
BHUTAN CIVIL AVIATION REQUIREMENTS



BCAR-147

Approved Maintenance Training Organisation

Issue 01, Rev. 00

01 September 2022

Foreword

The South Asian Regional Initiative (SARI) has developed harmonized regulation SARI Part-147 for 'Approved Maintenance Training Organisation' to be adopted by its Member States.

Bhutan Civil Aviation Authority (BCAA) has published this regulation as BCAR-147 'Approved Maintenance Training Organisation'.

This issue is the initial publication based on SARI Part-147 - Initial Issue dated 15 February 2013 and becomes effective from 01 September 2022.

Future amendments to BCAR-147 will be as per the Notice of Proposed Amendment (NPA) issued by the SARI. This procedure will allow for the amendment of SARI Part-147 to be proposed by the Civil Aviation Authority of any of the SARI Member States and will, also, include provision for changes to be made with amendments to ICAO SARPS and EASA Part-147.

New, amended and corrected text will be enclosed with a vertical line on the left-hand side of the page until a subsequent 'amendment' is issued. However, correction of typographical mistakes and reformat of paragraphs are not indicated.

'Acceptable Means of Compliance' (AMC) illustrate a means, or several alternative means, but not necessarily the possible means by which a requirement can be met.

'Guidance Material' (GM) helps to illustrate the meaning of a requirement.



(Kinley Wangchuk)

Director



List of Amendments

Amendment	Issue date	Remark
Issue 01, Rev. 00	01 September 2022	Initial Issue

List of Effective Pages

Section	Page	Issue/Revision	Date
Forward	I	01/00	01 September 2022
List of Amendments	II	01/00	01 September 2022
List of Effective Pages	III	01/00	01 September 2022
Table of Contents	IV-V	01/00	01 September 2022
Section A – Technical Requirements	1-45	01/00	01 September 2022
Section B – Procedure for BCAA	46-47	01/00	01 September 2022
Appendixes to the Implementing rules	48-55	01/00	01 September 2022
Appendixes to AMCs	56 -62	01/00	01 September 2022

Table of Contents

Foreword	I
List of Amendments	II
List of Effective Pages	III
Table of Contents	IV
Section A – Technical Requirements	1
Subpart A - General	2
BCAR-147.A.1	2
BCAR-147.A.5 Scope	3
BCAR-147.A.10 General	4
<i>GM 147.A.10 General</i>	5
BCAR-147.A.15 Application	6
<i>AMC 147.A.15 Application</i>	7
Subpart B – Organisational Requirements	8
BCAR-147.A.100 Facility Requirements	8
<i>AMC 147.A.100(i) Facility requirements</i>	9
<i>GM 147.A.100(i) Facility Requirements</i>	10
BCAR-147.A.105 Personnel Requirements.....	11
<i>AMC 147.A.105 Personnel Requirements</i>	12
<i>AMC 147.A.105(b) & (g) Personnel Requirements</i>	12
<i>AMC 147.A.105(f) Personnel Requirements</i>	12
<i>AMC 147.A.105(h) Personnel Requirements</i>	12
<i>GM 147.A.105 (c) Personnel Requirements</i>	13
<i>GM 147.A.105 (f) Personnel Requirements</i>	13
<i>GM 147.A.105 (g) Personnel Requirements</i>	13
<i>GM 147.A.105 (h) Personnel Requirements</i>	13
BCAR-147.A.110 Records of Instructors, Examiners and Assessors	14
<i>AMC 147.A.110 Records of Instructors, Examiners and Assessors</i>	15
<i>GM 147.A.110 Records of Instructors, Examiners and Assessors</i>	16
BCAR-147.A.115 Instructional Equipment.....	17
<i>AMC 147.A.115 (c) Instructional Equipment</i>	18
<i>GM 147.A.115 (a) Instructional Equipment</i>	19
BCAR-147.A.120 Maintenance Training Material	20
<i>AMC 147.A.120 (a) Maintenance Training Material</i>	21
BCAR-147.A.125 Records.....	22
BCAR-147.A.130 Training Procedures and Quality System	23
<i>AMC 147.A.130 (b) Training Procedures and Quality System</i>	24
<i>GM 147.A.130 (b) Training Procedures and Quality System</i>	25
BCAR-147.A.135 Examinations	26
<i>AMC 147.A.135 Examinations</i>	27
<i>GM 147.A.135 Examinations</i>	28
BCAR-147.A.140 Maintenance Training Organisation Exposition.....	29

<i>AMC 147.A.140 Maintenance Training Organisation Exposition</i>	30
BCAR-147.A.145 Privileges of the Maintenance Training Organisation	31
<i>AMC 147.A.145 (d) Privileges of the Maintenance Training Organisation</i>	32
<i>GM 147.A.145 (d) Privileges of the Maintenance Training Organisation</i>	33
BCAR-147.A.150 Changes to the Maintenance Training Organization.....	34
BCAR-147.A.155 Continued Validity	35
BCAR-147.A.160 Findings.....	36
Subpart C – The Approved Basic Training Course	37
BCAR-147.A.200 The Approved Basic Training Course	37
<i>AMC 147.A.200 The Approved Basic Training Course</i>	38
<i>AMC 147.A.200(b) The Approved Basic Training Course</i>	38
<i>AMC 147.A.200(d) The Approved Basic Training Course</i>	38
<i>AMC 147.A.200(g) The Approved Basic Training Course</i>	38
BCAR-147.A.205 Basic Knowledge Examination	39
<i>AMC 147.A.205 Basic Knowledge Examinations</i>	40
BCAR-147.A.210 Basic Practical Assessment	41
<i>AMC 147.A.210 (a) Basic Practical Assessment</i>	42
<i>AMC 147.A.210 (b) Basic Practical Assessment</i>	42
Subpart D - Aircraft Type/Task Training	43
BCAR-147.A.300 Aircraft Type/Task Training.....	43
<i>AMC 147.A.300 Aircraft Type/Task Training</i>	44
BCAR-147.A.305 Aircraft Type Examinations and Task Assessments	45
Section B - Procedure for BCAA	46
Appendices to the Technical Requirements	48
Appendix I Basic Training Course Duration.....	49
Appendix II Maintenance Training Organisation Approval referred to in BCAR-147 – BCAA Form 11 ...	50
Appendix III Certificates of Recognition referred to in BCAR-147- BCAA Forms 148 and 149	52
Appendices To AMCs	56
Appendix I Maintenance Training Organisation Exposition (MTOE).....	57
Appendix II BCAA Form 4.....	60
Appendix III BCAA Form 12	61
Appendix IV BCAA Form 22	62

Section A – Technical Requirements

Subpart A - General

BCAR-147.A.1

For the purpose of BCAR-147, the Competent Authority shall be Bhutan Civil Aviation Authority.

Within the scope of this BCAR, the following definitions shall apply:

- (a) 'Aircraft' means any machine that can derive support in the atmosphere from the reactions of the air other than reactions of the air against the earth's surface;
- (b) 'Certifying staff' means personnel responsible for the release of an aircraft or a component after maintenance;
- (c) 'Component' means any engine, propeller, part or appliance;
- (d) 'Maintenance' means any one or combination of overhaul, repair, inspection, replacement, modification or defect rectification of an aircraft or component, with the exception of pre-flight inspection;
- (e) 'Organisation' means a natural person, a legal person or part of a legal person. Such an organisation may hold more than one BCAR-147 approval.
- (f) 'Training organization' means an organisation or part of an organization registered as a legal entity.

BCAR-147.A.5 Scope

This section establishes the requirements to be met by organisations seeking approval to conduct training and examination as specified in BCAR-66.

BCAR-147.A.10 General

A training organisation shall be an organisation or part of an organisation registered as a legal entity.

GM 147.A.10 General

Such an organisation may conduct business from more than one address and may be approved under more than one part of the Bhutan Civil Aviation Requirements.

BCAR-147.A.15 Application

- (a) An application for an approval or for the change of an existing approval shall be made on a form and in a manner established by the BCAA.
- (b) An application for an approval or change to an approval shall include the following information:
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.

AMC 147.A.15 Application

In a form and in a manner prescribed by the BCAA means that the application should be made on a BCAA Form 12.

Subpart B – Organisational Requirements

BCAR-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.
- (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 organization 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 BCAA shall require access to any such contracted organisation and the written agreement shall specify this access.
- (e) 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 BCAR-147.A.115(d).
- (f) The maximum number of students undergoing practical training during any training course shall not exceed 15 per supervisor or assessor.
- (g) 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.
- (h) 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 147.A.125. The storage facilities and office accommodation may be combined, subject to adequate security.
- (i) A library shall be provided containing all technical material appropriate to the scope and level of training undertaken.

AMC 147.A.100(i) Facility requirements

1. For approved basic maintenance training courses this means holding and ensuring access to copies of all Bhutan Civil Aviation Requirements, examples of typical aircraft maintenance manuals, service bulletins , airworthiness directives, aircraft and component records, release documentation procedures manuals and aircraft maintenance programmes.
2. Except for the Bhutan Civil Aviation Requirements the remainder of the documentation should represent typical examples for both large and small aircraft and cover both aeroplanes 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.

GM 147.A.100(i) Facility Requirements

Where the organisation has an existing library of regulations, manuals and documentation required by another BCAR it is not necessary to duplicate such a facility subject to student access being under controlled supervision.

BCAR-147.A.105 Personnel Requirements

- (a) The organisation 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 BCAR.
- (b) A person or group of persons, whose responsibilities include ensuring that the maintenance training organisation is in compliance with the requirements of this BCAR, 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 organisation shall contract sufficient staff to plan/-perform knowledge and practical training, conduct knowledge examinations and practical assessments in accordance with the approval.
- (d) By derogation to paragraph (c), when another organisation is used to provide practical training and assessments, such other organisation'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.

AMC 147.A.105 Personnel Requirements

1. The larger maintenance training organisation (an organisation with the capacity to provide training for 50 students or more at any one time) should appoint a training manager with the responsibility of managing the training organisation on a day to day basis. Such person could also be the accountable manager. In addition, the organisation should appoint a quality manager with the responsibility of managing the quality system as specified in paragraph BCAR-147.130(b) and an examination manager with the responsibility of managing the relevant BCAR-147 Section 1 Subpart C or Subpart D examination system. Such person(s) may also be an instructor and/or examiner. The accountable manager, the training manager or the examination manager may also function as an instructor and /or examiner/assessor, however they shall not function as an examiner in respect of subjects delivered by them.
2. The smaller maintenance training organisation (an organisation with the capacity to provide training for less than 50 students at any one time) may combine any or all of the sub-paragraph (1) positions subject to the BCAA verifying and being satisfied that all functions can be properly carried out in combination. Personnel involved in quality audit functions should be independent from the functions detailed in (1).
3. When the organisation is also approved against other Bhutan Civil Aviation Requirements which contain some similar functions then such functions may be combined.

AMC 147.A.105(b) & (g) Personnel Requirements

With the exception of the accountable manager, a BCAR Form 4 should be completed for each person nominated to hold a position required by BCAR-147.105(b).

AMC 147.A.105(f) Personnel Requirements

Any person currently accepted by the BCAA prior to BCAR-147 coming into force may continue to be accepted in accordance with BCAR-147.105(f).

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 organisation and particular instructor/examiner.

GM 147.A.105 (c) Personnel Requirements

The maintenance training organisation 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.

GM 147.A.105 (f) Personnel Requirements

It is recommended that potential instructors be trained in instructional techniques.

GM 147.A.105 (g) Personnel Requirements

Examiners should demonstrate a clear understanding of the examination standard required by BCAR-66 and have a responsible attitude to the conduct of examinations such that the highest integrity is ensured.

GM 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.

BCAR-147.A.110 Records of Instructors, Examiners and Assessors

- (a) The organisation shall maintain a record of all 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 all 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 organisations quality system.
3. 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.
4. The BCAA may investigate the records system for *issuance of initial and renewal* approval or when it has cause to doubt the competence of a particular person.

GM 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.

BCAR-147.A.115 Instructional Equipment

- (a) Each classroom shall have appropriate presentation 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 considered beneficial for such purposes.

- (b) The basic training workshops and/or maintenance facilities as specified in BCAR-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 maintenance facilities as specified in BCAR-147.A.100(d) must have an appropriate selection of aircraft, engines, aircraft parts and avionic equipment.
- (d) The aircraft type training organisation as specified in BCAR-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.

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 BCAR-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 avionic equipment means appropriate in relation to the particular subject module or sub-module of BCAR-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 BCAR-147.100(d), that there may be an agreement with a maintenance organization approved under BCAR-145 to access such parts, etc.

GM 147.A.115 (a) Instructional Equipment

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.

BCAR-147.A.120 Maintenance Training Material

- (a) Maintenance training course material shall be provided to the student and cover as applicable:
1. the basic knowledge syllabus specified in BCAR-66 for the relevant aircraft maintenance licence category or subcategory and,
 2. the type course content required by BCAR-66 for the relevant aircraft type and aircraft maintenance licence category or subcategory.
- (b) Students shall have access to examples of maintenance documentation and technical information of the library as specified in BCAR-147.A.100(i).

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.

BCAR-147.A.125 Records

The organisation shall keep all student training, examination and assessment records for at least five years following completion of the particular student's course.

BCAR-147.A.130 Training Procedures and Quality System

- (a) The organisation shall establish procedures acceptable to the BCAA to ensure proper training standards and compliance with all relevant requirements in this BCAR.
- (b) The organisation shall establish a quality system including:
 - 1. an independent audit function to monitor training standards, the integrity of knowledge examinations and practical assessments, compliance with and adequacy of the procedures, and
 - 2. a feedback system of audit findings to the person(s) and ultimately to the accountable manager referred to in BCAR-147.A.105(a) to ensure, as necessary, corrective action.

AMC 147.A.130 (b) Training Procedures and Quality System

1. The independent audit procedure should ensure that all aspects of BCAR-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.
2. In a small maintenance training organisation the independent audit function may be contracted to another maintenance training organisation approved under BCAR-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.
3. Where the maintenance training organisation is also approved under another part of the Bhutan Civil Aviation Requirements 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:
 - (i) a pre audit procedure should be established whereby the BCAR-147 approved maintenance training organisation' should audit a prospective sub-contractor to determine whether the services of the sub-contractor meet the intent of BCAR-147.
 - (ii) a renewal audit of the subcontractor should be performed at least once every 12 months to ensure continuous compliance with the BCAR-147.
 - (iii) the sub-contract control procedure should record audits of the subcontractor and to have a corrective action follow-up plan.
5. The independence of the 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 147.A.130 (b) Training Procedures and Quality System

1. The primary objective of the quality system is to enable the training organisation to satisfy itself that it can deliver properly trained students and that the organisation remains in compliance with BCAR-147.
2. The independent audit is a process of routine sample checks of all aspects of the training organisation'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.
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.
4. A large training organisation (an organisation 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.
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 organisation 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.

BCAR-147.A.135 Examinations

- (a) The examination staff shall ensure the security of all questions.
- (b) Any student found during a knowledge examination to be cheating or in possession of material pertaining to the examination subject other than the examination papers and associated authorised 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 examination staff.

GM 147.A.135 Examinations

The BCAA will determine when or if the disqualified examiner may be reinstated.

BCAR-147.A.140 Maintenance Training Organisation Exposition

- (a) The organisation shall provide an exposition for use by the organisation describing the organisation and its procedures and containing the following information:
1. 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 this BCAR and shall be complied with at all times.
 2. the title(s) and name(s) of the person(s) nominated in accordance with BCAR-147.A.105(b).
 3. 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 organisation.
 4. a maintenance training organisation 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.
 6. 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 BCAR-147.A.145(b).
 7. a list of the maintenance training courses which form the extent of the approval.
 8. the maintenance training organisation's exposition amendment procedure.
 9. the maintenance training organisation's procedures, as required by BCAR-147.A.130(a).
 10. the maintenance training organisation's control procedure, as required by BCAR-147.A.145(c), when authorised to conduct training, examination and assessments in locations different from those specified in BCAR-147.A.145(b).
 11. a list of the locations pursuant to BCAR-147.A.145(b).
 12. a list of organisations, if appropriate, as specified in BCAR-147.A.145(d).
- (b) The maintenance training organisation's exposition and any subsequent amendments shall be approved by the BCAA.
- (c) Notwithstanding paragraph (b) minor amendments to the exposition may be approved through an exposition procedure (hereinafter called indirect approval).

AMC 147.A.140 Maintenance Training Organisation Exposition

1. A recommended format of the exposition is included in AMC Appendix 1.
2. *Reserved*
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 as per Appendix 1 item 2.18 plus a list of sub-contractors as required by BCAR-147.140(a)(12) and detailed in AMC Appendix 1 item 1.7.
4. The BCAA may approve a delegated exposition approval system for all changes other than those affecting the approval.

BCAR-147.A.145 Privileges of the Maintenance Training Organisation

- (a) The maintenance training organisation may carry out the following as permitted by and in accordance with the maintenance training organisation exposition:
1. basic training courses to the BCAR-66 syllabus, or part thereof.
 2. aircraft type/task training courses in accordance with BCAR-66.
 3. the examinations on behalf of the BCAA , including the examination of students who did not attend the basic or aircraft type training course at the maintenance training organization.
 4. the issue of certificates in accordance with Appendix III following successful completion of the approved basic or aircraft type training courses and examinations specified in subparagraphs (a)(1), (a)(2) and (a)(3), as applicable.
- (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 the maintenance training organisation exposition.
- (c) By derogation to paragraph (b), the maintenance training organisation may only conduct training, knowledge examinations and practical assessments in locations different from the paragraph (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.
- (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 BCAR-66, Appendix I, Modules 1, 2, 3, 4, 5, 6, 8, 9 and 10.
 3. The subcontracting of type training and examination systems.
- (e) An organisation may not be approved to conduct examinations unless approved to conduct training.

AMC 147.A.145 (d) Privileges of the Maintenance Training Organisation

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 BCAR-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 BCAR-147 approved maintenance training organisation's students should meet requirements of BCAR-147 for the duration of that training or examination and it remains the BCAR-147 organisation's responsibility to ensure such requirements are satisfied.
2. The maintenance training organisation approved under BCAR-147 is not required to have complete facilities and personnel for training that it needs to subcontract but it should have its own expertise to determine that the sub-contractor meets the BCAR-147 standards. Particular attention should be given to ensuring that the training that is delivered also meets the requirements of BCAR-66 and the aircraft technologies as appropriate.
3. The contract between the maintenance training organisation approved under BCAR-147 and the sub-contractor should contain:
 - (a) a provision for the BCAA to have right of access to the sub-contractor;
 - (b) a provision for the sub-contractor to inform the BCAR-147 approved maintenance training organisation of any change that may affect its BCAR-147 approval, before any such change takes place.

GM 147.A.145 (d) Privileges of the Maintenance Training Organisation

1. The pre audit procedure should focus on establishing compliance with the training and examination standards set out in BCAR-147 and BCAR-66.
2. The fundamental reason for allowing a maintenance training organisation approved under BCAR-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 BCAR-66 modules.
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 BCAR-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 BCAR-147.A.200. The intent of the “limited subcontracting” option as specified in BCAR-147.A.145 is to grant BCAR-147 approvals only to those organisations having themselves at least the capacity to teach on aircraft maintenance specific matters.

BCAR-147.A.150 Changes to the Maintenance Training Organization

- (a) The maintenance training organisation shall notify the BCAA of any proposed changes to the organisation that affect the approval before any such change takes place, in order to enable the BCAA to determine continued compliance with this BCAR and to amend if necessary the maintenance training organisation approval certificate.
- (b) The BCAA may prescribe the conditions under which the maintenance training organisation may operate during such changes unless the BCAA determines that the maintenance training organisation approval must be suspended.
- (c) Failure to inform the BCAA of such changes may result in suspension or revocation of the maintenance training organisation approval certificate backdated to the actual date of the changes.

BCAR-147.A.155 Continued Validity

- (a) An approval shall be issued for a maximum period of one year. It shall remain valid subject to:
1. the organisation remaining in compliance with this BCAR, in accordance with the provisions related to the handling of findings; and
 2. the BCAA being granted access to the organisation to determine continued compliance with this BCAR; and
 3. the certificate not being suspended, surrendered or revoked.
- (b) Upon suspension, surrender or revocation, the approval shall be returned to the BCAA.

BCAR-147.A.160 Findings

- (a) A level 1 finding is one or more of the following:
1. any significant non-compliance with the examination process which would invalidate the examination(s),
 2. *reserved*
 3. the lack of an accountable manager,
 4. a significant non-compliance with the training process.
- (b) A level 2 finding is any non-compliance with this BCAR other than level 1 findings.
- (c) After receipt of notification of findings, the holder of the maintenance training organisation approval shall define a corrective action plan and demonstrate corrective action to the satisfaction of the BCAA within a period agreed with this authority.

Subpart C – The Approved Basic Training Course

BCAR-147.A.200 The Approved Basic Training Course

- (a) The approved basic training course shall consist of 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 A, B1 or B2 aircraft maintenance licence as specified in BCAR-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 carried out relevant to the particular BCAR-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 The Approved Basic Training Course

For the purpose of this paragraph, a training hour means 60 minutes training, without pauses.

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 BCAR-147.200(f) to (g) inclusive being satisfied.

AMC 147.A.200(d) The Approved Basic Training Course

1. Where the maintenance training organisation approved under BCAR-147 sub-contracts the practical training element either totally or in part to another organisation in accordance with BCAR-147.100(d), the approved organization should ensure that the practical training elements are properly carried out.
2. At least 30% of the practical training element should be carried out in an actual maintenance working environment.

AMC 147.A.200(g) The Approved Basic Training Course

Typical extension durations are given below:

- (a) The approved basic training course to qualify for extension from holding a BCAR-66 aircraft maintenance licence in subcategory A1 to subcategory B1.1 or B2 should not be less than 1600 hours and for extension from holding a BCAR-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.
- (b) The approved basic training course to qualify for extension from holding a BCAR-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.
- (c) The approved basic training course to qualify for extension from holding a BCAR-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.
- (d) The approved basic training course to qualify for extension from holding a BCAR-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.

BCAR-147.A.205 Basic Knowledge Examination

Basic knowledge examinations shall:

- (a) be in accordance with the standard defined in BCAR-66.
- (b) be conducted without the use of training notes.
- (c) cover a representative cross section of subjects from the particular module of training completed in accordance with BCAR-66.

AMC 147.A.205 Basic Knowledge Examinations

The BCAA may accept that the maintenance training organisation approved under BCAR-147 can conduct examination of students who did not attend an approved basic course at the organisation in question.

BCAR-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 BCAR-147.A.200(e).

AMC 147.A.210 (a) Basic Practical Assessment

Where the maintenance training organisation approved under BCAR-147 sub-contracts the practical training element either totally or in part to another organisation in accordance with BCAR-147.100(d) and chooses to nominate practical assessors from the other organisation, the BCAR-147 approved organization 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 BCAR-147.200(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.

Subpart D - Aircraft Type/Task Training

BCAR-147.A.300 Aircraft Type/Task Training

A maintenance training organisation shall be approved to carry out BCAR-66 aircraft type and/or task training subject to compliance with the standard specified in BCAR-66.A.45.

AMC 147.A.300 Aircraft Type/Task Training

1. Aircraft type training may be sub-divided in airframe type training, powerplant type training, or avionic systems type training. A maintenance training organisation approved under BCAR-147 may be approved to conduct airframe type training only, powerplant type training only or avionics systems type training only.
2. Airframe type training means type training including all relevant aircraft structure and systems excluding the powerplant and avionics.
3. Powerplant type training means type training on the bare engine, including the build-up to a quick engine change unit.
4. The interface of the engine/airframe systems should be addressed by either airframe or powerplant type training.
5. Avionic systems type training means type training on avionics systems covered by but not necessarily limited to ATA (Air Transport Association) chapters 22, 23, 24, 25, 27, 31, 33, 34, 42, 44, 45, 46, 73 and 77 or equivalent.

BCAR-147.A.305 Aircraft Type Examinations and Task Assessments

A maintenance training organization approved in accordance with BCAR-147.A.300 to conduct aircraft type training shall conduct the aircraft type examinations or aircraft task assessments specified in BCAR-66 subject to compliance with the aircraft type and/or task standard specified in BCAR-66.A.45.

Section B - Procedure for BCAA

(INTIONALLY LEFT BLANK)

Appendices to the Technical Requirements

Appendix I Basic Training Course Duration

Minimum duration of complete basic courses

Basic Course	Duration (in hours)	Theoretical training ratio (in %)
A1	800	30 to 35
A2	650	30 to 35
A3	800	30 to 35
A4	800	30 to 35
B1.1	2400	50 to 60
B1.2	2000	50 to 60
B1.3	2400	50 to 60
B1.4	2400	50 to 60
B2	2400	50 to 60

**Appendix II Maintenance Training Organisation Approval referred to in BCAR-147 –
BCAA Form 11**



འབྲུག་གི་འཕུལ་འགྲུལ་དབང་འཛིན། དཔལ་ལྷན་འབྲུག་གཞུང་།

Bhutan Civil Aviation Authority
Royal Government Of Bhutan
Paro : Bhutan



**MAINTENANCE TRAINING AND EXAMINATION
ORGANISATION APPROVAL CERTIFICATE**

Reference: BCAA.147.XX

Pursuant to the Bhutan Air Navigation Regulation for the time being in force and subject to the conditions specified below, the Bhutan Civil Aviation Authority hereby certifies:

[COMPANY NAME]
[COMPANY ADDRESS]

as a maintenance training organisation in compliance with Section A of BCAR-147, approved to provide training and conduct examinations listed in the attached approval schedule and issue related certificates of recognition to students using the above reference.

CONDITIONS:

1. This approval is limited to that specified in the scope of work section of the approved maintenance training organisation exposition as referred to in Section A of BCAR-147, and
2. This approval requires compliance with the procedures specified in the BCAR-147 approved maintenance organisation exposition; and
3. This approval is valid whilst the approved maintenance training organisation remains in compliance with BCAR-147.
4. Subject to compliance with the foregoing conditions, this approval shall remain valid until any specified date of expiry unless the approval has previously been surrendered, superseded, suspended or revoked.

Effective date: XX.XX.XX

Date of expiry: XX.XX.XX

Date of issue: XX.XX.XX

Signature:



འབྲུག་གི་བའི་མཉམ་འབྲུག་དབང་འཛིན། དཔལ་ལྷན་འབྲུག་གཞུང་།

Bhutan Civil Aviation Authority
 Royal Government Of Bhutan
 Paro : Bhutan



**MAINTENACE TRAINING AND EXAMINATION
 ORGANISATION APPROVAL SCHEDULE**

Reference: BCAA.147.XX

Organisation name: [COMPANY NAME AND ADDRESS]

CLASS	LICENSE CATEGORY	LIMITATION	
BASIC	B1	TB1.1 TB1.2 TB1.3 TB1.4	AEROPLANES TURBINE AEROPLANES PISTON HELICOPTERS TURBINE HELICOPTERS PISTON
	B2	TB2	AVIONICS
Type / Task	C	T4	[QOUTE AIRCRAFT TYPE]
	B1	T1	[QOUTE AIRCRAFT TYPE]
	B2	T2	[QOUTE AIRCRAFT TYPE]

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

Maintenance Training Organisation Exposition reference:

Effective date: XX.XX.XX

Date of expiry: XX.XX.XX

Date of issue: XX.XX.XX

Signature:

Appendix III Certificates of Recognition referred to in BCAR-147- BCAA Forms 148 and 149

1. Basic Training/Examination

The BCAR-147 basic training certificate template detailed below is to be used for recognition of completion of either the basic training, the basic examination or both the basic training and basic training examination.

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

CERTIFICATE OF RECOGNITION
BCAR-147 APPROVED TRAINING COURSE OR EXAMINATION

This certificate of recognition is issued to:

[NAME]

[DATE, PLACE OF BIRTH]

By:

[COMPANY NAME AND ADDRESS]

Reference: BCAA.147.XX

a maintenance training organization approved to provide training and to conduct examinations within its approved schedule and in accordance with BCAR-147.

This certificate confirms that the above named person either successfully passed the approved basic training course or the examination stated below in compliance with BCAR-147 for the time being in force.

[BASIC TRAINING COURSE or / and BASIC EXAMINATION]

[LIST OF BCAR-66 MOULES / DATE OF EXAMINATION PASSED]

Signed:

Date of Issue:.....

For: [COMPANY NAME]

2. Type Training Certificate

The BCAR-147 training certificate as detailed below may be used for recognition of completion of either the theoretical element or both the theoretical and practical elements.

The appropriate references should be deleted as applicable and the course type box should detail whether only the theoretical elements were covered or whether theoretical and practical elements were covered. The training certificate must clearly identify if the course is a complete course or a reduced course based upon the applicant previous experience (e.g. A340 course for A320 technicians).

CERTIFICATE OF RECOGNITION

**BCAR-147 APPROVED TYPE MAINTENANCE TRAINING
COURSE OR AIRCRAFT TYPE EXAMINATION**

This certificate of recognition is issued to:

[NAME]

[DATE, PLACE OF BIRTH]

By:

[COMPANY NAME AND ADDRESS]

Reference: BCAA.147.XX

a maintenance training organization approved to provide training and to conduct examinations within its approved schedule and in accordance with BCAR-147.

This certificate confirms that the above named person either successfully passed the theoretical and/or practical elements of the approved type training course stated below and the related examinations in compliance with BCAR-147 for the time being in force.

[AIRCRAFT TYPE TRAINING COURSE]

[START AND END DATE]

[SPECIFY THEORETICAL ELEMENTS OR PRACTICAL ELEMENTS]

and/or

[AIRCRAFT TYPE EXAMINATION]

[END DATE]

Signed:

Date of Issue:.....

For: [COMPANY NAME]

Appendices To AMCs

Appendix I Maintenance Training Organisation Exposition (MTOE)

1. The following subject headings form the basis of the MTOE required by BCAR-147.140.
2. Whilst this format is recommended it is not mandatory to assemble the MTOE in this manner as long as a cross reference index is included in the MTOE as an appendix and the Part 1 items remain in Part 1.
3. Part 2, 3 and 4 material may be produced as separate detailed manuals subject to the main exposition containing the Part 2, 3 and 4 fundamental principles and policy on each item. It is then permitted to delegate the approval of these separate manuals to the senior person but this fact and the procedure should be specified in paragraph 1.10.
4. Where an organisation is approved in accordance with any other Bhutan Civil Aviation Requirements of the BCAA which require an exposition it is acceptable to combine the exposition requirements by merging the Part 1 items and adding the Parts 2, 3 and 4. When this method is used it is essential to include the cross reference index of Part 4 item 4.3.

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 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 BCAR-147.145(d)
- 1.8 General description of facilities at paragraph 1.6 addresses
- 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

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 basic knowledge & practical training
- 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
- 2.13 Conduct of basic practical assessments
- 2.14 Marking and record of examinations
- 2.15 Storage of examination records
- 2.16 Examinations at locations not listed in paragraph 1.6
- 2.17 Preparation, control & issue of basic training course certificates
- 2.18 Control of sub-contractors

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

Appendix II BCAA Form 4

The provisions of Appendix X of BCAR-M, BCAA Form 4 apply. Visit the [BCAA website](#) for the latest forms.

Appendix III BCAA Form 12

Visit [BCAA website](http://www.bcaa.bt) to download the latest forms.



འབྲུག་གི་འཕུལ་འགྲུལ་དབང་འཛིན། དཔལ་ལྷན་འབྲུག་གཞུང་།

Bhutan Civil Aviation Authority
Royal Government Of Bhutan
Paro : Bhutan



<p>Bhutan Civil Aviation Authority Paro, Bhutan</p>	<p>Application for BCAR 147 Approval</p>	<p>--Select--</p>									
<p>1. Registered name of applicant:</p> <p>2. Trading name (if different):</p> <p>3. Addresses requiring approval:</p> <p>4. Tel.: Fax: Email:</p> <p>5. Scope of Approval relevant to this application:</p> <p>6. Does the organisation hold approval under BCAR - 21 No / BCAR – 145 No / BCAR – M No ? If yes provide details of Approval and scope:</p> <p>7. Staff Number (A). The total number of staff employed by the organisation in order to comply with BCAR – 147. (B). The number of contracted staff associated with the proposed approval</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 35%; text-align: center;">Main Site</th> <th style="width: 35%; text-align: center;">Additional Location Please detail all additional sites</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">a) Employees</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">b) Contractors</td> <td></td> <td></td> </tr> </tbody> </table> <p>8. Name and Position of the Accountable Manager:</p> <p>9. Signature of the Accountable Manager:</p> <p>Place:</p> <p>Date:</p>				Main Site	Additional Location Please detail all additional sites	a) Employees			b) Contractors		
	Main Site	Additional Location Please detail all additional sites									
a) Employees											
b) Contractors											

Appendix IV BCAA Form 22

Reserved

-----END-----