructor
- 3.4.1 The basic criteria for an aircraft Basic skills instructor must be, to either:
- a) Comply with any of the requirements listed in 3.1 and



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- b) Hold a ANTR 66 aircraft maintenance engineer license applicable to the relevant category/sub-category or
- c) Provide evidence of previous employment as a basic mechanical or electrical engineering training instructor or
- d) Provide evidence of previous employment as a technical training instructor

3.4.2 On meeting the criteria as stated above; the prospective instructor should attend training on the specific ANTR 66 module to be taught. Ideally the Instructor should attend a number of lesson “sit-ins” of the specific ANTR 66 module course he has to deliver, in a monitored environment, attended and assessed by either, the training manager, or his delegated representative, as part of the organisations assessment process, prior to the instructor being approved to deliver a course.

3.5 Update training for the instructor

3.5.1 Update training should consist of 35 hours; it may be sub-divided during 24 months into more than one element and may include such activities as awareness of the latest training techniques, attendance at relevant lectures and symposiums etc. Records should indicate when update training was scheduled and when it took place for each instructor / examiner and practical assessor.

3.6 ANTR 147 Requirements:

3.6.1 All ANTR 147 Instructors should be listed in Part 1.5 of the MTOE. (List of Training Instructors, Knowledge Examiners and Practical Assessors). This list should identify the scope of authorization for each instructor i.e. A, B1, B2, B757, B777, Airbus 340 etc. The ANTR 147 organization should ensure that the scope of authorization for each instructor, including any sub-contracted instructor, is current and applicable to the subject being taught.

3.6.2 The ANTR 147 organizations should ensure that all staff remains conversant with the requirements of ANTR 66 /ANTR 147 and associated AMC’s and Guidance Material through update training.

3.6.3 ANTR 147 training organizations that employ sub-contracted instructors should maintain a record of the courses instructed and identify the amount of experience gained in each discipline.

3.6.4 A record of instructor / examiner recency check should be retained, by the ANTR 147 training organization, demonstrating at least 35 hours of update training carried out over a 24-month period.

4. Knowledge Examiner Requirements

4.1 General

4.1.1 All Knowledge Examiners must be able to demonstrate an understanding of the ANTR 66 and ANTR 147 regulatory requirements and a practical working knowledge of the MTOE document and associated training procedures.

4.1.2 All ANTR 147 Knowledge examiners should be listed in Part 1.5 of the MTOE, (List of Training Instructors, Knowledge Examiners and Practical Assessors).



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4.1.3 A Knowledge Examiner may also hold other positions within the training organization, i.e., Instructor or Practical Assessor; these other roles must be clearly identified against the individual within the MTOE.

Note: A Knowledge Examiner shall not prepare an examination question paper or invigilate an examination in a subject area where he/she has acted as an Instructor.

4.1.4 An organization may appoint a Chief Knowledge Examiner. This person should submit a BCAA Form 04 to the BCAA for approval prior to inclusion into the MTOE Para 1.2.

Note: Knowledge Examiners listed in the MTOE Para 1.5, appointed by a Chief Knowledge Examiner, are not required to submit a BCAA Form 04.

4.2 Qualifying the Knowledge Examiner

4.2.1 The Knowledge Examiner must be:

- a) Conversant with the type of course/s being taught and
- b) Conversant with the ANTR 66 syllabus that details the level of number and level of questions per module and
- c) Able to compile multi choice question papers and
- d) Able to mark and analyse the students' responses and provide feedback to the instructor / training manager, detailing any inconsistencies with the examination results or process.

5. Practical Assessor Requirements

5.1 General

5.1.1 All ANTR 147 nominated Practical Assessors, whether permanently or temporally employed, must demonstrate an understanding of the ANTR 66 and ANTR 147 regulatory requirements; additionally, they should demonstrate a practical working knowledge of the MTOE document and associated training procedures.

5.1.2 Practical Assessors should be listed in Part 1.5 of the MTOE, (List of Training Instructors, Knowledge Examiners and Practical assessors). List should identify the scope of authorization for each Practical Assessor i.e., B1, B2, B757, B777, Airbus 340 etc.

5.1.3 Practical Assessors may also hold other positions within the training organizations, i.e. Instructor or Knowledge Examiner; these other roles must be clearly identified against the individual within the MTOE.

5.1.4 The Practical Assessor should assist instructional personnel in developing the practical training tasks and assessment criteria.

5.1.5 An organization may appoint a Chief Practical Assessor; this person should submit a BCAA Form 04 to the BCAA for approval prior to inclusion into the MTOE Para 1.2.

Note: Practical Assessors listed in the MTOE Para 1.2, appointed by the Chief Assessor are not required to submit a BCAA Form 04.

5.2 Qualifying the Practical assessor



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5.2.1 The Practical Assessor must either:

a) Hold a current aircraft type authorization, issued by an ANTR-145 organization, and successfully completed formal instructional / facilitators techniques course and completed an assessor training course.

Or

b) Hold a supervisory position or, a position of responsibility, as an avionic or mechanical practitioner within an ANTR-145 maintenance environment and can prove practical experience of 6 months within the last 24 months.

Or

c) A person who has been nominated by an ANTR 147 training organization and can demonstrate the experience and skills outlined in either a) or b) above.

5.2.2 All ANTR 147 / ANTR-145 nominated Practical Assessors should be listed in Part 1.5 of the MTOE. (List of Training Instructors, Knowledge Examiners and Practical Assessors). This list should identify the scope of authorization for each Practical Assessor i.e., B1, B2, B757, B777, Airbus 340, etc.

6 The continuation of an Instructor, Knowledge Examiner and Practical Assessors authorization.

6.1 General

6.1.1 ANTR 147.A.105 Personnel Requirements, states: "Instructors and Knowledge examiners shall undergo update training at least every 24 months relevant to current technology, practical skills, human factors and the latest training techniques appropriate to the knowledge being trained or examined".

This training should consist of a minimum of 35 hours within the 24-month period; in addition, training school personnel are to remain conversant with the latest revision of the ANTR 147 regulations, AMC's, Guidance notes. They should also be conversant with the respective organizations MTOE and associated training procedures.

6.1.2 ANTR 147 training organizations should ensure that personnel training records, including records of qualifications, update training and experience is retained for each Instructor, Knowledge Examiner and Practical Assessor.

7. Revalidation of Authorization

7.1 General

7.1.1 In order for an Instructor, Knowledge examiner or Practical assessor authorization to be revalidated following expiry/ withdrawal, the maintenance training organization should implement a reinstating procedure that will cover the relevant training disciplines associated with the authorization concerned.

7.1.2 The criteria for reinstating should take into consideration the length of time the individual has been away from that specific training environment or discipline.

7.1.3 Any Instructor, Knowledge examiner or Practical assessor who has

- passed 24- month period without exercising the privileges of his authorization, as a minimum, must undergo 35 hours update training + Training School procedures and



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processes + 2 monitored training sessions with another instructor.

- Passed 30 months period without exercising the privileges of his authorization, as a minimum, must undergo update training as above and + Two sit-ins on type training course for the authorisation being sought



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APPENDIX-6

Details of Key Management Personnel – BCAA Form ALD/AIR/F018

To be filled in CAPITAL letters

Details of Key Management Personnel required to be accepted.

1. Name of the Organisation:
2. ANTR 147 approval No.:
3. Name of the nominated management person:
4. Position:
5. Qualification relevant to the item(4) position:
6. Work experience relevant to the item(4) position

Signature of the nominated person:Date:.....

Name of the Accountable Manager / Signatory Authority:

.....
Signature of the Accountable Manager / Signatory Authority of the organisation:

.....Date:.....

Note: 1. The nominated person is for the post of Accountable manager, this form must be certified by the Owner / Signatory Authority of the organisation. 2. The nominated person is for the post of other than Accountable Manager, this form must be certified by the Accountable Manager.

On completion, please send this form under confidential cover to BCAA

For BCAA use only

Name and signature of authorized BCAA representative accepting this person:

Signature:

Date:

Name:



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Appendix-7

ANTR – 147 Approval Recommendation Report

Audit and Recommendation Report No. ALD / LIC / 154 / --- / --

Table of Contents

Part	Contents	Page(s)
Part 1	Organisation Details	
Part 2	ANTR 147 Compliance Audit Review	
Part 3	ANTR 147 Maintenance Training Organisation Exposition (MTOE)	
Part 4	Finding regarding ANTR 147, compliance status	
Part 5	ANTR 147 Issue of Approval/Continued Approval / Changes Recommendation	

Note: Ensure the ANTR 147 organisation Compliance Checklist, are submitted by the organisation and they are complete in all respect.

FORM ALD / LIC / 154 / -----



CIVIL AVIATION PUBLICATIONS

Report No.: ALD / LIC / / / ..	Date:....
---	-----------

ANTR – 147 MTO Approval Recommendation Report

Part -1: Organisation Details	
Name of the Organisation and Address of the Facility Audited:	Date of Last Audit:..... From:To: Audit Report No.:.....
Approval Reference: (BCAA)	Period of this Audit: From: To:
Other Approvals held (if any give reference): (EASA/FAA/UK-CAATC /NAA)	
Requested Approval Rating:	
Audit References:	
Name of the Post Holders / Persons interviewed:	
Reason for Audit:	Initial Approval / Renewal of approval / Changes
Audit carried out by: Name of the Inspector #1:	Audit carried out by: Name of the Inspector #2:
Signature:	Signature:
Date of Form Part 1 Completion:	
Review by CAI / DAL & Signature with Date:	

Check for availability and validity of Commercial Registration Certificate issued by Ministry of Industry & Commerce, Kingdom of Bahrain if Bahrain based organisation. In the case of Foreign Organisation, local authority's approval or equivalent is considered acceptable.



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Report No.: ALD / LIC / 8 / 10 / ..

Date:....

ANTR – 147 MTO Approval Recommendation Report

Part 2: ANTR 147 MTO Compliance Audit Review

The five columns may be labeled and used as necessary to record the approved training / examinations, facility including subcontractor's, reviewed. Against each column used of the following ANTR 147 points, please either tick (√) the box if satisfied with compliance, or cross (X) the box if not satisfied with compliance and specify the reference of the Part 4 finding next to the box or enter 'N/A' where an item is not applicable, or 'N/R' when applicable but not reviewed.

Further refer to details of individual requirements as per ANTR-147 and the Compliance Checklist attached to Guidance Material as an appendix to ANTR.

Note: 1. If the application is made for both Basic & Type training, this form must indicate the compliance to both scopes as applicable.

Note: 2. If the application is made for one scope (Basic or Type training), use the appropriate task mentioned below.

Note: 3. Detailed checklist (Appendix-XIII) may be used to verify the compliance to ANTR 147 requirements listed hereunder.

Para	Subject	B/T					
147.A.100	Facility Requirement						
147.A.105	Personnel Requirements						
147.A.110	Record of Instructors, Examiners & Assessors						
147.A.115	Instructional Equipment						
147.A.120	Maintenance Training Materials						
147.A.125	Records						
147.A.130	Training Procedures and Quality System						
147.A.135	Examinations						
147.A.145	Privileges of the MTO						
147.A.150	Changes to MTO						
147.A.160	Findings						
147.A.200	Basic Training Course						
147.A.205	Basic Knowledge Examination						
147.A.210	Basic Practical Assessment						
147.A.300	Aircraft Type / Task Training						
147.A.305	Aircraft Type Examinations and Task Assessment						
Signature of the Inspectors with date:							
Date of Form Part 2 completion:							
Review by CAPL / DAL & Signature with Date:							

B / T: B – Basic Training; T – Type Training

FORM ALD / LIC / 154 / -----



CIVIL AVIATION PUBLICATIONS

Report No.: ALD / LIC / / / ..	Date:....
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ANTR – 147 MTO Approval Recommendation Report

Part 3: ANTR 147 MTO Exposition (MTOE)

Please either tick (√) the box if satisfied with compliance, or cross (X) if not satisfied with compliance and specify the reference of the Part 4 finding or enter 'N/A' where an item is not applicable, or 'N/R' when applicable but not reviewed.
Note: This form must be used for both Basic & Type scope with appropriate selection.

MTOE	Para	B/T	Sat	Un Sat	Finding No.
PART 0	General Organisation				
PART 1	Management				
1.1	Corporate commitment by the accountable manager				
1.2	Management personnel				
1.3	Duties and responsibilities of management personnel, instructors, knowledge examiners and practical assessor				
1.4	Management personnel organisation chart				
1.5	List of instructional and examination staff Note: A separate document may be referenced				
1.6	List of approved addresses				
1.7	List of sub-contractors as per 147.A.145(d) (Applicable to Only for Type Training)				
1.8	General description of facilities at paragraph 1.6 addresses				
1.9	Specific list of courses approved by the BCAA / competent authority (in the case of org holding foreign CAA approval)				
1.10	Notification procedures regarding changes to organisation				
1.11	Exposition and associated manuals amendment procedure				

B / T: B – Basic Training; T – Type Training



CIVIL AVIATION PUBLICATIONS

Report No.: ALD / LIC / -----/ ----- / .. Date:....

ANTR – 147 MTO Approval Recommendation Report

Part 3: ANTR 147 MTO Exposition (MTOE) Cont.....

PART	Para	B/T	Sat	Un Sat	Finding No.
PART 2	Training and Examination Procedures				
2.1	Organisation of courses				
2.2	Preparation of course material				
2.3	Preparation of classrooms and equipment				
2.4	Preparation of workshops/maintenance facilities and equipment				
2.5	Conduct of theoretical Training and practical Training (Applicable to Only for Basic Training)				
2.6	Records of training carried out				
2.7	Storage of training record				
2.8	Training at locations not listed in paragraph 1.6 (Applicable to Only for Type Training)				
2.9	Organisation of Examinations				
2.10	Security and preparation of examination material				
2.11	Preparation of examination rooms				
2.12	Conduct of examinations				
2.13	Conduct of practical assessment (Applicable only for Basic Training)				
2.14	Marking and record of examinations				
2.15	Storage of examination records				
2.16	Examinations at location not listed in paragraph 1.6 (Applicable to Only for Type Training)				
2.17	Preparation, control and issue of basic training course certificates (Applicable only for Basic Training)				
2.18	Control of subcontractors (Applicable to Only for Type Training)				

B / T: B – Basic Training; T – Type Training

FORM ALD / LIC / 154 / -----



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Report No.: ALD / LIC / -----/ ----- / ..	Date:....
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ANTR – 147 MTO Approval Recommendation Report Part 3: ANTR 147 MTO Exposition (MTOE) Cont.....

PART	Para	B/T	Sat	Un Sat	Finding No.
PART 3	Training System Quality Procedures				
3.1	Audit of training				
3.2	Audit of examinations				
3.3	Analysis of examination results				
3.4	Audit and analysis remedial action				
3.5	Accountable manager annual review				
3.6	Qualifying the instructors				
3.7	Qualifying the examiners				
3.8	Records of qualified instructors & examiners				
PART 4	Appendices				
4.1	Example of documents and forms used.				
4.2	Syllabus of each training course				
4.3	Cross reference Index – if applicable				

Signature of the Inspectors with date:	
Date of Form Part 2 completion:	
Review by CAPL / DAL & Signature with Date:	

B / T: B – Basic Training; T – Type Training



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Report No.: ALD / LIC / 8 / 10 / ..

Date:....

ANTR – 147 MTO Approval Recommendation Report

Part 4: Finding regarding ANTR 147 MTO and Compliance Status

Each level 1 and 2 finding should be recorded whether it has been rectified or not and should be identified by a simple cross-reference to the Part 2 requirement. All non-rectified findings should be copied in writing to the organisation for the necessary corrective action.

Form Part 2 or Part 3 Reference	Audit Reference(s): Findings	L E V E L	Corrective Action		
			Date Due	Date Closed	Reference

Use additional Sheets if required to record the finding and status details

Signature of the Inspectors with date:

Date of Form Part 4 completion:

Review by CAPL / DAL & Signature with Date:



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Report No.: ALD / LIC / 8 / 10 / ..	Date:....
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ANTR – 147 MTO Approval Recommendation Report

Part 5: ANTR – 147 MTO Issue of Approval / Continued Approval / Changes Recommendation

Name of the Organisation:

Approval Reference:

Audit Reference(s):

ANTR 147 amendment status

The following ANTR 147 scope of approval is recommended for this organisation

OR

It is recommended that the ANTR 147 scope of approval specified in

Certificate of Approval No.:,

Schedule of Approval No.:&

MTOE PART 0 (MTOE approval Reference):.....

are to be continued.

Name and Signature of the Recommending Inspectors with date:	
Date of Form completion:	
Review by CAPL / DAL & Signature with Date:	
Name and Signature of the Approving Authority with Date:	



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Appendix-8

Application for ANTR 147 Approval (ALD/LIC/F152)

Application for Initial
Application for Change(s)
Application for Renewal

1. Registered name of applicant:
2. Trading name (if different):
3. Postal Address:

4. Address(es) requiring approval

5. Contact Details
Name: Position:
Telephone: Fax No.:
e-mail address:

6. Scope of ANTR ANTR 147 Basic Training Approval relevant to this application

7. Scope of ANTR ANTR 147 Type Training Approval relevant to this application

8. Does the Organisation hold approval under ANTR-21 / ANTR-145 / ANTR-M
If Yes, give details and attach relevant copies

9. No. of Employees - Total

10. Give details of all responsible persons & post holders and attach the Form-4

11. No. of Contract Employees - Total

12. Give details of Contract Employees and their duties / responsibilities

13. Name & Position of the Accountable Manager

14. Signature of the Accountable Manager

15. Date of Application

Note 1: Address to send the application :
Bahrain Civil Aviation Affairs, Aeronautical Licensing Directorate,
P.O.Box 586, Kingdom of Bahrain. Tel: +(973) 17 32 1091, Fax: +(973) 17 32 1061
Email: Aerolicensing@caa.gov.bh
Note 2: Fee: Refer to Schedule of Charges as per CAP-18



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Appendix-9

Quick Reference Internal Checklist/Task Follow-up & Progress Sheet – BCAA Purpose

S/N	Document(s) Requirement	Observation			Applicability
		SAT	Un-SAT	N/A	
1.	Receipt of application in ALD/LIC/F152				I,C&R
2.	Receipt of requisite fees (as per CAP 18)				I,C&R
3.	Submission of copy of Approval Schedule.				C & R
	(In the case of any change/ variation in the Approval Schedule is required, original approval Schedule should be submitted)				
4.	Validity Schedule (in original)				R
5.	Submission of following documents:				
(a)	Status of Approval of MTOE and associated procedures / amendments to MTOE.				I & C
(b)	Contract copy (Validity of the contract including conditions for renewal of contract)				I & C
(c)	Internal Audit Report				I & C
(d)	Compliance of ANTR 147 (Basic/Type) and supporting documents.				I & C
(e)	Status of acceptance of ALD/AIR/F018 Key Management Personnel for the post holders along with their Resumes				I
(f)	Compliance status of the audit plan and status of findings.				R
6.	Meeting of Accountable Manager with CAPL / DAL / USCA`.				I & C
7.	Status of Completed ALD/LIC/F154 along with compliance status of finding (For initial approval and change all findings must be corrected before the approval can be issued)				I & C
	Whether the format and the contents of the Maintenance Training Organisation Exposition (MTOE) and associated procedures are consistent with the requirements of ANTR 147 (Basic / Type)				I & C
	Whether contents of the commitment statement of Accountable Manager, defined in MTOE is consistent and is signed by the Accountable Manager?				I & C
	Whether Review of ALD/LIC/F154 is carried out and signed by CAPL / DAL				I & C
	Whether evidence of the closure of findings are satisfactory				I, C & R
	Whether all the post holders required as per 147 (Basic/Type) are available and approved.				I, C & R
	Whether facilities required as per ANTR 147 (Basic/Type) is adequate for the intended/approved scope of approval				I, C & R
Name and Signature of the Recommending Inspectors with date:					
Date of Form completion:					
Review by CAPL / DAL & Signature with Date:					

ALD / LIC / F182



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Appendix-10

ANTR 147 Approval Certificate

MAINTENANCE TRAINING ORGANISATION APPROVAL CERTIFICATE

شهادة التصريح لمؤسسة تدريب صيانة الطائرات

Reference:

Pursuant to Bahrain Air Navigation Technical Regulations for the time being in force and subject to the conditions specified below, the Civil Aviation Affairs hereby certifies:

.....

المرجع:

وفقاً لأنظمة الملاحة الجوية المعمول بها حالياً والخاضعة للشروط المذكورة أدناه فإن شئون الطيران المدني تفيد أن:

As ANTR 147 maintenance training organization approved to provide training and conduct examinations listed in the attached approval schedule and issue related certificates of recognition to students.

.....

مؤسسة مصرح لها بموجب أنظمة الملاحة الجوية (ANTR 147) للقيام بالتدريب والامتحان المبين في جدول الموافقات المرفق وإصدار الشهادات اللازمة من خلال استخدام الموقع التالي:

.....

.....

.....

CONDITIONS

- 1) This approval is limited to that specified in the scope of the ANTR 147 approved maintenance training organisation exposition, and
- 2) This approval requires compliance with the procedures specified in the ANTR 147 approved maintenance training organisation exposition, and
- 3) This approval is valid whilst the ANTR 147 approved maintenance training organisation remains in compliance with ANTR 147
- 4) Subject to compliance with the foregoing conditions this approval shall remain valid unless the approval has previously been surrendered, superseded, suspended or revoked.

الشروط

- 1) يقتصر هذا التصريح على مجال التدريب المحدد في الجزء المعني من كتيب الإجراءات المعتمد والتابع لمؤسسة تدريب صيانة الطائرات، و
- 2) يتطلب هذا التصريح التقيد بالإجراءات المبينة في كتيب الإجراءات المعتمد والتابع لمؤسسة تدريب صيانة الطائرات، و
- 3) يبقى هذا التصريح صالحاً ما دامت المؤسسة تتقيد بأنظمة الملاحة الجوية (ANTR 147) أو بأي تعديل يطرأ عليها.
- 4) شريطة التقيد بالشروط الواردة، سوف تستمر صلاحية هذا التصريح حتى تاريخ الانتهاء المحدد لها إلا إذا تم التنازل عنه، أو إبطاله، أو تعليقه، أو إلغاؤه.

Date of Initial Issue :

Date of Revision : _____

Authorised Signature

Form: ALD/LIC/F158



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MAINTINANCE TRAINING AND EXAMINATION ORGANISATION APPROVAL SCHEDULE

Approval Reference:

Organisation Name & Address:

CLASS	License Category / Rating	LIMITATIONS
Basic	A	A.1 Aeroplane Turbine A.2 Aeroplane Piston A.3 Helicopter Turbine A.4 Helicopter Piston
	B1	B1.1 Aeroplane Turbine B1.2 Aeroplane Piston B1.3 Helicopter Turbine B1.4 Helicopter Piston
	B2	B2 Avionics

Basic Examination	Permitted / Not Permitted

CLASS	License Category / Rating	Level	Limitation Type Training / Theoretical Examination / Practical Training
Type / Task	A B1 B2 C		(Quote Aircraft Type)

This approval schedule is limited to those trainings and examinations specified in the scope of training section of the approved maintenance training organisation exposition.

MTOE Reference.....

Revision No.:.....

Authorised Signature:

Date of original issue:

Date of this issue:

Date of Expiry:



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The fields on page 2 ‘Maintenance Training and Examination Approval Schedule’ of the maintenance training and examination organization approval certificate should be completed as follows:

- Date of original issue: It refers to the date of the original issue of the maintenance training organisation exposition
- Date of last revision approved: It refers to the date of the last revision of the maintenance training organisation exposition affecting the content of the certificate. Changes to the maintenance training organisation exposition which do not affect the content of the certificate do not require the reissuance of the certificate.
- Revision No: It refers to the revision No of the last revision of the maintenance training organisation exposition affecting the content of the certificate. Changes to the maintenance training organisation exposition which do not affect the content of the certificate do not require the reissuance of the certificate



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Appendix-11

Certificate Recognition - Basic Training / Examination

The basic training certificate template shall be used for recognition of completion of either the basic training or the basic examination, or both the basic training and basic training examinations.

The training certificate shall clearly identify each individual module examination by date passed together with the corresponding version of Appendix I to ANTR 66.

CERTIFICATE OF RECOGNITION

ANTR 147 APPROVED BASIC TRAINING COURSE

The basic training certificate covers the recognition of completion of either the basic training or the basic examination, or both the basic training and basic training examinations.

Issued to:

Name
Place and Date of Birth

By:

Name of the training organisation
BCAA Approval reference number

A training organisation approved to provide training in accordance with the requirement of ANTR 147 Basic Training.

This certificate confirms that the above named person either successfully passed the approved basic training course (either the basic knowledge examination and / or the practical elements) stated below and the related examinations in compliance with ANTR 66.

Basic Training Course (Both Knowledge & Practical) and / or basic
knowledge Examination.

Specify the knowledge (Modules Passed)& Practical elements completed

Date:

Signed:

Organisation Stamp / Seal:



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Appendix-12

Certificate Recognition – Type Training/Examination

The type training certificate shall be used for recognition of completion of either the theoretical elements or the practical elements, or both the theoretical and practical elements of the type rating training course.

The certificate shall indicate the airframe/engine combination for which the training was imparted.

The appropriate references shall be deleted as applicable and the course type box shall detail whether only the theoretical elements or the practical elements were covered or whether theoretical and practical elements were covered.

The training certificate shall clearly identify if the course is a complete course or a partial course (such as an airframe or powerplant or avionic/electrical course) or a difference course based upon the applicant previous experience, for instance A340 (CFM) course for A320 technicians. If the course is not a complete one, the certificate shall identify whether the interface areas have been covered or not.



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CERTIFICATE OF RECOGNITION

ANTR 147 APPROVED TYPE TRAINING COURSE

The basic training certificate covers the theoretical and practical type training course

Issued to:

Name
Place and Date of Birth

By:

Name of the training organisation
BCAA Approval reference number

A training organisation approved to provide training and conduct examination within its approval schedule in accordance with the requirement of ANTR 147 Type Training.

This certificate confirms that the above-named person either successfully passed the theoretical and / or the practical elements of the approved type training course stated below and the related examinations in compliance with ANTR 66.

Type Training Course (Both Knowledge & Practical)
Specify the Theoretical and / or Practical elements completed
Course Start and End Dates
OR
Aircraft Type Examination End Date

Date:

Signed:



CIVIL AVIATION PUBLICATIONS

Appendix-13

ANTR 147 – Maintenance Training Organisation (MTO) Compliance Checklist

This Appendix contains the following parts: -

1. Part-1, Organisation Details
(To be submitted by the applicant seeking approval or renewal of approval under ANTR 147 regulation)
2. Part-2, Preliminary Details (BCAA Use)
3. Part-3, Check Lists (comprising of 3 sections)

Section – I, Compliance Checklist

Section – II, Audit Checklist (Section-II.A for Basic & Section-II.B for Type Training)

(To be submitted by the MTO to the BCAA duly filled in details at column 4 & 5 and countersigned at each page by the Quality Manager -Post Holder)

4. Part-4, Finding Summary

(If any findings require attention either by the organisation or BCAA, the same shall be reflected along with the corrective action plan of the organisation)

The findings, rectification & corrective action by the organisation is recorded here and certified by the Quality Manager.

On submission by the organisation, the compliance checklist is verified by the BCAA during the audits and suitable remarks of acceptance is recorded by BCAA against the findings, rectification & corrective action of the organisation.

If any additional findings observed by BCAA during the audit the same may be recorded in the form attached to the compliance checklist.



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PART-1 – MTO Organisation Details (To be filled in by the applicant)

Registered Name of the Applicant	
Trading Name (if different)	
Address Requiring approval Telephone No. Fax No. Email address: Website details, if any	
Approval Status	<input type="checkbox"/> MTO BASIC <input type="checkbox"/> MTO TYPE
AOC Number (If Applicable)	
Is organization holding any other approval or a standalone organisation	<input type="checkbox"/> MTO – EASA/FAA/UK-CAA <input type="checkbox"/> MTO- NAA
MTO Approval Number (If the approval is held)	
MTOE reference (If applicable)	
Scope of Approval sought:	Attach duly filled in form as per Appendix XIII
Scope of 147 Approval (If applicable)	
Name & Position of Accountable Manager	
Contact details of Accountable Manager	
Name of Quality Manager	
Contact details of Quality Manager	
Name of Training Manager	
Contact details of Training Manager	
Details of other Post Holders if any	
Compiled by: Details of the responsible person / post holder compiled the compliance checklist: Name: Position: Signature:	
Date of Application	



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Instructions for completion

When completing this document it is important to make a positive statement showing how the organisation complies with any relevant part of the Subpart G requirement.

Column-1: ANTR 147 Reference
Column-2: Description - Item of Audit (based on ANTR 147 requirements)
Column-3: Compliance Status – The status of the ANTR 147 Organisation against the specific description of regulation. Compliant / non-Compliant / Not Applicable with reason / supporting evidence references etc.

- (a) Give the status of applicability of the respective regulation. If applicable give the org's method of compliance.
- (b) If the status of the respective regulation is not applicable, mention N/A and give reason.
- (c) If the training functions are subcontracted, give references to the contract reference and interface manual references

Column-4: Mention Org's MTOE & training procedure reference giving the details of compliance procedure
Column-5: Reserved for BCAA's remarks.

If additional information is required to demonstrate compliance, please use the space below or attach an appropriately referenced continuation sheet.

Once completed please submit this document to the Licensing Section of Aeronautical Licensing Directorate, BCAA.

When the Compliance Check List has been completed and accepted by Bahrain CAA, a copy should be maintained by both the organisation and BCAA in their respective approval process file.

Additional Information if any: May attach additional sheets with the cross reference to the compliance checklist reference (Column- 1,3 & 4) for any additional information with respect to the method of compliance by organisation.



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PART-2 (BCAA USE)

Sl. No.	Documents Requirement	Status / Remarks Sat / Un-sat / N/A
1	Receipt of application and is it complete in all respect?	
2	Receipt of requisite fees	
3	Approval Certificate in the case of variation to the existing approval.	
4	Submitted - Draft MTOE along with associated procedures / relevant amendments to MTOE.	
5	Whether the format and the contents of the MTOE and associated procedures are consistent with the requirements of ANTR 147 and the extent of approval sought?	
6	Submitted - Compliance Checklist / report of ANTR 147 and relevant supporting documents (as applicable).	
7	Details of the post holder present during the audit / surveillance	
8	Submitted - Form for acceptance of nominated post holders (as applicable)- 1. Training Manager 2. Quality Manager 3. Other Post Holders if any	
9	Whether the nominated post holders meet the requirements?	
10	Submitted - Organisation's internal assessment report and recommendation along with its supporting document.	
11	Interaction with the proposed / nominated Accountable Manager.	
12	Application Reviewed by (BCAA USE): Name: Position: Signature with Date:	

Instruction to the BCAA Inspector:

1. This check list is used to collect all preliminary documents and data related to the application filed by an organisation.
2. Give status of the application and the supporting documents as listed in the remarks column.
3. Use the recommendation report form (ALD/LIC/F154) attached herein after the completion of the compliance checklist for filing the findings and rectification actions and final recommendations.



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Section I

PART-3 Compliance Checklist (Once duly completed, Submit to BCAA along with Part-1)

NAME OF MTO -----

ANTR 147 COMPLIANCE CHECKLIST

ANTR 147 BASIC MAINTENANCE TRAINING ORGANISATION)

ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN-SAT) (5)
SUBPART A - GENERAL				
Applicability	This ANTR is applicable to Approved Aircraft /Engine manufacturers, Maintenance Training Organizations and maintenance organizations and intends to impart Basic aircraft maintenance training on Aircraft, Powerplant and its system and Type Training.			
147. A.01	Organisations involved in the training of certifying staff shall be approved in accordance with this ANTR. Organisations involved in the training of certifying staff shall be entitled to; (1) conduct recognised basic training courses; and/or (2) conduct recognised type rating courses; and (3) conduct examinations; and (4) issue training certificates. Note-1: The Basic knowledge and / or Type training examination may be conducted by the MTO under the requirements of contracting state, approved the MTO and privileged to do so on behalf of such authority. Note-2: The Type examination may be conducted by the MTO under the requirements of ANTR 66 / ANTR 147 with specific approval to do so.			
147. A.05 Scope	This section establishes the requirements to be met by organizations seeking approval to conduct Basic maintenance training / Type Training as specified in ANTR 66			
147.A.10 General	A training organization shall be an organization or part of an organization registered as a legal entity.			
GM to 147.A.10 General	Such an organization may conduct business from more than one address and may hold more than one ANTR approval.			
147. A.15 Application	An application for the approval, renewal or change of an existing approval shall be made on a form and in a manner established by BCAA.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
	<p>(a) An application for an approval or change to an approval shall include the following information:</p> <ol style="list-style-type: none"> 1. the registered name and address of the applicant; 2. the address of the organisation requiring the approval or change to the approval; 3. the intended scope of approval or change to the scope of approval; 4. the name and signature of the accountable manager & 5. the date of application. 			
SUBPART B - ORGANIZATIONAL REQUIREMENTS				
147. A.100 Facility requirements	a. The size and structure of facilities shall ensure protection from the prevailing weather elements and proper operation of all planned training and examination on any particular day.			
147. A.100 Facility requirements	b. Fully enclosed appropriate accommodation separate from other facilities shall be provided for the instruction of theory, and the conduct of knowledge examinations.			
	1. The maximum number of students undergoing knowledge training during any training course shall not exceed 28.			
	2. The size of accommodation for examination purposes shall be such that no student can read the paperwork or computer screen of any other student from his/her position during examinations.			
	c. The paragraph (b) accommodation environment shall be maintained such that students are able to concentrate on their studies or examination as appropriate, without undue distraction or discomfort.			
	d. In the case of a basic training course, basic training workshops and/or maintenance facilities separate from training classrooms shall be provided for practical instruction appropriate to the planned training course. If, however, the organisation is unable to provide such facilities, arrangements may be made with another organisation to provide such workshops and/or maintenance facilities, in which case a written agreement shall be made with such organisation specifying the conditions of access and use thereof. The Authority shall require access to any such contracted organisation and the written agreement shall specify this access.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
	In the case of an aircraft type/task training course, access shall be provided to appropriate facilities containing examples of aircraft type as specified in point 147.A.115(d).			
	The maximum number of students undergoing practical training during any training course shall not exceed 15 per supervisor or assessor.			
	Office accommodation shall be provided for instructors, knowledge examiners and practical assessors of a standard to ensure that they can prepare for their duties without undue distraction or discomfort.			
	Secure storage facilities shall be provided for examination papers and training records. The storage environment shall be such that documents remain in good condition for the retention period as specified in point 147.A.125. The storage facilities and office accommodation may be combined, subject to adequate security.			
	A library shall be provided containing all technical material appropriate to the scope and level of training undertaken			
AMC 147.A.100 (d) Facility requirements	The Maintenance Training Organisation intends to contact any maintenance organisation / facility provider, such arrangements shall be documented in the exposition and develop a comprehensive procedures to control, manage and administer the course / practical / OJT tasks agreeable to both the primary organisation approval holder and the contracted maintenance organisation / facility provider.			
AMC 147.A.100 (i) Facility requirements	1. For approved basic maintenance training courses this means holding and ensuring reasonable access to copies of all ANTRs and other BCAA regulations examples of typical aircraft maintenance manuals and service bulletins, Airworthiness Directives, aircraft and component records, release documentation, procedures manuals and aircraft maintenance programme.			
	2. Except for the ANTRs and BCAA regulations, the remainder of the documentation should represent typical examples for both large and small aircraft and cover both aeroplane and helicopters as appropriate. Avionic documentation should cover a representative range of available equipment. All documentation should be reviewed and updated on a regular basis.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
GM to147.A.100 (i) Facility Requirement	Where the organization has an existing library of regulations, manuals and documentation required by another ANTR, it is not necessary to duplicate such a facility subject to student access being under controlled supervision.			
147. A.105 Personnel requirements	(a) The organization shall appoint an Accountable manager who has corporate authority for ensuring that all training commitments can be financed and carried out to the standard required by this ANTR.			
	(b) A person or group of persons, whose responsibilities include ensuring that the maintenance training organization is in compliance with the requirements of this ANTR, shall be nominated. Such person(s) must be responsible to the Accountable manager. The senior person or one person from the group of persons may also be the Accountable manager subject to meeting the requirements for the Accountable manager as defined in paragraph (a).			
	(c) The maintenance training organization shall have sufficient staff to plan / perform knowledge and practical training, conduct knowledge examination and practical assessments in accordance with the approval.			
	(d) By derogation to point (c), when another organization is used to provide practical training and assessments, such other organization's staff may be nominated to carry out practical training and assessments.			
	(e) Any person may carry out any combination of the roles of instructor, examiner and assessor, subject to compliance with paragraph (f).			
	(f) The experience and qualifications of instructors, knowledge examiners and practical assessors shall be established in accordance with criteria published or in accordance with a procedure and to a standard agreed by the BCAA.			
	(g) The knowledge examiners and practical assessors shall be specified in the Organization exposition for the acceptance of such staff.			
	(h) Instructors and knowledge examiners shall undergo updating training at least every 24 months relevant to current technology, practical skills, human factors and the latest training techniques appropriate to the knowledge being trained or examined			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
AMC 147.A.105 Personnel requirements	<p>1. The larger maintenance training organization (an organization with the capacity to provide training for 50 students or more) should appoint a training manager with the responsibility of managing the training organization on a day to day basis. Such person could also be the Accountable manager. In addition, the organization should appoint a quality manager with the responsibility of managing the quality system as specified in paragraph 147.A.130 (b) and an examination manager with the responsibility of managing the relevant ANTR 147 Subpart C or D examination system. Such person(s) may also be an instructor and/or examiner.</p> <p>2. The smaller maintenance training organization (an organization with the capacity to provide training for less than 50 students) may combine any or all of the subparagraph (1) positions subject to the BCAA verifying and being satisfied that all functions can be properly tried out in combination</p> <p>3. When the organization is also approved against other ANTRs which contain some similar functions then such functions may be combined.</p>			
AMC 147.A.105 (b) & (g) Personnel requirements	With the exception of the accountable manager, a BCCA Form 04 (ALD/LIC/F018) should be completed for each person nominated to hold a position required by 147.A.105 (b).			
GM to 147.A.105 (c) Personnel requirements	The maintenance training organization should have a nucleus of permanently employed staff to undertake the minimum amount of maintenance training proposed but may contract, on a part-time basis, instructors for subjects which are only taught on an occasional basis.			
AMC 147.A.105 (f) Personnel requirements	Any person currently accepted by the BCAA in accordance with the regulations prior to ANTR 147 coming into force may continue to be accepted in accordance with 147.A.105 (f).			
GM to 147.A.105 (f) Personnel requirements	It is recommended that potential instructors be trained in instructional techniques.			
GM to 147.A.105 (g) Personnel requirements	Examiners should demonstrate a clear understanding of the examination standard required by ANTR 66 and have a responsible attitude to the conduct of examinations such that the highest integrity is ensured.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
AMC 147.A.105 (h) Personnel requirements	Updating training should normally be of 35 hours duration but may be adjusted to the scope of training of the organization and particular instructor/examiner. All adjustments shall be approved by the BCAA.			
GM to 147.A.105 (h) Personnel requirements	1.Records should show for each instructor/examiner when the updating training was scheduled and when it took place.			
	2.The updating training may be subdivided during the 24 months into more than one element and may include such activities as attendance at relevant lectures and symposiums.			
147. A.110 Records of instructors, examiners and assessors	a. The organization shall maintain a record of instructors, knowledge examiners, and practical assessors. These records shall reflect the experience and qualification, training history and any subsequent training undertaken			
	b. Terms of reference shall be drawn up for instructors, knowledge examiners, and practical assessors.			
AMC 147.A.110 Records of instructors, examiners and assessors	1. The following minimum information relevant to the scope of activity should be kept on record in respect of each instructor, knowledge examiner and practical assessor: (a) Name (b) Date of Birth (c) Personnel Number (d) Experience (e) Qualifications (f) Training history (before entry) (g) Subsequent Training (h) Scope of activity (i) Starting date of employment/contract (j) If appropriate – ending date of employment/ contract.			
	2. The record may be kept in any format but should be under the control of the organizations quality system.			
	3. Persons authorized to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorized manner or that such confidential records become accessible to unauthorized persons.			
	4. The Authority is an authorised person when investigating the records system for initial and continued approval or when the Authority has cause to doubt the competence of a particular person			



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GM to 147.A.110 Records of instructors, examiners and assessors	Instructors, knowledge Examiners and practical assessors should be provided with a copy of their terms of reference.			
147. A.115 Instructional equipment	a) Each classroom shall have appropriate presentation /instructional equipment of a standard that ensures students can easily read presentation text/ drawings/ diagrams and figures from any position in the classroom. Presentation equipment shall include representative synthetic training devices to assist students in their understanding of the particular subject matter where such devices are considered beneficial for such purposes.			
	b) The basic training workshops and/or maintenance facilities as specified in point 147.A.100 (d) must have all tools and equipment necessary to perform the approved scope of training.			
	c) The basic training workshops and/or basic maintenance facilities as specified in point 147.A.100 (d) must have an appropriate selection of aircraft, engines, aircraft parts / equipment's and avionics equipment.			
	The aircraft type training organisation as specified in point 147.A.100(e) must have access to the appropriate aircraft type. Synthetic training devices may be used when such synthetic training devices ensure adequate training standards			
GM to 147.A.115(a)	1. Synthetic training devices are working models of a particular system or component and include computer simulations.			
	2. A synthetic training device is considered beneficial for complex systems and fault diagnostic purposes.			
AMC 147.A.115 (c) Instructional Equipment	1. An appropriate selection of aircraft parts means appropriate in relation to the particular subject module or sub module of ANTR 66 being instructed. For example, the turbine engine module should require the provision of sufficient parts from different types of turbine engine to show what such parts look like, what the critical areas are from a maintenance viewpoint and to enable disassembly/assembly exercises to be completed.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
	<p>2. Appropriate aircraft, engines, aircraft parts and avionics equipment means appropriate in relation to the particular subject module or sub module of ANTR 66 being instructed. For example, category B2 avionic training should require, amongst other equipment, access to at least one type of installed autopilot and flight director system such that maintenance and system functioning can be observed and therefore more fully understood by the student in the working environment.</p> <p>3. "Access" may be interpreted to mean, in conjunction with the facilities requirement of 147.A. 100 (d), that there may be agreement with a maintenance organization approved under ANTR-145 to access such parts, etc.</p>			
147. A.120 Maintenance training material	<p>a) Maintenance training course material shall be provided to the student and cover as applicable:</p> <ol style="list-style-type: none"> 1. The basic knowledge syllabus specified in ANTR 66 for the relevant aircraft maintenance licence category or subcategory, and 2. The type course content required by ANTR 66 for the relevant aircraft type and aircraft maintenance licence category or subcategory. <p>b) Students shall have access to examples of maintenance documentation and technical information of the library as specified in 147.A.100 (i).</p>			
AMC 147.A.120 (a) Maintenance training material	Training course notes, diagrams and any other instructional material should be accurate. Where an amendment service is not provided a written warning to this effect should be given.			
147. A. 125 Records	The organization shall keep all student training, examination and assessment records for a period of five years. In case the institute having privilege for conducting examination on behalf of BCAA, the above records shall be kept for unlimited period.			
147. A.130 Training procedures and quality system	a) The organization shall establish procedures acceptable to the BCAA to ensure proper training standards and compliance with all relevant requirements in this ANTR.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
	<p>b) The organization shall establish a quality system including:</p> <p>1. An independent audit functions to monitor training standards, the integrity of knowledge examinations and practical assessments, compliance with and adequacy of the procedures, and</p> <p>2. A feedback system of audit findings to the person(s) and ultimately to the accountable manager referred to in 147.A.105(a) to ensure, as necessary, corrective action.</p>			
<p>AMC 147.A.130 (a) Training procedures and quality system</p>	<p>This guidance material provides some clarifications for the incorporation of new training methods and training technologies in the procedures for aircraft maintenance training.</p> <p>The classic training method is a teacher lecturing the pupils in a classroom. Commonly the training tools are a blackboard and training manuals. New technologies make it possible to develop new training methods and use other training tools, e.g. multimedia-based training and virtual reality. A combination of several training methods/tools is recommended in order to increase the overall effectiveness of the training.</p> <p>Simulation cannot be eligible as a sole training or assessment tool for basic hand skills such as wiring, welding, drilling, filing, wire locking, riveting, bonding or any other skill where competence may only be achievable by performing a hands-on activity.</p> <p>Three tables are provided to illustrate the possibilities for the use of different training methods and tools: Table 1: Training tools Table 2: Training methods Table 3: Combination of training methods and tools and their use. Refer to ANTR 147 for the tables and descriptions.</p>			
<p>AMC 147.A.130 (b) Training procedures and quality system</p>	<p>1. The independent audit procedure should ensure that all aspects of ANTR 147 compliance should be checked at least once in every 12 months and may be carried out as one complete single exercise or subdivided over a 12-month period in accordance with a scheduled plan.</p>			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
	2. In a small maintenance training organisation the independent audit function may be contracted to another maintenance training organization approved under ANTR 147 or a competent person acceptable to the BCAA. Where the small training organisation chooses to contract the audit function, it is conditional on the audit being carried out twice in every 12- month period with one such audit being unannounced.			
AMC 147.A.130 (b) Training procedures and quality system	3. Where the maintenance training organisation is also approved to another ANTR requiring a quality system, then such quality systems may be combined.			
	4. When training or examination is carried out under the sub-contract control system: a. a pre audit procedure should be established whereby the ANTR 147 approved basic training organisation should audit a prospective sub-contractor to determine whether the services of the sub-contractor meet the intent of ANTR 147.			
	b. a renewal audit of the subcontractor should be performed at least once every 12 months to ensure continuous compliance with the ANTR 147 standard.			
	c. the sub-contract control procedure should record audits of the subcontractor and to have a corrective action follow-up plan			
	5. The independence of audit system should be established by always ensuring that audits are carried out by personnel not responsible for the function or procedure being checked.			
GM to 147.A.130 (b) Training Procedures and Quality System	1. The primary objective of the quality system is to enable the training organization to satisfy itself that it can deliver properly trained students and that the organization remains in compliance with ANTR 147.			
	2. The independent audit is a process of routine sample checks of all aspects of the training organization's ability to carry out all training and examinations to the required standards. It represents an overview of the complete training system and does not replace the need for instructors to ensure that they carry out training to the required standard.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
	<p>3. A report should be raised each time an audit is carried out describing what was checked and any resulting findings. The report should be sent to the affected department(s) for rectification action giving target rectification dates. Possible rectification dates may be discussed with the affected department(s) before the quality department confirms such dates on the report. The affected department(s) should rectify any findings and inform the quality department of such rectification.</p> <p>4. A Large training organization (an organization with the capacity to provide training for 50 students or more) should have a dedicated quality audit group whose sole function is to conduct audits, raise finding reports and follow up to ensure that findings are being rectified. For the small training organisation (an organisation with the capacity to provide training for less than 50 students) it is acceptable to use competent personnel from one section/department not responsible for the function or procedure to check the section/department that is responsible subject to the overall planning and implementation being under the control of the quality manager.</p>			
	<p>5. The management control and follow up system should not be contracted to outside persons. The principal function is to ensure that all findings resulting from the independent audit are corrected in a timely manner and to enable the Accountable manager to remain properly informed of the state of compliance. Apart from rectification of findings the Accountable manager should hold routine meetings to check progress on rectification except that in the large training organization such meetings may be delegated on a day-to-day basis to the quality manager as long as the accountable manager meets at least once per year with the senior staff involved to review the overall performance.</p>			
147. A.135 Examinations	<p>(a) When a BCAA has authorized the approved training organization to conduct the examination required for the issuance of a licence or rating, the examination shall be conducted by personnel authorized by the Licensing Authority or designated by the training organization. These examinations shall be conducted in accordance with the criteria approved by the BCAA.</p>			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
	(b) Any student found during a knowledge examination to be cheating or in possession of material pertaining to the examination subject other than examination papers and associated authorized documentation shall be disqualified from taking the examination and may not take any examination for at least 12 months after the date of the incident. The BCAA shall be informed of any such incident together with the details of any enquiry within one calendar month.			
	(c) Any examiner found during a knowledge examination to be providing question answers to any student being examined shall be disqualified from acting as an examiner and the examination declared void. The BCAA must be informed of any such occurrence within one calendar month.			
AMC 147.A.135 Examinations	1. Examinations may be computer or hard copy based or a combination of both.			
	2. The actual questions to be used in a particular examination should be determined by the Examiners			
GM to 147.A.135 Examinations	The BCAA will determine when or if the disqualified examiner may be reinstated.			
147. A.140 Maintenance training organization exposition	a) The organization shall provide an exposition for use by the organization describing the organization and its procedures and containing the following information: 1. A statement signed by the accountable manager confirming that the maintenance training organization exposition and any associated manuals define the maintenance training organization's compliance with this ANTR and shall be complied with at all times.			
	2. when a State has authorized an approved training organization to conduct the examination required for the issuance of a licence or rating in accordance with sub-para 9, a description of the selection, role and duties of the authorized personnel, as well as the applicable requirements established by the Licensing Authority.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
	3. The title(s) and name(s) of the person(s) nominated in accordance with 147.A.105(b). The duties and responsibilities of the person(s) specified in subparagraph 2, including matters on which they may deal directly with the BCAA on behalf of the maintenance training organization.			
	4. A maintenance training organization chart showing associated chains of responsibility of the person(s) specified in paragraph (a) (2).			
	5. A list of the training instructors, knowledge examiners, and practical assessors.			
147. A.140 Maintenance training organization exposition	6. A general description of the training and examination facilities located at each address specified in the maintenance training organization's approval certificate, and if appropriate any other location, as required by 147.A.145(b).			
	7. A list of the maintenance training courses which form the extent of the approval.			
	8. The maintenance training organization's exposition amendment procedure.			
	9. The maintenance training organization's procedures, as required by 147.A.130(a).			
	10. The maintenance training organization's control procedure, as required by 147.A.145(c), when authorized to conduct training, examination and assessments in locations different from those specified in 147.A.145(b)			
	11. A list of the locations pursuant to 147.A.145 (b).			
	12. list of organisations, if appropriate, as specified in point 147.A.145(d).			
	(b) The maintenance training organization's exposition and any subsequent amendments shall be approved by the BCAA.			
	(c) Notwithstanding point (b) minor amendments to the exposition may be approved through an exposition procedure (hereinafter called indirect approval).			



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AMC 147.A.140 Maintenance training organization exposition	<p>1. A recommended format of the organization's exposition is included in Appendix I to AMC.</p> <p>2. When the maintenance training organisation is approved in accordance with any other Part which also requires an exposition, the exposition required by the other Part may form the basis of the maintenance training organisation exposition in a combined document, as long as the other exposition contains the information required by 147.A.140 and a cross reference index is included based upon Appendix I to AMC.</p> <p>3. When training or examination is carried out under the sub-contract control system the maintenance training organisation exposition should contain a specific procedure on the control of sub-contractors plus a list of sub-contractors as required by 147.A.140(a)12.</p> <p>4. The BCAA may approve a delegated Organization exposition approval system for all changes other than those affecting the approval.</p> <p>5. The course curriculum shall be approved by the BCAA. The instruction material shall be accepted by the BCAA</p>			
147.A.145. Privileges of the maintenance training organization	<p>a) The maintenance training organization may carry out the following as permitted by BCAA and in accordance with the maintenance training organization exposition:</p> <p>1. Basic training courses to the ANTR 66 syllabus, or part thereof.</p>			
	<p>2. aircraft type/task training courses in accordance with ANTR 66;</p> <p>3. the issue of certificates following successful completion of the approved basic or aircraft type training courses and examinations specified in subparagraph (a)(1) & (a)(2) as applicable.</p> <p>4.the examinations of students who attended the basic or aircraft type training course at the maintenance training organisation as privileged by the ICAO contracting state authority and issue certificates thereof.</p> <p>(b) Training, knowledge examinations, and practical assessments, may only be carried out at the locations identified in the approval certificate and/or at any location specified in maintenance training organization exposition</p>			



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	(c) By derogation to point (b), the maintenance training organisation may only conduct training, knowledge examinations and practical assessments in locations different from the point (b) locations in accordance with a control procedure specified in the maintenance training organisation exposition. Such locations need not be listed in the maintenance training organisation exposition subject to appropriate exposition procedures for conducting such activity and maintenance of records of such training acceptable to BCAA			
	(d) 1. The maintenance training organisation may subcontract the conduct of basic theoretical training, type training and related examinations to a non maintenance training organisation only when under the control of the maintenance training organisation quality system. 2. The subcontracting of basic theoretical training and examination is limited to ANTR 66, Appendix I, Modules 1, 2, 3, 4, 5, 6, 8, 9 and 10. 3. The subcontracting of type training and examination is limited to powerplant and avionic systems.			
	(e) An organisation may not be approved to conduct examinations unless approved to conduct the corresponding training			
AMC 147.A.145(d) Privileges of the maintenance training organization	1. When training or examination is carried out under the sub-contract control system it means that for the duration of such training or examination, the ANTR 147 approval has been temporarily extended to include the sub-contractor. It therefore follows that those parts of the sub-contractor's facilities, personnel and procedures involved with the ANTR 147 approved maintenance training organisation's students should meet requirements of ANTR 147 for the duration of that training or examination and it remains the ANTR 147 organisation's responsibility to ensure such requirements are satisfied. 2. The maintenance training organisation approved under ANTR 147 is not required to have complete facilities and personnel for training that it needs to sub-contract but it should have its own expertise to determine that the sub-contractor meets the ANTR 147 standards. Particular attention should be given to ensuring that the training that is			



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	<p>delivered also meets the requirements of ANTR 66 and the aircraft technologies are appropriate.</p> <p>3. The contract between the maintenance training organisation approved under ANTR 147 and the sub-contractor should contain:</p> <ul style="list-style-type: none"> – a provision for the Agency and the competent authority to have right of access to the sub-contractor; – a provision for the sub-contractor to inform the ANTR 147 approved maintenance training organisation of any change that may affect its ANTR 147 approval, before any such change takes place. 			
GM 147.A.145(d) Privileges of the maintenance training organization	<p>1. The pre audit procedure should focus on establishing compliance with the training and examination standards set out in ANTR 147 and ANTR 66.</p> <p>2. The fundamental reason for allowing a maintenance training organisation approved under ANTR 147 to sub-contract certain basic theoretical training courses is to permit the approval of maintenance training organisations, which may not have the capacity to conduct training courses on all ANTR 66 modules.</p> <p>3. The reason for allowing the subcontracting of training modules 1 to 6 and 8 to 10 only is, most of the related subjects can generally also be taught by training organisations not specialised in aircraft maintenance and the practical training element as specified in 147.A.200 does not apply to them. On the contrary, training modules 7 and 11 to 17 are specific to aircraft maintenance and include the practical training element as specified in 147.A.200. The intent of the 'limited subcontracting' option as specified in 147.A.145 is to grant ANTR 147 approvals only to those organisations having themselves at least the capacity to teach on aircraft maintenance specific matters.</p>			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
GM 147.A.145(d)3 Privileges of the maintenance training organization	In the case of type training and examination, the reason for allowing only subcontracting to powerplant and avionic systems is that the related subjects can generally also be imparted by certain organisations specialised in these domains such as the Type Certificate Holder of the powerplant or the OEMs of these avionics systems. In such a case, the type training course should make clear how the interfaces with the airframe are addressed and by whom (the subcontracted organisation or the ANTR 147 organisation itself).			
147. A.150 Changes to the maintenance training organization	<p>a) The maintenance training organization shall notify the BCAA of any proposed changes to the organization that affect the approval before any such change takes place, in order to enable the BCAA to determine continued compliance with this ANTR and to amend if necessary the maintenance training organization approval certificate.</p> <p>(b) The BCAA may prescribe the conditions under which the maintenance training organization may operate during such changes unless the BCAA determines that the maintenance training organization approval must be suspended.</p> <p>(c) Failure to inform the BCAA of such changes may result in suspension or revocation of the maintenance training organization approval certificate backdated to the actual date of the changes.</p>			
147. A.155 Continued validity	(a) An approval shall be issued for a period of two (2) years. It shall remain valid subject to: 1. the organization remaining in compliance with this ANTR, in accordance with the provisions related to the handling of findings			
	<p>2. the BCAA officials being granted access to the organization including contracted organisation to determine continued compliance with this ANTR and</p> <p>3. The certificate not being surrendered or revoked</p> <p>(b) Upon surrender or revocation, the approval shall be returned to the BCAA.</p>			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
AMC 147.A.155 Continued Validity	<p>1. (a). The organization should be subjected to following oversight program to remain compliant with ANTR 147 for the purpose of continued validity.</p> <p>(i) Internal audit by independent audit system of the organization.</p> <p>(ii) Regulatory audit by BCAA</p> <p>(iii) Surveillance of different areas of ANTR 147 approval by BCAA</p> <p>(iv) Spot check by BCAA.</p>			
	<p>b) Internal audit programme for the succeeding 12 months period should provide at the time of making application for renewal of approval and audit should be submitted to BCAA within 15 days of their completion.</p>			
147. A. 160 Findings	<p>(a) A level 1 finding is one or more of the following:</p> <ol style="list-style-type: none"> 1. any significant non-compliance with the examination process which would invalidate the examination(s), 2. failure to give the BCAA officials access to the organization's facilities during normal operating hours after two written requests, 3. The lack of an accountable manager, 4. A significant non-compliance with the training process. <p>(b) A level 2 finding is any non-compliance with the training process other than level 1 finding.</p> <p>(c) After receipt of notification of findings according to 147.B.130, the holder of the maintenance training organization approval shall define a corrective action plan and demonstrate corrective action to the satisfaction of the BCAA within a period agreed by BCAA.</p>			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
SUBPART – C THE APPROVED BASIC TRAINING COURSE				
147.A . 200 The Approved Basic Training Course	(a) The approved basic training course shall consist of basic knowledge training, Knowledge examination, practical training and a practical assessment.			
	(b) The knowledge training element shall cover the subject matter for a category or subcategory aircraft maintenance licence as specified in ANTR 66.			
	(c) The knowledge examination element shall cover a representative cross section of subject matter from the paragraph (b) training element.			
	(d) The practical training element shall cover the practical use of common tooling/equipment, the disassembly /assembly of a representative selection of aircraft parts and the participation in representative maintenance activities being ANTRried out relevant to the particular ANTR 66 complete module.			
	(e) The practical assessment element shall cover the practical training and determine whether the student is competent at using tools and equipment and working in accordance with maintenance manuals.			
	(f) The duration of basic training courses shall be in accordance with Appendix I.			
	(g) The duration of conversion courses between (sub)categories shall be determined through an assessment of the basic training syllabus and the related practical training needs			
AMC 147.A.200 (b) The Approved Basic Training Course	Each licence category or subcategory basic training course may be subdivided into modules or sub modules of knowledge and may be intermixed with the practical training elements subject to the required time elements of 147.A.200 (f) and (g) being satisfied.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
AMC 147. A. 200 (d) The Approved Basic Training Course	<p>1. Where the maintenance training organisation approved under ANTR 147 contracts the practical training element either totally or in part under long term contract and technical arrangement with another organisation in accordance with 147.A. 100(d), the organisation in question should ensure that the practical training elements are properly carried out. Practical training facility shall be as per the scope of approval of the training organization.</p> <p>2. At least 30% of the practical training element should be carried out in an actual maintenance working environment. The list of such practical training element required to be documented in the organisation MTOE. The practical task should cover cross representative sections of the aircraft systems and listed ATA chapter wise.</p>			
AMC 147.A.200 (f) The approved basic training course	<p>1 In order to follow pedagogical and human factors principles, the maximum number of training hours per day for the theoretical training should not be more than 6 hours. A training hour means 60 minutes of tuition excluding any breaks, examination, revision, preparation and aircraft visit. In exceptional cases, the BCAA may allow deviation from this standard when it is properly justified that the proposed number of hours follows pedagogical and human factors principles. These principles are especially important in those cases where:</p> <ul style="list-style-type: none"> • Theoretical and practical training are performed at the same time; • Training and normal maintenance duty/ apprenticeship are performed at the same time. <p>2. The minimum participation time for the trainee to meet the objectives of the course should not be less than 90% of the tuition hours. Additional training may be provided by the training organisation in order to meet the minimum participation time. If the minimum participation defined for the course is not met, a certificate of recognition should not be issued.</p>			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
AMC 147.A .200 (g) The Approved Basic Training Course	<p>Typical conversion durations are given below:</p> <p>a. The approved basic training course to qualify for conversion from holding a ANTR 66 aircraft maintenance licence in subcategory A1 to subcategory B1.1 or B2 should not be less than 1600 hours and for conversion from holding a ANTR 66 aircraft maintenance licence in subcategory A1 to subcategory B1.1 combined with B2 should not be less than 2200 hours. The course should include between 60% and 70% knowledge training</p> <p>b) The approved basic training course to qualify for conversion from holding a ANTR 66 aircraft maintenance licence in subcategory B1.1 to B2 or category B2 to B1.1 should not be less than 600 hours, and should include between 80% and 85% knowledge training.</p> <p>c) The approved basic training course to qualify for conversion from holding a ANTR 66 aircraft maintenance licence in subcategory B1.2 to subcategory B1.1 should not be less than 400 hours, and should include between 50% and 60% knowledge training.</p> <p>d) The approved basic training course to qualify for conversion from holding a ANTR 66 aircraft maintenance licence in one subcategory A to another subcategory A should not be less than 70 hours, and should include between 30% and 40% knowledge training.</p>			
147. A. 205 Basic Knowledge Examinations	<p>Basic knowledge examinations shall:</p> <p>(a) be in accordance with the standard defined in ANTR 66.</p> <p>b) be conducted without the use of training notes.</p> <p>(c) cover a representative cross section of subjects from the particular module of training completed in accordance with ANTR 66.</p>			
AMC 147. A. 205 Basic Knowledge Examinations	<p>The BCAA may accept that the maintenance training organisation approved under ANTR 147 can conduct examination of students who did not attend an approved basic course at the organisation in question. There must be a procedure of TNA and subsequent examination requirement / decisions.</p>			



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ANTR Ref. No.	Description	Compliance Status	MTOE /Interface Manual Reference /Remarks	BCAA Comments (SAT/UN- SAT)
(1)	(2)	(3)	(4)	(5)
147. A.210 Basic Practical Assessment	(a) Basic practical assessments shall be carried out during the basic maintenance training course by the nominated practical assessors at the completion of each visit period to the practical workshops / maintenance facility.			
	(b) The student shall achieve an assessed pass with respect to point ANTR 147.A.200 (e)			
AMC 147. A. 210 (a) Basic Practical Assessment	Where the maintenance training organisation approved under ANTR147 contracts the practical training element either totally or in part to another organisation in accordance with 147.A.100 (d) and chooses to nominate practical assessors from the other organisation, the organisation in question should ensure that the basic practical assessments are carried out.			
AMC 147. A. 210 (b) Basic Practical Assessment	An assessed pass for each student should be granted when the practical assessor is satisfied that the student meets the criteria of 147.A.200 (e). This means that the student has demonstrated the capability to use relevant tools/ equipment/ test equipment as specified by the tool/ equipment/ test equipment manufacturer and the use of maintenance manuals in that the student can carry out the required inspection/testing without missing any defects, can readily identify the location of components and is capable of correct removal/ fitment/ adjustment of such components. The student is only required to carry out enough inspection/ testing and component removal/ fitment/ adjustments to prove capability. The student should also show an appreciation of the need to ensure clean working conditions and the observance of safety precautions for the student and the product. In addition, the student should demonstrate a responsible attitude in respect to flight safety and airworthiness of the aircraft.			
	Appendix III to AMC to ANTR 66 provides criteria for the competence assessment performed by the designated assessors (and their qualifications).			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
SUBPART – D AIRCRAFT TYPE / TASK TRAINING				
147.A.300 Aircraft Type / Task Training	A maintenance training organisation shall be approved to carry out ANTR 66 aircraft type and/or task training subject to compliance with the standard specified in point 66.A.45.			
AMC 147.A.300 Aircraft Type / Task Training	<p>Aircraft type training may be sub-divided in airframe and / or power plant and / or avionic / electrical systems type training. A maintenance training organisation approved under ANTR 147 may be approved to conduct airframe type training only, power plant type training only or avionics systems type training only or any combination thereof.</p> <p>Airframe type training means a type training including all relevant aircraft structure and electrical and mechanical systems excluding the power plant.</p> <p>Power plant type training means a type training on the bare engine, including the build-up to a quick engine change unit.</p> <p>The interface of the engine/airframe systems should be addressed by either airframe or power plant type training. In some cases, such as for general aviation, it may be more appropriate to cover the interface during the airframe course due to the large variety of aircraft that can have the same engine type installed.</p> <p>Avionic / electrical systems type training course means type training on avionics and electrical systems covered by but not necessarily limited to ATA (Air Transport Association) chapters 22, 23, 24, 25, 27, 31, 33, 34, 42, 45, 46, 73 and 77 or equivalent.</p>			
147.A.305 Aircraft Type Examinations and Task Assessments	A maintenance training organisation approved in accordance with point 147.A.300 to conduct aircraft type training shall conduct the aircraft type examinations or aircraft task assessments specified in ANTR 66 subject to compliance with the aircraft type and/or task standard specified in point 66.A.45.			



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PART-3 Continued.....

ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
Appendix-V to this CAP	Guidance for assessing the qualifications, skills, competency and the revalidation of ANTR 147 Instructors, Knowledge Examiners and Practical Assessors.			
3	Instructor Requirements			
3.1.1	All Instructors, whether permanently or temporally employed, must have undergone an instructor techniques course and be able to demonstrate an understanding of the ANTR 66 and ANTR 147 regulatory requirements. Additionally they should have a practical working knowledge of the Maintenance Training Organizations Exposition (MTOE) and associated training procedures.			
3.1.2	All Instructors, Knowledge Examiners and Practical Assessors permanently employed within the ANTR 147 must be listed in Part 1.5 of the MTOE, (List of Maintenance Training Instructors, Knowledge Examiners and Practical Assessors).			
3.1.3	Instructors may also hold other positions within the training organizations, i.e. Knowledge Examiner, Practical Assessor; these other roles must be clearly identified against the individual within the MTOE.			
3.4	Basic skills instructor			
3.4.1	The basic criteria for an aircraft Basic skills instructor must be, to either: <ul style="list-style-type: none"> a. Comply with any of the requirements listed in 3.1 b. Hold an ANTR 66 aircraft maintenance engineer license applicable to the relevant category/sub-category. c. Provide evidence of previous employment as a basic mechanical or electrical engineering training instructor d. Provide evidence of previous employment as a technical training instructor 			
3.4.2	On meeting the criteria as stated above; the prospective instructor should attend training on the specific ANTR 66 module to be taught. Ideally the Instructor should attend a number of lesson “sit-ins” of the specific ANTR 66 module course he has to deliver, in a monitored environment, attended and assessed by either, the training manager, or his delegated representative, as part of the organisations assessment process, prior to the instructor being approved to deliver a course.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
3.5	Update training for the instructor			
3.5.1	Update training should consist of 35 hours; it may be sub-divided during 24 months into more than one element and may include such activities as awareness of the latest training techniques, attendance at relevant lectures and symposiums etc. Records should indicate when update training was scheduled and when it took place for each instructor / examiner and practical assessor.			
3.6	ANTR 147 Requirements:			
3.6.1	All ANTR 147 Instructors should be listed in Part 1.5 of the MTOE. (List of Training Instructors, Knowledge Examiners and Practical Assessors). This list should identify the scope of authorization for each instructor i.e. B1, B2, etc. The ANTR 147 organization should ensure that the scope of authorization for each instructor, including any sub-contracted instructor, is current and applicable to the subject being taught.			
3.6.2	The ANTR 147 organizations should ensure that all staff remains conversant with the requirements of ANTR 66 /ANTR 147 and associated AMC's and Guidance Material through update training.			
3.6.3	ANTR 147 training organizations that employ sub-contracted instructors should maintain a record of the courses instructed and identify the amount of experience gained in each discipline.			
3.6.4	A record of instructor / examiner recency check should be retained, by the ANTR 147 training organization, demonstrating at least 35 hours of update training carried out over a 24-month period.			
4.	Knowledge Examiner Requirements			
4.1.1	All Knowledge Examiners must be able to demonstrate an understanding of the ANTR 66 and ANTR 147 regulatory requirements and a practical working knowledge of the MTOE document and associated training procedures.			
4.1.2	All ANTR 147 Knowledge examiners should be listed in Part 1.5 of the MTOE, (List of Training Instructors, Knowledge Examiners and Practical Assessors).			
4.1.3	A Knowledge Examiner may also hold other positions within the training organization, i.e. Instructor or Practical Assessor; these other roles must be clearly identified against the individual within the MTOE.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN-SAT) (5)
4.1.4	An organization may appoint a Chief Knowledge Examiner. This person should submit a BCAA Form 04 to the BCAA for approval prior to inclusion into the MTOE Para 1.2.			
4.2	Qualifying the Knowledge Examiner			
4.2.1	The Knowledge Examiner must be: <ul style="list-style-type: none"> a. Conversant with the type of course/s being taught b. Conversant with the ANTR 66 syllabus that details the level of number and level of questions per module c. Able to compile multi choice question papers d. Able to mark and analyze the students responses and provide feedback to the instructor / training manager, detailing any inconsistencies with the examination results or process 			
5.	Practical Assessor Requirements			
5.1.1	All ANTR 147 nominated Practical Assessors, whether permanently or temporally employed, must demonstrate an understanding of the ANTR 66 and ANTR 147 regulatory requirements; additionally they should demonstrate a practical working knowledge of the MTOE document and associated training procedures.			
5.1.2	Practical Assessors should be listed in Part 1.5 of the MTOE, (List of Training Instructors, Knowledge Examiners and Practical assessors). List should identify the scope of authorization for each Practical Assessor i.e. B1, B2, etc			
5.1.3	Practical Assessors may also hold other positions within the training organizations, i.e. Instructor or Knowledge Examiner; these other roles must be clearly identified against the individual within the MTOE.			
5.1.4	The Practical Assessor should assist instructional personnel in developing the practical training tasks and assessment criteria.			
5.1.5	An organization may appoint a Chief Practical Assessor; this person should submit a BCAA CA Form 04 to the BCAA for approval prior to inclusion into the MTOE Para 1.2.			



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ANTR Ref. No. (1)	Description (2)	Compliance Status (3)	MTOE /Interface Manual Reference /Remarks (4)	BCAA Comments (SAT/UN- SAT) (5)
5.2	Qualifying the Practical assessor			
5.2.1	<p>The Practical Assessor must either:</p> <p>a. Hold a current aircraft type authorization, issued by a ANTR-145 organization, and successfully completed formal instructional / facilitators techniques course and completed an assessor training course.</p> <p>b. Hold a supervisory position or, a position of responsibility, as an avionic or mechanical practitioner within an ANTR-145 maintenance environment and can prove practical experience of 6 months within the last 24 months.</p> <p>c. A person who has been nominated by an ANTR 147 training organization and can demonstrate the experience and skills outlined in either a) or b) above.</p>			
5.2.2	All ANTR 147 / ANTR-145 nominated Practical Assessors should be listed in Part 1.5 of the MTOE. (List of Training Instructors, Knowledge Examiners and Practical Assessors). This list should identify the scope of authorization for each Practical Assessor i.e. B1, B2, etc.			
6	The continuation of an Instructor, Knowledge Examiner and Practical Assessors authorization.			
6.1.1	ANTR 147.A.105 Personnel Requirements, states: "Instructors and Knowledge examiners shall undergo update training at least every 24 months relevant to current technology, practical skills, human factors and the latest training techniques appropriate to the knowledge being trained or examined". This training should consist of a minimum of 35 hours within the 24-month period; in addition, training school personnel are to remain conversant with the latest revision of the ANTR 147 regulations, AMC's, Guidance notes. They should also be conversant with the respective organizations MTOE and associated training procedures.			
6.1.2	ANTR 147 training organizations should ensure that personnel training records, including records of qualifications, update training and experience is retained for each Instructor, Knowledge Examiner and Practical Assessor.			



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PART-3 Continued.....

PRACTICAL MAINTENANCE SKILL: AIRFRAME- FACILITIES, TOOLS & EQUIPMENT

Appendix II to this CAP	Facilities	Compliance Status
	Check the availability of the following facility	
II.1.	METALWORK AND SHEET METAL WORK WITH HAND TOOLS	
1.1	Check whether the basic skill training workshop is equipped with sturdy benches mounted with vices at approximately 2-m intervals, one vice per student. Other items include the following:	
(a)	Powered grinding wheel for tool sharpening.	
(b)	Powered drilling machine.	
(c)	Large surface table for precision marking-off.	
(d)	Compressor air supply suitable for use with pneumatic hand tools.	
(e)	Powered hacksaw for cutting stock material.	
(f)	Sheet metal guillotine.	
(g)	Chalkboard/whiteboard for workshop instruction and work schedule.	
II.1.2	Airframe/Helicopter skills training facility:	
(a)	A complete pressurized aircraft of all-metal construction with retractable landing gear, complete with engines in running order, and suitable for practicing repair and inspection duties.	
(b)	Hydraulic lifting jacks, fuselage cradles, lifting slings, cables and steering bars, dihedral and incidence boards, and work and tools suitable for aircraft types provided.	
(c)	Desk for manuals and notices	
(d)	Display board for inspection worksheets	
(e)	Ground electrical power trolley	
(f)	Apron-type fire extinguisher trolley	
(g)	Hangar access equipment such as benches, trestles, ladders, chocks	
(h)	Mobile lifting equipment, i.e. small crane or overhead gantry	
(i)	Spray guns for aircraft paint and dope	
(j)	Oil and fuel replenishing facility	
(k)	Mobile hydraulic power source	
(l)	Retraction jacks	
(m)	Seat and safety equipment	
II.1.3	Personal tool kit	
(a)	Measuring and marking-off tools: 30-cm steel rule graduated in fractions of inches and millimeters	
	- Outside and inside calipers	
	- Try square	
	- Set of feeler gauges	
	- 15-cm dividers	
	- Scriber	
(b)	Fitter's tools :	
	- Round-nose and side-cutter pliers	
	- 5-cm long screwdriver 1	
	- Hacksaw	
	- Selection of files of different sections, lengths and cuts	
	- Hand drill and a set of small diameter drills	
	- Set of centre and pin punches	
	- Ball-pen and cross pane hammers	
	- 20-cm flat chisel and a set of small chisels (including flat , cross cut and round nose)	
	- plastic or hide- faced hammer	
	- sheet metal snips	



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Appendix II to this CAP	Facilities	Compliance Status
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	- various sizes and types of screw drivers	
	- set of double – ended , open ended and ring spanners of appropriate range in sizes and appropriate type (American, BSF, Unified , or Metric) to suit available airframes	
	- set of sockets wrenches with handles and accessories to suit available airframes.	

II.2	METALWORK WITH MACHINE TOOLS	
(a)	Drill machines	
(b)	Surface grinding machine	
(c)	Buffing machine , Facility may be contracted	
II.3	AIRFRAME FAMILIARISATION FACILITY	
	Check whether the following facilities for the training of students on aircraft system are available	
(a)	Ideally, a complete aircraft of all metal construction with retractable landing gear, complete with engine in running order.	
(b)	Alternately an all metal fuselage, wings and control surfaces of stressed skin type suitable for practicing repairs and inspection duties.	
(c)	Hydraulic lifting jacks, trestles, fuselage cradles, lifting slings, cables and steering bars, dihedral and incidence boards and tools suitable for aircraft types provide.	
(d)	Desks for manuals and notices.	
(e)	Display boards for inspection worksheets	
(f)	Ground electrical power trolley.	
(g)	Fire extinguisher trolley.	
(h)	Hangar access equipment such as benches, trestles, ladders, chocks etc.	
(i)	Mobile lifting equipment i.e., small crane or overhaul gantry.	
(j)	Spray gun for aircraft paint and dope.	
(k)	Oil and fuel replenishing facility	
(l)	Mobile hydraulic pressure source	
(m)	Manufacturer's recommended tools or locally fabricated tools to perform the defined maintenance tasks	

II.4	SPECIALIST ACTIVITIES: WOOD AND FABRIC, WELDING, AND COMPOSITES	
4.3	# WELDING	
4.3.1	The purpose of a short course on welding is to impart enough knowledge of welding techniques to enable students to assess the airworthiness of welded joints and structures. It is not intended to produce skilled welders. The welding shop must be chosen and equipped to comply with the safety regulations for oxyacetylene and other types of welding. Metal–screened working bays with metal work benches should be built according to the number of work stations required.	
4.3.2	Welding equipment might include the following :	
(a)	Set of oxyacetylene welding equipment	
(b)	Electric or arc welder	
(c)	Electric TIG or MIG welder	
(d)	Eye face shield, goggles, leather gloves and aprons	
(e)	Electrodes, welding rods and welding fluxes	



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Appendix II to this CAP	Facilities	Compliance Status
(f)	Electric resistance welder for spot welding (may be stored in sheet metal shop)	
II.5.4*	# Fiberglass and reinforced plastic workshop	
5.4.1	Many aircraft are fitted with secondary structures constructed from fiber or glass materials. (Indeed, some aircraft even have their primary structure made of fiber or glass material). From the training point of view, only secondary structure should be of concern.	
5.4.2	Check whether the facility is dust free, humidity controlled atmosphere, lighting and doors are suitable for the workshop. Fire proof storage facilities for highly inflammable and corrosive resins and activators are available. Correct types of extinguishers are available. Following tools are provided for the fiberglass and reinforced plastic workshop.	
(a)	Laying up tables	
(b)	Brushes and spatulas	
(c)	Scissors and cutters	
(d)	Sanders	
(e)	Measuring Cup	
(f)	Heat lamp	
(g)	Pots and trays	



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Part-3 Continued.....

PRACTICAL MAINTENANCE SKILL: ENGINE AND PROPELLER – FACILITIES, TOOLS & EQUIPMENT

Appendix III to this CAP	Facilities	Compliance Status
	Check the availability of the following facility	
(a)	Sectioned/Dismantled engines (piston or turbine), according to the scope of approval.	
(b)	Mobile lifting gantry for hoisting engines and heavy equipment	
(c)	Engine slings and work stands.	
(d)	Manufacturer's recommended tools or locally fabricated tools to perform the defined maintenance tasks.	
(e)	Propeller manufacturer's recommended tools or locally fabricated tools to perform.	
(f)	The defined maintenance tasks.	
(g)	Example of contemporary propeller controllers.	
(h)	Example of various types of magnetos.	
(i)	Example of various high-energy and other types of gas turbine igniter.	
(j)	Example of various types of ANTRburetor and petrol Injection equipment.	
(k)	Example of turbocharger.	
	3. ENGINE FAMILIARIZATION FACILITY	
(a)	A complete piston engine and a turbine engine.	
(b)	Mobile lifting equipment (i.e., a small crane or over-head gantry lifting slings) and tools suitable for engine types provided.	
(c)	Desk for manuals and notices.	
(d)	Display board for inspection work sheets.	
(e)	Access and storage equipment such as benches, trestles, shelves, etc.	
(f)	Oil and fuel replenishing facility.	



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Part-3 Continued.....

PRACTICAL MAINTENANCE SKILL: AVIONICS – FACILITIES, TOOLS & EQUIPMENT

Appendix IV to this CAP	Facilities	Compliance Status
	Check the availability of the following facility	
IV.2	Avionics Workshop: Electrical	
2.1	<p>Shop equipment:- The electrical shop should be equipped with demonstration mock ups representing typical aircraft circuits. If made realistically, these can be of value for practicing adjustments and troubleshooting as well as for demonstration. All areas of electrical shop should have adequate benches, racks, shelves and storage bins; electric power points and piped compressed air to operate powered hand tools; factory safety precautions with fire warnings and extinguishing provisions. Benches should be smooth topped and have sufficient vices and power points (for soldering irons) to suit the class size planned. The following major equipment items should also be available:</p> <p>k) workshop test units for testing electrical machines (universal types are available for testing a wide variety of generators and motors)</p> <p>l) Appropriate special tools and test meters (necessary because of the considerable range and variety of electrical equipment on the modern aircraft)</p> <p>m) battery charging plant, preferably housed in a separate, well ventilated charging room. For lead acid batteries, the charging plant should be of the series type suitable for charging several batteries at different rates.</p> <p><i>Note- For charging lead acid and nickel cadmium batteries, a separate and totally isolated charging rooms and equipment will be required for each type. For nickel cadmium batteries, a constant current charger and battery analyser must be specified</i></p>	
2.2	<p>Personal tool kit Students should have their own tools and tool box. This may be issued on a shop basis i.e., a kit in the electrical shop may contain only tools required for training in this shop and be retained by the shop when the students' progress to the next phase, or students may be issued, and retain on permanent basis, a personal basic kit which is their own property until the completion of their training. Some schools may require students to purchase their own tools, their kits becoming more complete as their training advances. The following items are required for basic electrical work:</p> <p>a) one electric 5-mm point temperature controlled soldering iron (Soldering copper)</p> <p>b) one wire stripper for removing insulation</p> <p>c) a selection of small screw drivers (including a Phillips)</p> <p>d) one adjustable hook wrench (18 to 50 mm)</p> <p>e) one set of Allen Keys</p>	



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Appendix IV to this CAP	Facilities	Compliance Status
2.3	<p>The exercises with components should be designed to develop skills in dismantling, inspection, decision making and assembly. The following types of components should be available and used as appropriate according to the potential need of the trainees:</p> <ul style="list-style-type: none"> a) Lengths of the aircraft cabling with typical plugs , sockets , bulk head sealing bungs, grommets etc., for practicing wire work and making up looms b) A selection of switches, fuses, thermal circuit breakers, wire connecting devices, junction boxes and other electrical system elements c) Specimens of airborne batteries (both lead acid and nickel cadmium): sectioned, serviceable and chargeable. d) DC generators and AC alternators (constant speed drives) e) Voltage regulators, generator control units (GCU) and other types of current limiting devices (i e., vibrator types and variable resistance types) f) Various types of DC and AC motors, including engine starters, continuously rated motors, rotary and linear actuators. g) Static and rotary inverters and specimens of other types of current conversion devices, such as transformer current rectifier units (TRUs) h) Specimens of various types of airborne electrical instruments, including instruments embodying principles of the voltmeter, ammeter, ohmmeter, Wheatstone bridge, thermocouple, ratio meter, servos and synchros etc. i) Specimens of aircraft electrical heating devices, such as pitot heads, thermal deicing shoes etc. j) Specimens of aircraft lighting appliances, such as cabin fluorescent lamps, landing lamps, navigation lights etc. 	
3	AVIONIS WORKSHOP: INSTRUMENT	
3.1	Workshop equipment	
	<p>The shop should be a “clean area” i.e., it should be protected from dust, workshop fumes and industrial contaminants. Ideally, a separate building or room with filtered ventilation is desirable and in a very humid climates air-conditioning is essential. Benches should be topped with smooth hard wood or covered with a Formica top. If air conditioning is not installed, it may be necessary to provide sealed cabinets with silica gel (for air drying) for storage of some of the test equipment and instruments specimens.</p>	
3.2	<p>The instrument shop should be equipped with demonstration mock-ups representing typical aircraft circuits. If made realistically, these can be of value for practicing adjustments and troubleshooting as well as for demonstration. Benches should be smooth topped and have sufficient vices and power points (for soldering irons) to suit the class size planned. The following major equipment items should also be available:</p> <ul style="list-style-type: none"> a) Dead weight tester for pressure gauges. b) Altimeter test chamber with sub-standard instrument. c) Mock-up air speed indicator (ASI) system for leak test practice. d) Gyroscopic instrument test table. e) Mock up for compass swinging practice (i.e., an old aircraft or a specially made trolley which can be used on an outdoor site selected as compass base f) Bridge Megger for insulation testing of electrical items. 	



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Appendix IV to this CAP	Facilities	Compliance Status
3.3	<p>The personal basic tool kits of students should be supplemented by the following items</p> <ul style="list-style-type: none"> a) one set of watch makers screw drivers b) one set of miniature spanners c) one set of Allen keys (appropriate sized) d) one set of Bristol spline keys e) one electric temperature controlled soldering iron with fine point (similar to that issued in electrical shop) 	
	<p>The exercises with components should be designed to develop skill in dismantling, inspection, decision making and assembly. The following types of components should be available and used as appropriate according to the potential need of the trainees:</p> <ul style="list-style-type: none"> a) Boost or manifold pressure gauge b) Hydraulic pressure gauge c) Engine oil pressure gauge (Bourdon tube type) d) Engine oil pressure gauge (electrical type) e) ASI f) Pitot static head g) Altimeter (simple and sensitive type) h) Rate of climb indicator i) Turn and slip indicator (air driven and electrical type) j) Directional gyroscope (air driven and electrical type) k) Artificial horizon (air driven and electrical type) l) Engine speed indicator (DC and AC types) m) Oil thermometer (physical and electrical type) n) Cylinder head or jet pipe thermo couple o) Fuel content gauge (float operated and capacitance type) p) Magnetic compass q) Simple type autopilot 	
4	AVIONICS WORKSHOP : AUTOPILOT, NAVIGATION AND RADIO	
4.1	<p>The shop should be a “clean area” i.e., it should be protected from dust, workshop fumes and industrial contaminants. The shop could be combined with the instrument shop. Ideally, a separate building or room with filtered ventilation is desirable and in a very humid climates air-conditioning is essential. Benches should be topped with smooth hard wood or covered with a Formica top. If air conditioning is not installed, it may be necessary to provide sealed cabinets with silica gel (for air drying) for storage of some of the test equipment and instrument specimens.</p>	
4.2	<p>The following test equipment items should also be available:</p> <ul style="list-style-type: none"> a) Variable stabilized power supply unit b) Signal generator (high grade) c) Signal generator for bench d) Signal generator(UHF/NHF) e) Audio frequency oscillators f) Spectrum analyzer g) Cathode ray oscilloscope h) Frequency meters i) Moving coil , volt-ohm-milliammeter and multi meters j) Variac k) Digital analyzer l) Valve and transistor characteristic tester m) Digital voltmeter/ ohmmeter/ammeter 	



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Appendix IV to this CAP	Facilities	Compliance Status
	<ul style="list-style-type: none"> n) Logic probe o) RLC bridge p) Voltage standing wave meters <li style="padding-left: 40px;">Absorption and thermocouple watt meter 	
4.3	<p>The work shop should be equipped with demonstration mock-ups representing typical aircraft circuits. The following equipment may be of value for practicing adjustments and troubleshooting as well as for demonstration.</p> <ul style="list-style-type: none"> a) High frequency transmitter receiver (HF) b) Very High frequency transmitter receiver (VHF) c) automatic direction finder system d) Very High frequency omnidirectional radio range / instrument landing system (VOR/ILS) system (including glide scope and marker receivers) e) Distance measuring equipment system f) Air traffic control transponder system (including altitude reporting mode) g) Radio altimeter h) Weather radar i) Very low frequency (VLF) omega navigation system j) Loran-C-system k) Doppler navigation system l) Navigation indicators capable of presenting combined navigation information, typically a radio magnetic indicator (RMI) and horizontal situation indicator (HSI) wired for both compass and various radio navigation inputs. m) Instrument systems with electronic amplifiers (e.g. capacitance type fuel content gauges, cabin temperature controllers, and automatic pilots) 	
4.4	<p>The radio section of the work shop needs a screened room or “cage” to prevent undue radiation from equipment undergoing testing and to provide an interference free region for fine measurement. Although it is desirable to have this room adjoining radio work shop, they should not be close to the sources of interference, such as an electric overhaul shop or spark plug testing equipment. As a further safeguard against interference all power supplies to the radio work shop should be filtered and outgoing interference should be suppressed by adequate screening of aerial cables and artificial aerials. Alternatively, if a screened room is un-available, for certain types of equipment’s, it is possible to use a field simulator specified by the manufacturer. (A metal box in which the respective antenna is placed to eliminate unwanted radiations and interference). The following power supply will be required</p> <ul style="list-style-type: none"> a) AC main supply for lighting, heating, air conditioning, mains rectifiers, test instruments, soldering irons etc., (This will be at the standard voltage of the locality and the supply should be wired throughout in screened conduit) b) 30-volt DC supply, surge free and of adequate capacity for the size of the workshop. (A ring main supply from lead acid or alkaline cells, ripple free and filtered is suitable or a main rectifier /regulator can be used) c) 15-volt DC supply, also surge free d) 115–volt, 400 cycles, single phase, AC supply (This should be frequency monitored and can be taken from a 	



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Appendix IV to this CAP	Facilities	Compliance Status
	<ul style="list-style-type: none"> e) static inverter) f) 115-volt, 400 cycles, three phase AC supply, frequency monitored and wired to the working benches by screened cable g) 26-volt, 400 cycles, single phase, AC supply taken from 115-volt AC supply through a transformer or from the 26-volt AC output from the static inverter g) Compressed air and vacuum supplies 	
4.5	The personal basic tool kits of students should be same as specified for instrument workshop but may be supplemented to suit local needs.	
4.6	The exercises with components and system demonstration rigs should be designed with a view to developing skills in inspection fault finding and decision making.	



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Part-3 Continued.....

Section-II.A

ANTR 147 Maintenance Training Organization – BASIC – Checklist

Organisation Name / address / email id	Scope of approval
Place / Date of surveillance / Audit	MTOERef.: MTOERev. No.: Date: Date:
BCAA Team Leader Team Member 1 Team Member 2	Name, Designation & signature
Names of Post Holders 1 (present) Names of Post Holders 2 (present) Names of Post Holders 3 (present)	Names & Designation



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
Facility Requirements				
CAP 15	Whether the institute has its own premises, or premises taken on long term lease (five years)?			
CAP 15	Whether adequate number of class rooms for theoretical classes are available? <i>For initial approval, at least three classrooms, each properly equipped with training aids/ instructional equipment in accordance with 147.A.115 (a) must be available.</i>			
CAP 15	Whether the classrooms are properly lighted, well ventilated, furnished and free from noise?			
CAP 15	Whether the size of the classrooms is appropriate to accommodate ----- numbers of students at a time? <i>As a guideline, each room should be at least of 33 sq. mts. area.</i>			
147. A.100 (a)	Whether the size and structure of facilities ensures protection from the prevailing weather elements and proper operation of all planned training and examination on any particular day?			
147. A.100 (b)	Whether fully enclosed appropriate accommodation separate from other facilities are provided for the instruction of theory, and the conduct of knowledge examinations?			
147. A.100 (b) (1)	Whether the number of students commensurate with the approved facility? <i>The maximum number of students undergoing knowledge training during any training course shall not exceed -----.</i> <i>Institute may induct maximum two batches of students per category in a year.</i>			
147. A.100 (b) (2)	Whether the size of accommodation for examination purposes are such that no student can read the paperwork or computer screen of any other student from his/ her position during examinations?			
147. A.100 (c)	Whether the accommodation environment is maintained such that students are able to concentrate on their studies or examination as appropriate, without undue distraction or discomfort?			
147. A.100 (d)	Whether the basic training workshops and/ or maintenance facilities separate from training classrooms are provided for practical instruction appropriate to the planned training course?			



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ANTR/ CAP Ref	Requirement	Sat	Un- sat	Remarks / Finding No.
147. A.100 (d)	<p>(a) In case the organization is unable to provide above facilities, whether viable arrangements is be made with another organization located conveniently to provide such workshops and /or approved maintenance facilities under long term written agreement and technical arrangements specifying the conditions of access to all relevant areas and use thereof?</p> <p>(b) Whether:</p> <p>(i). the above agreement includes provision for issuance of airport entry passes if any?</p> <p>(ii). the legal agreement and technical arrangement specifies the BCAA access to any such contracted organisation?</p> <p>(iii). the organization developed an interface manual/ SOP with control procedures to manage and administer the course agreeable to both the primary training organization approval holder and the maintenance organisation accepted BCAA?</p> <p>(iv). Whether the arrangements made for imparting practical training with approved aircraft maintenance organisation are documented in the organisation exposition? <i>An approved AMO may have contract with only one institute at particular location.</i></p>			
CAP 15	<p>Whether the contract executed by the organization with approved maintenance organization (AMO) for providing practical training, address at least the following?</p> <p>(i) Scope of contract indicating details of the facilities proposed to be provided by the contracted organization;</p> <p>(ii) Maximum number of students that will be permitted for the practical;</p> <p>(iii) Responsibilities of both the organizations;</p> <p>(iv) Nodal person of both the organization and their responsibilities;</p> <p>(v) Condition of access to relevant areas of the facility including issue of Airport Entry Passes to the students (as applicable)</p> <p>(vi) Validity of the contract including conditions for renewal of contract; <i>Maximum number of students in a session should be limited as per the number of students permitted by the AMO for practical training.</i></p>			
147. A.100 (f)	Whether maximum number of students undergoing practical training during any training course exceeds 15 per supervisor or assessor?			
CAP 15	Whether the institute has facilities commensurate with the scope of approval for imparting practical training on each element of the training syllabus to be covered during the course?			
CAP 15	Whether the basic training workshops and/or aircraft maintenance facilities separate from training classrooms for practical instruction appropriate to the course, have all tools and equipment necessary to perform the approved scope of training? <i>Refer Appendix II, III or IV to CAP 15, as relevant.</i>			



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ANTR/ CAP Ref	Requirement	Sat	Un- sat	Remarks / Finding No.
CAP 15	<p>Whether the institute has hangar/adequate covered area to park the Aircraft/ Helicopter for demonstration and for performing practical exercises on the aircraft?</p> <p><i>A general guideline/ recommended facilities, tools and equipment required to accomplish the maintenance skills are given in Appendix II, III & IV.</i></p>			
CAP 15	<p>Whether office accommodation is provided for instructors, knowledge examiners and practical assessors of a standard to ensure that they can prepare for their duties without undue distraction or discomfort?</p>			
147. A.100 (h)	<p>Whether secure storage facilities are provided for examination papers and training records?</p> <p>Whether the storage environment is such that documents remain in good condition for the retention period as specified in 147.A.125?</p> <p><i>The storage facilities and office accommodation may be combined, subject to adequate security.</i></p>			
147. A.100 (i)	<p>Whether a library is provided containing all technical material commensurate to the scope and level of training under-taken?</p> <p><i>AMC 147.A.100 (i) (1) : For approved basic maintenance training courses this means holding and ensuring reasonable access to copies of all ANTRs and other BCAA regulations examples of typical aircraft maintenance manuals and service bulletins, Airworthiness Directives, aircraft and component records, release documentation, procedures manuals and aircraft maintenance programme.</i></p> <p><i>AMC 147.A.100 (i) (2) : Except for the ANTRs and BCAA regulations, the remainder of the documentation should represent typical examples for both large and small aircraft and cover both aeroplane and helicopters as appropriate. Avionic documentation should cover a representative range of available equipment. All documentation should be reviewed and updated on a regular basis.</i></p> <p><i>GM to 147.A.100 (i): Where the organization has an existing library of regulations, manuals and documentation required by another ANTR, it is not necessary to duplicate such a facility subject to student access being under controlled supervision.</i></p>			



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ANTR/ CAP Ref	Requirement	Sat	Un- sat	Remarks / Finding No.
CAP 15	Whether the institute maintains a dedicated web portal accessible to the public providing information such as course structure, duration, course fees with break up, syllabus, infrastructure, BCAA approval, practical training details, training facilities owned and contracted, details of instructors employed and contracted, details of students admitted, terms and conditions, feedback mechanism, contact details of person responsible for providing information, clarification and any other relevant information to the public.			
Personnel Requirements				
147. A.105 (a)	Whether Accountable manager is available and has corporate authority for ensuring that all training commitments can be financed and Carried out to the standard required by this ANTR?			
147. A.105 (b) AMC 147.A.105(b)	Whether the following post holders are available? Check CA Form 04s Training Manager (possibly his deputy in the case of a large organization) Quality Manager (possibly his deputy in the case of a large organization) Examination Manager <i>The senior person or one person from the group of persons may also be the Accountable manager subject to meeting the requirements for the Accountable manager as defined in 147. A.105 (a).</i> <i>GM to 147.A.105 (b): The number of post holders for ANTR 147 approved organization may depend upon its size and complexity and acceptable to BCAA. BCAA may consider need for a specific person to be nominated as post holder depending upon the responsibility shared.</i>			
147. A.105 (c)	Whether the organization has sufficient staff to plan / perform knowledge and practical training, conduct knowledge examination and practical assessments in accordance with the approval? <i>GM to 147.A.105 (c): The maintenance training organization should have a nucleus of permanently employed staff to undertake the minimum amount of maintenance training proposed but may contract, on a part-time basis, instructors for subjects which are only taught on an occasional basis.</i>			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
147. A.105 (d)	Whether another organisation is used to provide practical training and assessments? If yes, whether such other organisation's staff is nominated to Carry out practical training and assessments? Check BCCA Key Post holder form.			
147. A.105 (e)	Whether any person Carry out any combination of the roles of instructor, examiner and assessor and whether such person meets the requirements in terms of experience and qualifications of instructors, knowledge examiners and practical assessors, as relevant?			
147. A.105 (f)	Whether the experience and qualifications of instructors, knowledge examiners and practical assessors have been established in accordance with criteria published or in accordance with a procedure and to a standard agreed by the BCAA? <i>AMC 147.A.105 (f) : Any person currently accepted by the BCAA in accordance with the regulations prior to ANTR 147 coming into force may continue to be accepted in accordance with 147.A.105 (f).</i>			
147. A.105 (f)	Whether the instructors, Knowledge Examiners and Practical Assessors are being assessed for qualifications, skills, competency and the revalidation of ANTR 147? <i>Appendix-V to AMC 147.A.105 (f) provides Guidance for assessing the Instructors, Knowledge Examiners and Practical Assessors.</i> <i>GM to 147.A.105 (f): It is recommended that potential instructors be trained in instructional techniques.</i>			
147. A.105 (g)	Whether the knowledge examiners and practical assessors are specified in the MTOE for the acceptance of such staff? <i>GM to 147.A.105 (g): Examiners should demonstrate a clear understanding of the examination standard required by ANTR 66 and have a responsible attitude to the conduct of examinations such that the highest integrity is ensured.</i>			
147. A.105 (h)	Whether the instructors and knowledge examiners have undergone updating training at least every 24 months, appropriate to the knowledge being trained or examined relevant to: current technology, practical skills, human factors and latest training techniques? <i>AMC 147.A.105 (h) : Updating training should normally be of 35 hours duration but may be adjusted to the scope of training of the organization and particular instructor/examiner.</i>			
AMC 147.A.105	Whether the organization is also approved against other ANTRs which contain some similar functions then such functions and combined activities are properly addressed in their MTOE / Trg Procedure Manuals. Whether the MTO has appointed sufficient number of post holders depending upon the size & complexity of the organization.			
GM to 147.A.105 (h)	Whether the records show for each instructor/examiner when the updating training was scheduled and when it took place? <i>The updating training may be subdivided during the 24 months into more than one element and may include such activities as attendance at relevant lectures and symposiums.</i>			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
GM to 147.A.105 (f) / CAP 15	<p>Whether the details of personnel necessary to administrate the following training/ examination activities are reflected in the MTOE?</p> <p>a) Planning of training/ examinations, b) Management of the library and of the training materials, c) Update and maintenance of the training devices, d) Administration of trainees applications and the issuance/ retention of Certificates of Recognitions, e) Management of contractors and f) Quality Monitoring of the approval holder's training/ examination activities.</p>			
	<p><i>The declared staff shall cover all sites present on the Approval Certificate and the MTOE related section.</i></p> <p><i>Staff not belonging to the approved Maintenance Training Organization but involved into the ANTR 147 training and examination/ assessment activities must be declared (i.e. instructors of a ANTR 145 aircraft maintenance organization)</i></p>			
Records of Instructors, Examiners and Assessors				
147.A.110 (a)	Whether the organization maintains records of instructors, knowledge examiners, and practical assessor			
AMC 147.A.110	<p>Whether the following minimum information relevant to the scope of activity are kept on record in respect of each instructor, knowledge examiner and practical assessor:</p> <p>(a) Name (b) Date of Birth (c) Personnel Number (d) Experience (e) Qualifications (f) Training history (before entry) (g) Subsequent Training (h) Scope of activity (i) Starting date of employment/contract (j) If appropriate – ending date of employment/contract.</p> <p><i>The record may be kept in any format but should be under the control of the organizations quality system.</i></p> <p><i>Persons authorized to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorized manner or that such confidential records become accessible to unauthorized persons.</i></p> <p><i>GM to 147.A.110 Records of instructors, examiners and assessors Instructors, knowledge Examiners and practical assessors should be provided with a copy of their terms of reference.</i></p>			
147.A.110 (b)	Whether terms of reference are drawn up for instructors, knowledge examiners, and practical assessors and such terms of references shared with such personnel.			



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ANTR/ CAP Ref	Requirement	Sat	Un- sat	Remarks / Finding No.
Instructional Equipment				
147. A.115 (a)	Whether each classroom has appropriate presentation / instructionalequipmentofastandardthatensuresstudents can easily read presentation text/ drawings/ diagrams and figures from any position in the classroom? <i>Presentation equipment shall include representative synthetic training devices to assist students in their under- standing of the particular subject matter where such devices are considered beneficial for such purposes.</i>			
147. A.115 (b)	Whether the basic training workshops and/or maintenance facilities as specified in point 147.A.100 (d) have all tools and equipment necessary to perform the approved scope of training?			
147. A.115 (c)	Whether the basic training workshops and/or basic maintenance facilities as specified in point 147.A.100 (d) have an appropriate selection of aircraft, engines, aircraft parts / equipment and avionics equipment? AMC 147.A.115(c) <i>1. An appropriate selection of aircraft parts means appropriate in relation to the particular subject module or sub module of ANTR 66 being instructed. For example, the turbine engine module should require the provision of sufficient parts from different types of turbine engine to show what such parts look like, what the critical areas are from a maintenance viewpoint and to enable disassembly/assembly exercises to be completed. 2. Appropriate aircraft, engines, aircraft parts and avionics equipment means appropriate in relation to the particular subject module or sub module of ANTR 66 being instructed. For example, category B2 avionic training should require, amongst other equipment, access to at least one type of installed autopilot and flight director system such that maintenance and system functioning can be observed and therefore more fully understood by the student in the working environment. 3. "Access" may be interpreted to mean, in conjunction with the facilities requirement of 147.A. 100 (d), that there may be agreement with a maintenance organisation approved under ANTR-145 to access such parts, etc.</i>			
	GM to 147.A.115 <i>1. Synthetic training devices are working models of a particular system or component and include computer simulations. 2. A synthetic training device is considered beneficial for complex systems and fault diagnostic purposes.</i>			
147. A.115 (e)	Whether the training organization has a long-term viable contract with documented technical agreement and procedures with aircraft maintenance organization with regard to facility, instructors, assessors, examiners etc.? <i>Above is applicable, if the training organisation desirous of utilizing the facility for practical training so as to have the uninterrupted availability of the facility for the entire length of the course for students to become eligible to complete the course.</i>			
Maintenance Training Material				
147.A.120 (a)	Whether the maintenance training course material are provided to the student and cover (as applicable) the basic knowledge syllabus specified in ANTR 66 for the relevant aircraft maintenance licence category or subcategory.			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
AMC 147.A.120 (a)	Whether the training course notes, diagrams and any other instructional material are accurate? <i>Where an amendment service is not provided a written warning to this effect should be given.</i>			
147.A.120 (b)	Whether the students have access to examples of maintenance documentation and technical information of the library as specified in 147.A.100(i)?			
147.A.120 (b)	Whether maintenance training material relevant to the course are prepared and provided to the students? <i>Training course material includes the trainee's notes and the instructor's material (slides etc.); in effect it is important for BCAA to assess the information delivered by instructors and to ensure an acceptable ratio with student self-study notes.</i>			
Records				
147.A. 125	Whether the organization keeps all student training, examination and assessment records for a period of five years? <i>In case the institute having privilege for conduction of examination on behalf of BCAA, the above records shall be kept for unlimited period.</i>			
CAP 15	Whether the following records are maintained by the organization for a period of five years after the completion of course? a) The records of the employment of the instructor subject wise; b) Question papers and answers sheets of each student; c) List of organizations having tie up with the institute to provide some elements of practical training as permitted by ANTR; d) Module wise performance of the students in the license examination.			
Training Procedures and Quality System				
147.A.130 (a)	Whether the organization has established procedures acceptable to the BCAA to ensure proper training standards and compliance with all relevant requirements in this ANTR?			
147. A.130 (b)	Whether the organization has established a quality system including: a) an independent audit function to monitor training standards, the integrity of knowledge examinations and practical assessments, compliance with and adequacy of the procedures? b) a feedback system of audit findings to the person(s) and ultimately to the accountable manager to ensure, as necessary, corrective action? <i>AMC 147.A.130(a): Does the MTO applies the training methods & tools required to be used while teaching / training the students?</i>			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
AMC 147.A.130 (b)	<p>1. Whether the independent audit procedure ensures that all aspects of ANTR 147 compliance are checked at least once in every 12 months?</p> <p><i>The audit may be Carried out as one complete single exercise or subdivided over a 12-month period in accordance with a scheduled plan.</i></p> <p><i>In a small maintenance training organisation the independent audit function may be contracted to another maintenance training organization approved under ANTR- 147 or a competent person acceptable to the BCAA.</i></p> <p><i>Where the small training organisation chooses to contract the audit function, it is conditional on the audit being Carried out twice in every 12- month period with one such audit being unannounced.</i></p> <p><i>Where the maintenance training organisation is also approved to another ANTR requiring a quality system, then such quality systems may be combined.</i></p>			
AMC 147.A.130 (b)	<p>In case the training or examination is Carried out under the sub-contract control system, whether</p> <p>a) a pre audit procedure has been established whereby the ANTR 147 approved basic training organisation should audit a prospective sub-contractor to determine whether the services of the sub-contractor meet the intent of ANTR 147?</p> <p>b) a renewal audit of the subcontractor is performed at least once every 12 months to ensure continuous compliance with the ANTR 147 standard?</p> <p>c) the sub-contract control procedure records audits of the subcontractor and to have a corrective action follow-up plan?</p> <p><i>The independence of audit system should be established by always ensuring that audits are Carried out by personnel not responsible for the function or procedure being checked.</i></p>			
Internal Audits of the Organization				
CAP 15	Whether the Quality Manager of the approved organization developed procedure to Carry out periodical planned and unplanned audits to ensure proper compliance of the documented procedures for conduction of training?			
GM to 147.A.130 (b) and CAP 147	<p>Whether a report raised against each time an audit is Carried out describing what was checked and the resulting findings against applicable requirements, procedures and products?</p> <p><i>The report should be sent to the affected department(s) for rectification action giving target rectification dates. Possible rectification dates may be discussed with the affected department(s) before the quality department confirms such dates on the report. The affected department(s) should rectify any findings and inform the quality department of such rectification.</i></p>			
CAP 147	<p>If any finding of serious nature (Level-1) is detected during the audits, whether the same is intimated to the BCAA immediately?</p> <p><i>The responsible manager should take appropriate action to mitigate the finding. The root cause analysis along with the measures taken to prevent such finding in future should be intimated in writing by Quality Manager to BCAA</i></p>			
CAP 147	In case there is any violation of the approved procedures, whether the Quality Manager investigates the same and takes necessary action under intimation to BCAA?			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
GM to 147.A.130 (b)	In case of large training organization (an organization with the capacity to provide training for 50 students or more), whether the organisation has a dedicated quality audit group? <i>The sole function of such audit group is to conduct audits, raise finding reports and follow up to ensure that findings are being rectified.</i> <i>For the small training organisation (an organisation with the capacity to provide training for less than 50 students) it is acceptable to use competent personnel from one section/department not responsible for the function or procedure to check the section/department that is responsible subject to the overall planning and implementation being under the control of the quality manager.</i>			
GM to 147.A.130 (b)	Whether all findings resulting from the independent audit are corrected in a timely manner and to enable the Accountable Manager to remain properly informed of the state of compliance? <i>The management control and follow up system should not be contracted to outside persons.</i>			
GM to 147.A.130 (b)	Apart from rectification of findings whether the Accountable Manager holds routine meetings to check progress on rectification? <i>In the large training organization such meetings may be delegated on a day to day basis to the quality manager as long as the accountable manager meets at least once per year with the senior staff involved to review the overall performance.</i>			
Examinations				
147.A.135 (a)	Check the authorization and duties and responsibility of examination staffs for ensuring the security of question bank.			
147. A.135 (b)	Check the MTOE policy related to student's malpractices during exam, investigation process, preventive actions and information to the BCAA. <i>Any student found during a knowledge examination to be cheating or in possession of material pertaining to the examination subject other than examination papers and associated authorized documentation shall be disqualified from taking the examination and may not take any examination for at least 12 months after the date of the incident. The BCAA shall be informed of any such incident together with the details of any enquiry within one calendar month.</i>			
AMC 147.A.135	Check the MTOE policy related to Instructors /examiners /post holder's malpractice during exams, investigation process, preventive actions and information to the BCAA. GM to 147.A.135 : BCAA will determine when or if the disqualified examiner may be reinstated.			
AMC 147.A.135	Check that if the exams are On-line based, the system shall be supported with pass word security, data back-up and power back-up, etc. <i>Examinations may be computer or hard copy based or a combination of both.</i> <i>The actual questions to be used in a particular examination should be determined by the Examiners.</i>			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
AMC 147.A.135	Check that if the exams are hard copy based, the system shall be controlled with security for printing, storing and accessing, etc.			
AMC 147.A.135	Check the evidences (like register) for examiners / authorized personnel involved in choosing the questions from the question bank for any exams.			
AMC 147.A.135	Check that question papers coverage (level & number) is as per ANTR 66 syllabus. Knowledge and Practical Examiners are qualified and approved.			
AMC 147.A.135	Check that the Question bank contains adequate number of questions, ATA chapter wise indicating the levels in the database.			
AMC 147.A.135	Carry sample check to ensure that the question banks are updated on a regular basis and details are maintained.			
AMC 147.A.135	Check that the questions are selected by auto random method and number of questions and toughness level for each ATA chapter predetermined and approved by the BCAA.			
AMC 147.A.135	Verify system by checking the records that the question papers are not repeated.			
Maintenance Training Organization Exposition				
CAP 15	Check that the MTOE format and all chapters and numbering are as per the ANTR 147.			
147.A.140 (a)	Check the "Statement signed by the Accountable manager" which shall reflect all conditions given in the ANTR 147 statement.			
147.A.140 (a)	The post holders title(s) and name(s) of the person(s) nominated.			
147.A.140 (a)	Check descriptions in MTOE on duties and responsibilities of various post holders and that who will liaise with BCAA in case of absence of any post holder.			
147.A.140 (a)	Verify that the organization chart given in MTOE is as per ANTR 147 reporting system and the chain of responsibilities. <i>Note: QM is directly reporting to the Accountable manager.</i>			
147.A.140 (a)	Verify that MTOE indicated post holders, training instructors, knowledge examiners and practical assessors are appointed. Verify the list.			
147.A.140 (a)	Check whether the MTOE describes the facility standards. <i>For example, classroom facility and equipping standards, Office accommodation for post holders, instructors and examiners; Library facility, examination hall, simulator facilities, etc.</i>			
147. A.140 (a)	Check that the maintenance training courses conducted are as per the scope of approval.			
147. A.140 (a)	Verify the MTOE amendment procedure; check the involvement of Accountable Manager in MTOE revisions.			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
147.A.140 (a)	Check that MTOE training policies are supplemented by comprehensive procedures described within the MTOE or in separate Training Procedure Manuals.			
147.A.140 (a)	Check that the MTOE contains training procedures of different locations, if applicable, as per the scope approved for that location. Verify that procedures are laid down for outsourcing/using other organization's facility or aircraft or system.			
147.A.140 (a)	Check the list of the training locations, if applicable for approvals.			
147.A.140 (a)	Check that the MTOE and subsequent revisions are approved by the BCAA.			
147.A.140 (a)	Check whether the organisation is approved (in MTOE) for indirect approval of any revisions, if the TQM approve revisions.			
147.A.140 (b)	Whether the MTOE and any subsequent amendments are approved by the BCAA? <i>147. A.140 (c): Notwithstanding the above, minor amendments to the exposition may be approved through an exposition procedure (hereinafter called indirect approval), if such procedure is approved by BCAA.</i>			
Privileges of the Maintenance Training Organization				
147. A.145 (a)	Whether the maintenance training organization Carry out the activities as permitted by BCAA and in accordance with the MTOE? <i>Basic training courses to the ANTR 66 syllabus, or part thereof. The examinations on behalf of the BCAA (when permitted). The issue of certificates in accordance with Appendix-I following successful completion of the approved basic aircraft maintenance training courses and examination specified in sub paragraph (a)(1) as applicable.</i>			
147. A.145 (b)	Whether the training, knowledge examinations, and practical assessments, are Carried out only at the locations identified in the approval certificate and/or at any location specified in the MTOE?			
147.A.145 (c) & (d)	Whether the MTO sub-contracted conducting basic theoretical training, type training and related examination and if so are these sub-contracted organisations perform such functions directly under the quality system of MTO and well defined in MTOE & Training Procedure Manual. If basic theoretical training sub-contracted, have they been limited to (ANTR 66), Appendix I, Modules 1, 2, 3, 4, 5, 6, 8, 9 and 10. If the type training & examination sub-contracted, have they been limited to powerplant & avionics? Refer to AMC & GM 147.A.145(d)			
147.A.145 (e)	Is the MTO conducts examination for which they do not have approval to conduct corresponding training? (it should not) Also Refer to AMC 147.A.145(f).			
147.A.145 (g)	Whether the MTO issues certificate in accordance with the Appendix attached to ANTR 147.			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
Changes to the Maintenance Training Organization				
147.A.150 (a)	Is there any change taken place to the organisation which affects the approval of the organisation?			
147. A.150 (a)	<p>If there is any change and whether the M T O has a well-documented procedure notified such change to BCAA?</p> <ul style="list-style-type: none"> • <i>Any proposed changes to the organization that affect the approval before any such change takes place, in order to enable the BCAA to determine continued compliance with this ANTR and to amend if necessary the maintenance training organization approval certificate.</i> • <i>147. A.150 (b): The BCAA may prescribe the conditions under which the maintenance training organization may operate during such changes unless the BCAA determines that the maintenance training organization approval must be suspended.</i> • <i>147. A.150 (c): Failure to inform the BCAA of such changes may result in suspension or revocation of the maintenance training organization approval certificate backdated to the actual date of the changes.</i> 			
Continued Validity				
147. A.155 / AMC 147.A.155	<p>Check the validity of approval granted to the organisation. <i>An approval shall be issued for a period not exceeding five years and shall be limited to the validity of the contractual agreement with the maintenance organisation (if applicable). It shall remain valid subject to:</i></p> <ol style="list-style-type: none"> <i>a. the organization remaining in compliance with this ANTR, in accordance with the provisions related to the handling of findings as specified under 147.A.160; and</i> <i>b. the BCAA officials being granted access to the organization including contracted organisation to determine continued compliance with this ANTR and</i> <i>c. The certificate not being surrendered or revoked.</i> <i>d. Contracted organizations shall remain in compliance with the organisation approval requirements of BCAA and terms and conditions of the contract</i> <i>e. The approval of the organization may be withdrawn / limited if the organization has not inducted any batch of student consecutive for two years.</i> <p><i>147. A.155 (b): Upon surrender or revocation, the approval shall be returned to the BCAA.</i></p>			
147.A.160	Has the MTO well defined procedure to identify and address them for appropriate corrective action?			
The Approved Basic Training Course				
147.A . 200 (a)	Whether the approved basic training course consists of basic knowledge training, Knowledge examination, practical training and a practical assessment?			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
147.A . 200 (b) / AMC 147.A.200 (b)	<p>Whether the knowledge training element covers the subject matter for a category or subcategory aircraft maintenance licence as specified in ANTR 66?</p> <p><i>AMC 147.A.200(b): Each licence category or subcategory basic training course may be subdivided into modules or sub modules of knowledge and may be intermixed with the practical training elements subject to the required time elements of 147.A.200 (f) and (g) being satisfied.</i></p>			
147.A . 200 (c)	<p>Whether the knowledge examination element covers a representative cross section of subject matter from the training element?</p>			
147.A . 200 (d) / AMC 147.A.200 (d)	<p>Whether the practical training element covers the practical use of common tooling/equipment, the disassembly/assembly of a representative selection of aircraft parts and the participation in representative maintenance activities being Carried out relevant to the particular ANTR 66 complete module?</p> <p>AMC 147. A. 200 (d) <i>Where the maintenance training organisation approved under ANTR 147 contracts the practical training element either totally or in part under long term contract and technical arrangement with another organisation in accordance with 147.A.100(d), the organisation in question should ensure that the practical training elements are properly Carried out. Practical training facility shall be as per the scope of approval of the training organization. At least 30% of the practical training element should be Carried out in an actual maintenance working environment. The list of such practical training element required to be documented in the organisation MTOE. The practical task should cover cross representative sections of the aircraft systems and listed ATA chapter wise.</i></p>			
147.A . 200 (e)	<p>Whether the practical assessment element covers the practical training and determines whether the student is competent at using tools and equipment and working in accordance with maintenance manuals?</p>			
147.A . 200 (f) / AMC 147.A.200 (f)	<p>Whether the duration of basic training courses is in accordance with Appendix I of this ANTR?</p> <p>AMC 147.A.200 (f) <i>1. In order to follow pedagogical and human factors principles, the maximum number of training hours per day for the theoretical training should not be more than 6 hours. A training hour means 60 minutes of tuition excluding any breaks, examination, revision, preparation and aircraft visit. In exceptional cases, the BCAA may allow deviation from this standard when it is properly justified that the proposed number of hours follows pedagogical and human factors principles. These principles are especially important in those cases where:</i></p> <ul style="list-style-type: none"> • <i>Theoretical and practical training are performed at the same time;</i> • <i>Training and normal maintenance duty/apprenticeship is performed at the same time.</i> 			
147.A . 200 (f) / AMC 147.A.200 (f)	<p>Whether the minimum participation time for the trainee to meet the objectives of the course should not be less than 90 % of the tuition hours?</p>			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
147.A . 200 (f) / AMC 147.A.200 (f)	In case a student's attendance is less than 90%, whether the student is provided with additional training in order to meet the minimum participation time?			
147.A . 200 (f)	Whether any student is issued with a certificate of recognition without meeting the minimum participation time?			
147.A.200 (g) / AMC 147.A.200 (g)	Whether, MTO has the appropriate procedure for conversion of the courses between Categories / Sub-Categories?			
147.A.200 (h)	Whether, MTO has the appropriate procedure to maintain the course duration as per Appendix I to ANTR 147 including that of the competent assessment for the use of tools and equipment and working in accordance with maintenance manuals.			
Basic Knowledge Examinations				
147. A. 205 (a)	Whether the organisation is approved to conduct Basic Knowledge Examinations on behalf of BCAA?			
147. A. 205 (a)	Whether the Basic knowledge examinations are in accordance with the standard defined in ANTR 66?			
147. A. 205 (b)	Whether the Basic knowledge examinations are conducted without the use of training notes?			
147.A.205(c)	Whether the Basic knowledge examinations covers a representative cross section of subjects from the particular module of training completed in accordance with ANTR 66?			
AMC 147.A.205	Whether MTO has the procedure to address the requirement of TNA in the case where MTO requires to conduct examination to candidates who did not attend an approved basic training course?			
Basic Practical Assessment				
147. A.210 (a)	Whether the Basic practical assessments are Carried out during the basic maintenance training course by the nominated practical assessors at the completion of each visit period to the practical workshops/ maintenance facility? <i>AMC 147. A. 210 (a): Where the maintenance training organisation approved under ANTR147 contracts the practical training element either totally or in part to another organisation in accordance with 147.A.100 (d) and chooses to nominate practical assessors from the other organisation, the organisation in question should ensure that the basic practical assessments are Carried out.</i>			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
147. A. 210 (b) & AMC 147.A.210 (b)	<p>Whether following points are ensured and recorded before the students are assessed and declared pass in the practical element of the training?</p> <p>a) Demonstrate the capability to use relevant tools/ equipment/ test equipment as specified by the tool/ equipment/test equipment manufacturer; and</p> <p>b) Use of maintenance manuals in that the student can Carry out the required inspection/ testing without missing any defects; and</p> <p>c) Readily identify the location of components and is capable of correct removal/ fitment/ adjustment of such components; and</p> <p>d) Show an appreciation of the need to ensure clean working conditions; and</p> <p>e) Observance of safety precautions for the student and the product; and</p> <p>f) Demonstrate a responsible attitude in respect to flight safety and airworthiness of the aircraft.</p> <p><i>The student is only required to Carry out enough inspection/ testing and component removal/ fitment/ adjustments to prove capability.</i></p> <p><i>Appendix III to AMC to ANTR 66 provides criteria for the competence assessment performed by the designated assessors (and their qualifications).</i></p>			



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Part-3 Continued.....

Section-II.B (Type Training)

ANTR 147 MTO – TYPE TRAINING – Checklist

Organisation Name / address / email id	Scope of approval
Place / Date of Audit	MTOE Ref.: Date: MTOE Rev no.: Date:

<p>BCAA Team Leader</p> <p>Team Member 1</p> <p>Team Member 2</p>	<p>Name & signature</p>
<p>Names of Post Holders 1</p> <p>Names of Post Holders 2</p> <p>Names of Post Holders 3</p>	<p>Names</p>



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ANTR / CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
ANTR 147.A.10 & 100 General & Facility Requirements				
147. A.10	Check the registration of the Maintenance Training Organisation (MTO)			
147.A.100 (a) to (d) and CAP referenced therein	Refer to Section-II.A above			
147. A.100 (e)	Check for an aircraft type and task training course have provision to access appropriate maintenance facilities as per the scope of approval			
147. A.100 (e)	Check for an aircraft type and task training course have provisions for accessing synthetic training system to support the above mentioned training			
147.A.100 (f) to (h) and CAP referenced therein	Refer to Section-II.A above			
ANTR 147. A.105 Personnel Requirements				
147. A.105 (a) to (h)	Refer to Section-II.A above as applicable to Type Trg Organisation			
ANTR 147. A.110 Records of Instructors, Examiners and Assessors				
147. A.110	Refer to Section-II.A above as applicable to Type Trg Organisation			
ANTR 147. A.115 Instructional Equipment				
147. A.115 (a)	Check that each classroom is equipped with Projector and writing board and other training aids like charts, drawings, diagrams, sample components, cockpit layout and figures.			
147. A.115 (b),(c)	Check for synthetic training devices that are required as a part of training equipment (e.g., Component location & access, system adjustments, application of tools, installation, etc.)			
147. A.115 d) and (e)	Check whether the trainees have access to the appropriate aircraft types covered in the scope.			
	Or copy of an agreement, records and evidences for getting practical from the contracted approved MRO.			
GM to 147.A.115(1)	Verify that the serviceability of synthetic training devices or working models or components and computer simulations. Note: Synthetic devices shall facilitate access to cockpit-initiated BITE, virtual test equipment, active schematics, LRUs and a suite of malfunctions and component locations. This is applicable to the organisations relying on synthetic devices and Line maintenance practical.			



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
GM to 147.A.115(2)	Check whether the organisation has any system to impart training on fault diagnostic and to explain more complex systems.			
ANTR 147. A.120 Maintenance Training Material				
147. A.120 a)	Verify that the trainees are provided with course materials as stipulated in ANTR 66 syllabus for the license category / subcategory of specific aircraft type.			
AMC 147.A.120 (a)	Carryout sample check on training course materials for accuracy and amendments.			
147.A.120(b)	Check whether students have access to the current applicable maintenance data, as given in ANTR 145.A.45.			
ANTR 147. A. 125 Records				
147. A. 125	Check the students' assessment records such as phase-wise exam results, practical assessment sheets and certificate of completion. Note: Records preserved for unlimited period.			
ANTR 147. A.130 Training Procedures and Quality System				
147.A.130 (a), (b) & its AMCs / GMs	Refer to Section-II.A above as applicable to Type Trg Organisation			
147.A.130 b)	Verify that the Question bank for knowledge examinations and practical assessments are controlled by authorised person only.			
147.A.130 b)	Check that the authorised person who handles the Question bank for knowledge examinations and practical assessments is not on teaching role.			
ANTR 147. A.135 Examinations				
147. A.135	Refer to Section-II.A above as applicable to Type Trg Organisation			
ANTR 147. A.140 Maintenance Training Organization Exposition				
147. A.140	Refer to Section-II.A above as applicable to Type Trg Organisation			
Privileges of the Maintenance Training Organization				
147.A.145	Refer to Section-II.A above as applicable to Type Trg Organisation			
Changes to the Maintenance Training Organization				
147. A.150	Refer to Section-II.A above as applicable to Type Trg Organisation			
Continued Validity				



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ANTR/ CAP Ref	Requirement	Sat	Un-sat	Remarks / Finding No.
147.A.155	Refer to Section-II.A above as applicable to Type Trg Organisation			
147. A.160 Findings				
147. A.160	Check whether all BCAA notified findings are rectified satisfactorily within the time limit pertaining to the level of findings. The MTO has a well-defined procedure to identify and address them for appropriate corrective action?			
ANTR 147. A. 300 Aircraft Type/Task Training				
147. A.300	Check whether the maintenance training organization approved to Carry out task training; if so, check the task lists approved, training materials, tools and equipment for the tasks.			
AMC 147. A. 300	Check whether the maintenance training organisation approved to conduct part-course (e.g., only CFM 56 Engine or APU), if so the MTOE shall clearly indicate the extend of the course (Theory/practical/interface) and letter/certificate indicates the coverage of specific elements.			
ANTR 147. A.305 Aircraft Type Examinations and Task Assessment				
147. A.305 a)	Check that the aircraft type examinations or aircraft task assessments are conducted as specified in ANTR 66; MTOE or procedure manuals must indicate number of question, exam duration, pass percentage, and intimation to BCAA, issuing of certificate, etc.			
147. A.305 a)	Check Knowledge examination is Carried out as per the standard specified in ANTR 66.			



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Part-4: FINDING SUMMARY

(Attach Separate Sheet, if space is inadequate)

S/N	ANTR / CAP Ref	Details of Finding(s)	Level of Findings

Signature of Team Member

Signature of Team Member

Name & Designation: Date:

Name & Designation: Date: