Australian Government
Civil Aviation Safety Authority

DRAFT

Advisory Circular

AC 145-4(0) FEBRUARY 2012

CONTROL AND DELIVERY OF TRAINING WITHIN BY A PART 145 AMO

CONTENTS

1. REFERENCES

Civil Aviation Safety Regulations 1998 (CASR) Parts 66, 145 and 147.

2. PURPOSE

This Advisory Circular (AC) provides guidance and information to CASR Part 145 Approved Maintenance Organisation (AMO) on the training they may utilise within their organisation.

3. STATUS OF THIS ADVISORY CIRCULAR

This is the second version of AC to be issued on this subject. The first version of the AC was numbered AC 66-1 and dealt with aircraft type training but the scope of the AC has now been expanded to deal with other forms of training that may be provided or controlled by the AMO. In light of that change the AC has been numbered in the Part 145 series.

Advisory Circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

Where an AC is referred to in a 'Note' below the regulation, the AC remains as guidance material.

ACs should always be read in conjunction with the referenced regulations.

This AC has been approved for release by the Executive Manager Standards Development and Future Technology Division.

4. ACRONYMS

AMC Acceptable Means of Compliance

AME Aircraft Maintenance Engineer

AMO Approved Maintenance Organisation

CAR Civil Aviation Regulations 1988

CASA Civil Aviation Safety Authority

CASR Civil Aviation Safety Regulations 1998

CTC Competency Technical Category

EASA European Aviation Safety Agency

GM Guidance Material

MTO Maintenance Training Organisation

RPL Recognition of Prior Learning

RTO Registered Training Organisation

MSA Manufacturing Skills Australia

NAA National Aviation Authority

PCT Practical Consolidation Training

5. BACKGROUND

5.1 An AMO has various training obligations as set out in the table below; not all training obligations result from aviation regulations:

Type of Training	Exposition & Examples	Exposition Changes
General Training	OH&S	Non Significant change
Training for employees who provide maintenance services MOS 145.A.35 (b); ie an employee issued with an authorisation to provide maintenance services on aircraft or aeronautical products so that they have up-to-date knowledge.	145.A.35 (d) and (e) require provision of up-to date knowledge of: 1. Technology relevant to the person's functions in the AMO; 2. AMO's procedures; 3. human factors principles; received prior to providing certifications for maintenance. The AMO must provide continuation training covering the same topics every 24 months.	Non Significant change
Aeronautical Product Employee Training MOS 145.A.35 (b) 2.	Arrangements for training associated with the competency of employees to maintain aeronautical products under the approval certificate (aligned with capability list).	Non Significant change

Type of Training	Exposition & Examples	Exposition Changes
Special Maintenance Task (SMT) Employee Training MOS 145.A.35 (b) 3.	Trained such that the employee has an adequate understanding of: 1. The aircraft or aeronautical product to be maintained; 2. airworthiness implications and requirements relevant to any maintenance for which they will certify; 3. the AMO's procedures; and 4. regulations under which they will be providing maintenance services ***Notes:*** *(a) Arrangements for training of SMT employees to standards where defined eg NDT standards; and/or* *(b) Internal processes for training SMT employees eg:* • *Boroscope processes; and* • *Control system rigging.*	Non Significant change
Category A licence holder training for line maintenance MOS 145.A.37 (e)	Details of Training syllabus and training and assessment procedures need to be set out in AMO exposition.	Non Significant change
Pilot &/or Flight Engineer MOS 145.A.37 (f)	AMO to include provision in the exposition to provide training when requested by CAMO that describes the assessment process; and syllabus of training. Part 42.630 – AMO trains & assesses and the CAMO authorises iaw Part 42.630(1).	Non Significant change
Permitted Training: for an AMO inlcudes training mentioned in paragraphs MOS 145.A.37 (b) and (c); that is exclusion removal training and manufacturers' training	As provided for by MOS 145.A.37 (b) and (c) for: • Removal of exclusions from licence; and • Grant of type rating post 145 controlled or delivered training; and must meet the standard set out in the exposition or AMC for permitted training as assessed by operations.	Significant change

6. CATEGORY A TRAINING AND AUTHORISATION

6.1 Before a category A licence holder can certify for any of the Category A licence tasks listed with Appendix II of the Part 145 MOS, they must be type and task trained and authorised by the Part 145 AMO. Type and task training may be carried out by the Part 145 AMO or a Part 147 MTO. In either case, the way in which the category A is to be type and task trained and subsequently authorised needs to be described within the Part 145 AMO's exposition.

6.2 A CAR30 aircraft maintenance organisation – via instrument *CASA 180/11 – Authorisation – Category A maintenance authority holder in a CAR 30 organisation – Exemption – from regulation 66.130 of CASR 1998* may also utilise the services of category A licence holders to carry out and certify for any of the Category A licence tasks listed with Appendix II of the Part 145 MOS. If you are a CAR CoA for aircraft maintenance holder reading this AC, take mentions of Part 145 AMO responsibility to read a CAR30 aircraft maintenance organisations responsibility. The CoA holder needs to seek CASA delegations and authorisations to authorisation the Category A personnel post type and task training.

6.3 An acceptable means of compliance – when describing delivery of category A type and task training is to provide:

6.3.1 A description of the Authorisation Processes, including:

- a situation in which the quality and assurance responsible manager only authorises the holder of a Category A licence if the LAME has completed type and task training (theoretical knowledge and practical training) appropriate to any task mentioned in Appendix II of the Part 145 MOS for which the LAME is to be authorised;
- controlled use of authorisations within the company including any constraints or limits that apply to use of the authorisation and reporting paths and responsibilities; and
- where access to the technical and administrative material required for the exercise of the authorisation (and updates to such material) can be obtained.

6.3.2 A description of the way in which instructor selection and management is carried out, that includes:

- The instructor qualification required [B1 or B2 for aircraft type rated and holds certificate in train the trainer or certificate in training and assessment [or equivalent qualification or experience];
- A list or cross reference to a list of Instructional and Examination Staff; and
- A record of trainer skills/qualifications and responsibility for maintenance of the record.

6.3.3 A description of the Training Processes, including:

- training conduct – type and task specific – and per address of each facility, where the course will be conducted;
- course plans for each aircraft type and task;
    - Objectives/learning outcomes;
    - Topics to be covered;
    - The method selected by the organisation for assessing that the course objectives have been met by a student;
    - Student to instructor ratios; and

- Conditions under which the course will be conducted;

- training assessment;
- delivery of training at the different locations (facility locations);
- training records; and
- responsibilities for the preparation of course material.

6.3.4 A description of Course Content including:

- Topics to be covered; including a brief overview of the airframe, required systems and/or powerplants, relevant to the scope of the tasks to be authorised. Cross referencing information from the Systems Description section of the aircraft maintenance manual may be utilised.
- Course Objectives. Example course objectives include: On completion of the training, the student will be able to:
  - State safety precautions related to the airframe, its systems and powerplant;
  - Identify maintenance practices important to the airframe, its systems and powerplant;
  - Describe the general layout of the aircraft's major systems;
  - Describe the general layout and characteristics of the powerplant; and
  - Identify and use tooling and test equipment required for the aircraft type and tasks being taught.
  - Source & reference documents that will be utilised for the training and assessments.

6.3.5 Explanation to the student of the Scope & Limitations of the authorisation(s) to be made after training and assessment is complete.

6.3.6 Practical Element — Assessment Standard. Practical assessment will determine a person's capability to perform a task. The assessment may be oral, written or practical assessment based, or a combination of all of these. Conduct of the assessment method must be described and carried out in accordance with the AMO exposition. A written report must be made by the assessor to explain why the candidate has passed or failed. The assessment must ensure that the following objectives are met:

- accurately and confidently discuss the aircraft and its systems;
- ensure safe performance of maintenance, inspections and routine work according to the maintenance manual and other relevant instructions and tasks as appropriate for the type of aircraft, and the particular task(s) for which the course is provided.
- correctly use all technical literature and documentation for the aircraft; and
- correctly use specialist and special tooling and test equipment, perform removal and replacement of components and modules unique to type.

6.3.7 Preparation of Training Rooms and Equipment. If theory training is required for the specific task training, a room will be set aside with sufficient seating, and any necessary projection equipment, whiteboards manuals, training aids. The responsibility for ensuring that the room utilised is suitable for the purpose resides with the Quality Manager.

6.3.8 Preparation of Workshops/ Maintenance Facilities and Equipment. The Trainer is responsible for the preparation of the maintenance area, and availability of tooling and equipment to perform the tasks.

6.3.9 Conduct of Category A Type and Task Practical Training. The Trainer will review or develop the Training material, prior to course commencement. The Quality Manager must confirm the suitability of the material prior to its use.

6.3.10 When all training and assessment is complete, the Trainer must forward the results to Training Manager (if any) for action by Quality Manager and would normally result in issue of the relevant authorisation.

6.3.11 Records of Training Carried Out. The nominated Responsible Manager for the AMO training is responsible for creating and controlling all training documents relating to the program. Records are to be retained as per the relevant Corporate Policy.

6.3.12 Documents and Forms. Copies of or descriptions of Forms used to manage Category A type and task training and authorisation.

7. BACKGROUND TO PERMITTED TRAINING

7.1 The Civil Aviation Safety Authority (CASA), in the previous *Civil Aviation Regulations 1988* (CAR) 31 Aircraft Maintenance Engineers (AME) licensing system, provided for the grant of ratings to licence holders in the categories of airframe, engine, electrical, radio or instrument. The CASR Part 66 licence structure consists primarily of four B1 subcategories, covering varying types of airframe/engine rating combinations, as well as a B2 category, covering radio and instruments, together classed as avionics. Electrical privileges are provided for by both B1 and B2 category licences.

7.2 When the CAR 31 entitlements were being converted to B1 subcategories and the B2 category, an entitlement for each relevant category/subcategory was granted with accompanying aircraft type ratings. The goal was to maintain parity between maintenance certification privileges for a holder before and after the conversion event. The CASR Part 66 B1 and B2 licence categories are broader in scope than the historic CAR 31 AME licence structure and categories. The CASR Part 66 licences and ratings issued were therefore restricted by exclusions placed on the category and ratings to reflect the maintenance certification privilege held at the time of conversion.

7.3 Depending on the licence categories and ratings previously held, exclusions were applied at both the category and aircraft rating levels. When an exclusion was applied at the category level, its effects extended to any of the aircraft type ratings granted in the category e.g. an exclusion for propellors on the B1.1 category also extends to any aircraft (engine) ratings granted in that category as well.

7.4 A wide range of CAR 33B Maintenance Authority maintenance scope – in effect, unbounded free text – had been granted by CASA. The maintenance authority privileges were variously described as Line Extensions, Line Maintenance Authorities or similar. Where relevant, maintenance authority privilege was also converted into CASR Part 66 maintenance certification privilege. The embodiment of maintenance authority privilege was provided by CASA either by the issue of licence privilege or by CASA removing an exclusion that would otherwise have been applied to the licence privileges.

7.5 Maintenance certification privileges provided by the transition licence mechanism called a Civil Aviation Order (CAO) 100.66 Maintenance Authority was also transferred into the CASR Part 66 licence.

7.6 To facilitate the establishment of the CASR Part 66 licence framework and to accommodate the lag between the supply and demand of aircraft type training, innovative maintenance training products have been established. Flexible training options, supported by experienced in-house AMO personnel, have been made available by CASR Part 145 and CASR Part 66. This AC provides guidance on the use of the training options. CASA believes that the means of compliance explained within the guidance document can equal the standards established by CASR Part 147 for aircraft type training.

8. CONTROL OR DELIVERY OF AIRCRAFT TYPE TRAINING BY A PART 145 AMO (FOR EXCLUSION REMOVAL, SYSTEMS BASED OR MANUFACTURERS' TRAINING)

8.1 In the previous CAR 31 AME licence system CASA had taken a system based approach (e.g. pressurisation systems) to many of the General Aviation and Corporate Jet aircraft. This meant that a licence holder, with the appropriate licence groups (the 'Lower Groups') for a particular category (electrical, instrument, radio, airframe engine) could carry out and certify for maintenance, on any aircraft that was non-type rated for the category.

8.2 Given the proven use of a '*systems*' based approach for those aircraft under the previous CAR 31 licensing system, CASA is prepared to trial the continued use of a systems based training for those aircraft listed within AC 66-2 Table 2. A Part 145 AMO may be approved to control or provide maintenance training for the listed aircraft for each category to the limit set out in that table. A copy of the aircraft this applies to is provided at Annex A of this AC.

8.3 If a Part 145 AMO is contemplating delivering/controlling aircraft type training that removes type rating exclusions; utilises manufacturer training; or trials the use of systems based type rating training, then the AMO exposition will need to incorporate control procedures for that activity. Annex B to this AC provides details of the considerations an AMO will need to control by their exposition procedures. The syllabus/record of theory/practical to be provided to candidates by the Part 145 AMO is provided in Annex C of this AC.

Executive Manager
Standards Development and Future Technology

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APPENDIX A

AIRCRAFT FOR WHICH A PART 145 AMO MAY CONTROL ACCESS TO MANUFACTURER'S TYPE TRAINING OR PROVISION OF AIRCRAFT SYSTEMS BASED TRAINING

B1 or B2 category Aircraft Type Training

CASA may approve an AMO to provide aircraft type training for the listed B2 and B1 aircraft types – engine training may not be provided by a Part 145 AMO but it may be controlled – eg sourced from a manufacturer.	
1	Jetstream 31/32 (Honeywell TPE 331)
2	Fairchild SA226 (Honeywell TPE331)
3	Fairchild SA227 Metro III (PWC PT6)
4	Grumman G73 (PT6)
5	Beech 300 Series (PWC PT6)
6	Beech 1900 (PWC PT6)
7	Pilatus PC-12 (PWC PT6)

B1 or B2 category Aircraft Type Training (including Engine)

CASA may approve an AMO to provide aircraft type training for the listed B2 and B1 aircraft types – engine training may be provided by a Part 145 AMO.	
1	McD DC3 (PW R1830)
2	McD DC4 (PW R2000)

B2 Category Aircraft Type Training

CASA may approve an AMO to provide aircraft type training for the B2 category for the listed aircraft ratings.	
1	Bell 212 (PWC PT6)
2	Bell 222 (RR Corp 230)
3	Bell 222 (Honeywell LTS 101)
4	Bell 412 (PWC PT6)
5	Bell 430 (RR Corp 250)
6	Eurocopter AS 365N (Turbomeca Arriel 1)
7	Eurocopter AS 365 N1, AS 365 N2 (Turbomeca Arriel 1)
Note: *These aircraft were previously type rated for CAR 31 airframe category purposes – Part 145 AMO may not control/provide aircraft type training for the B1 category for the listed aircraft.*	

Note: *Systems training can remove exclusions beyond those listed in Appendix B – ie exclusions by category or system.*

Note: *Eligibility for removal of an exclusion from an aircraft type rating is only established by first having the affiliated exclusion removed from the category (e.g. a B1.1 subcategory licence with a propeller exclusion would first need to gain the appropriate category training from a Part 147 MTO and have that exclusion removed, before an approved Part 145 AMO could provide rating exclusion removal training for the propeller system).*

APPENDIX B

EXCLUDED SYSTEMS ON ANY AIRCRAFT TYPE RATINGS – SUITABLE FOR PROVISION OF TRAINING, ASSESSMENT AND AUTHORISATION WITHIN AN AMO

Excluding: Audio CVR systems
Excluding: Propellers
Excluding: ATA29 (hydraulics)
Excluding: ATA21 (vapour cycle air-conditioning aspect)
Excluding: ATA21 (air-conditioning aspect)
Excluding: ATA21 (pressurisation aspect)
Excluding: ADF systems
Excluding: VOR systems
Excluding: ILS systems
Excluding: Weather radar systems
Excluding: ATC transponder systems
Excluding: Radio altimeter systems
Excluding: DME systems
Excluding: Doppler systems
Excluding: Sat nav systems
Excluding: Autopilots
Excluding: Autopilots – multi-axis
Excluding: Remote indicating compass systems
Excluding: Inertial navigation and reference systems
Excluding: Pressurisation systems
Excluding: Electrical systems – multi-generator power systems
Excluding: Avionic LRUs

Notes:

1. *These exclusions are a copy of the listing provide within the MOS Part 66 Appendix VII.*

2: *Eligibility for removal of an exclusion from an aircraft type rating is only established by first having the affiliated exclusion removed from the category (e.g. a B1.1 subcategory licence with a propeller exclusion would first need to gain the appropriate category training from a Part 147 MTO and have that exclusion removed, before an approved Part 145 AMO could provide rating exclusion removal training for the propeller system).*

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APPENDIX C

SYSTEMS BASE TRAINING IN A PART 145 AMO

Systems based training, delivered by a Part 145 AMO, incorporates theory exchange delivered by a manufacturer or an experienced LAME to the candidate and on the job training (OJT) gained in the workplace on aircraft.

Theory

The theoretical aspect of any system, type rating or exclusion being trained for may be satisfied by the use of manufacturer's training or by having an LAME holding the relevant rating provide their knowledge of the relevant system. The manner of theory delivery, that has been selected, needs to be described within the exposition and signed off within the student syllabus/record of theory/practical.

The mechanics of the theory delivery is not prescribed but an AMC may include methodology that includes:

- direct supervision of student maintenance of the relevant system;
- a joint review of the continuing airworthiness instructions; and
- providing opportunity for an exchange of views and questions related to the maintenance of the relevant system.

The objective of a PCT program is to provide an existing type rated LAME with the practical experience required to gain the second or subsequent type ratings in category B1 or B2. In addition a LAME who already holds a B1 or B2 type rating may utilise PCT training to meet the practical requirements of the first type rating in the other licence category. For example a B1 holder seeking their first B2 rating may utilise PCT training to meet the practical requirements for the aircraft type rating (assuming they hold a B2 category licence).

Practical Competency OJT

The objective of OJT is to gain the required competence and experience in performing safe maintenance and may use a structured learning process. This is usually peer to peer and needs to take place on an aircraft, or component, or at the workplace involving actual work task performance. OJT includes both line and base maintenance tasks.

The systems based/exclusion training and supporting OJT covers a cross section of tasks representative of the aircraft and systems both in complexity and in the technical input required to complete that task. While relatively simple tasks may be included, other more complex maintenance tasks shall also be incorporated and undertaken as appropriate to the aircraft type. At the completion of the systems based/exclusion training and supporting OJT the candidate will be expected to be able to:

- ensure safe performance of maintenance, inspections and routine work according to the maintenance manual and other relevant instructions and tasks as appropriate for the type of aircraft, for example troubleshooting, repairs, adjustments, replacements and functional checks;

- correctly use all technical literature and documentation for the aircraft; and
- correctly use specialist and special tooling and test equipment, perform removal and replacement of components and modules unique to type, including any on-wing maintenance activity.

The systems based/exclusion training and supporting OJT needs to cover any relevant tasks for the aircraft type concerned.

On completion of the systems based/exclusion training and supporting OJT course the student shall be able to demonstrate detailed theoretical knowledge of the aircraft's applicable systems, structure, operations, maintenance, repair, and troubleshooting according to approved maintenance data. The student shall be able to demonstrate the use of manuals and approved procedures, including the knowledge of relevant inspections and limitations.

An acceptable means of compliance – for describing the way in which permitted training will be delivered or controlled by a Part 145 AMO is to provide detail of the following in the AMO expostion:

1. OVERVIEW

Permitted training is described by section 145.A.37 of the Part 145 MOS. This permitted training is subject to compliance with Part 145 of CASR 1998 and its MOS and this exposition.

The permitted training program comes under the control of the manager responsible for training described in the expostion.

2. EXPERIENCE ANALYSIS

Before permitted training is delivered or controlled the training and authorisation manager is to conduct an experience analysis. This process aims to give the individual LAME appropriate credit for their experience. It should identify if any other practical experience is required, in addition to the minimum level provided by the PCT course and service familiarisation. The analysis is carried out on all persons prior to their PCT course attendance and ensures the PCT course entry criteria are satisfied by the proposed trainee. The experience analysis sheet can be seen at Annex A to this Appendix

3. INDIVIDUAL COURSE DESIGN

Using Annex B to this appendix (and any course syllabus from a manufacturers course – choose the permitted training course elements of training. If the manufacturer's training does not cover all the required training then the AMO will need to add supplemental elements of training that will be delivered by the AMO itself.

4. TRAINING FACILITIES

CASA recognises that much of the training will be conducted in the workplace. For theory delivery and any assessments that are not on the aircraft – the location is to be conducive for student concentration (free of distractions to the extent possible).

5. PERMITTED TRAINER

The Permitted training course will be led and supervised by a suitably qualified B1 or B2 LAME who is:

- licensed in the category (may include time a relevant regulation 31 of the CAR 1988 licence was held) for >5 years and hold the type rating >18 months;
- to have recent maintenance experience in that rating;
- have completed a recognised “Train the Trainer" course (or held a teaching post or holds a similar qualification military or civil); and
- understands the way in which the permitted training and authorisation system works within the AMO.

A recognised “Train the Trainer” course is one that is equivalent under the Australian Qualifications Framework to be the unit of competence for training small groups, as endorsed by the National Skills Standards Council. Trainer instruction in the permitted training program should include general description, definitions and terminology and trainer responsibilities and course delivery.

6. ASSESSMENT OF THE SYSTEMS BASED/EXCLUSION TRAINING AND SUPPORTING OJT

The final assessment that systems based/exclusion training and supporting OJT has been satisfactorily completed needs to be certified by the Part 145 AMO quality manager.

The assessment may be performed task by task or conducted as a final assessment at the end of the systems based/exclusion training and supporting OJT.

For assessment of practical elements of type training, the assessment may be oral, written or practical assessment based, or a combination of all of these.

The assessment is conducted using Annex A. For each element of training get the student to demonstrate they know where to find the relevant maintenance data for the system and can describe the operation of the system. Select a range of tasks for practical assessment with an aim to determine the person’s competence to perform a task based.

A written report must be made by the assessor to explain why the candidate has passed or failed.

The assessment must ensure that the following objectives are met:

- accurately and confidently discusses the aircraft and its systems;
- ensure safe performance of maintenance, inspections and routine work according to the maintenance manual and other relevant instructions and tasks as appropriate for the type of aircraft, for example, troubleshooting, repairs, adjustments, replacements, rigging and functional checks such as engine run etc. (if required);
- correctly use all technical literature and documentation for the aircraft; and
- correctly use specialist and special tooling and test equipment, perform removal and replacement of components and modules unique to type, including any on-wing maintenance activity.

7. AMO AUTHORISATION

Once trained and assessed the responsible manager for training may authorise the LAME for a six month period for the system or aircraft that has been taught using the permitted training regime.

Six months from the issue of the certification authorisation, the quality manager needs to complete and submit of CASA Form 45 - Notification to CASA – Six Month Period has Elapsed – Post Systems Based, Manufacturers and Exclusion Removal Aircraft AMO Training and Authorisation.

ANNEX A TO APPENDIX C

EXPERIENCE ANALYSIS RECORD EXAMPLE –
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PERMITTED TRAINING - EXPERIENCE SUMMARY RECORD		
Name:	ARN:	Base:
Category:	Rating or exclusion removal sought:	
B1/B2 Licence rating endorsements held		
B1 – Airframe (Engine)s	B2 – Avionic	

Category Experience - Years duration holding an aircraft type rating				
Years & Months	Years & Months	Years & Months	Years & Months	Years & Months

Previous work environments – aircraft (engine) types - list by type		
Transits and Daily Checks (list type only)	Scheduled Maintenance Checks (>100 hr cycle by type and category)	Heavy Maintenance areas or Engine/Module changes

Summary of Experience on type for rating from workplace exposure & experience records		
Verified by (workplace supervisor): Name:..... Position:.....	Signature	Date

EXPERIENCE ANALYSIS RECORD EXAMPLE –
SINGLE SHEET BACK FACE

Page 2 of 2

PERMITTED TRAINING EXPERIENCE ANALYSIS RECORD		
Name:	ARN:	Base:
Category:	Rating Sought:	
REDUCTIONS OR SUPPLEMENTARY TASKS REQUIRED AFTER CONDUCT OF EXPERIENCE ANALYSIS		
Assessed by		
Name:..... Position:.....	Signature	Date

ANNEX B TO APPENDIX C

SYLLABUS/RECORD OF THEORY/PRACTICAL

Use only those portions relevant to the rating, systems or exclusion that the candidate is being trained for. AMO quality assessor is to determine which aspects are to be included for an aircraft type.

AMO and location _____

AMO Quality Assessor _____

Aircraft type _____

Name of Trainee AME _____ ARN _____

Introductory elements of training — all aircraft

ATA chap	Required? Y/N	Elements	Theory Assessment Person/Sign/ Date	Practical Assessment Person/Sign/ Date	Quality Assurance Person/Sign/ Date
05		Time limits and maintenance checks			
06		Dimensions and areas, for example weights, maximum take off weight (MTOW)			
07		Lifting and shoring			
08		Levelling and weighing			
09		Towing and taxiing			
10		Parking, mooring, storing and return to service			
11		Placards and markings			
12		Servicing			
		Standard practices — only type particular			

ATA chap	Required? Y/N	Elements	Theory Assessment Person/Sign/ Date	Practical Assessment Person/Sign/ Date	Quality Assurance Person/Sign/ Date
HELICOPTERS					
18		Vibration and noise analysis (blade tracking)			
25		Emergency flotation equipment			
53		Airframe structure (helicopter)			
60		Standard practices rotor			
62		Rotor(s)			
62A		Rotors – Monitoring and indicating			
63		Rotor drive(s)			
63A		Rotor drive(s) – Monitoring and indicating			
64		Tail rotor			
64A		Tail rotor – Monitoring and indicating			
65		Tail rotor drive			
65A		Tail rotor drive			
66		Folding blades and pylon			
67		Rotors flight control			
27A		Flight control surfaces (all)			
51		Standard practices and structures (damage classification, assessment and repair)			
52		Doors			
53		Fuselage			
54		Nacelles and pylons			
55		Stabilisers			
56		Windows			
57		Wings			
		Zonal and station identification systems			

ATA chap	Required? Y/N	Elements	Theory Assessment Person/Sign/ Date	Practical Assessment Person/Sign/ Date	Quality Assurance Person/Sign/ Date
AIRCRAFT SYSTEMS					
21		Air-conditioning			
21-10/20		Air supply			
21B		Pressurisation			
21C		Safety and warning devices			
22		Autoflight			
23		Communications			
24		Electrical power			
25		Equipment and furnishings			
25A		Electronic emergency equipment			
26		Fire protection			
27		Flight controls			
AIRCRAFT STRUCTURES					
27A		Systems operation: electrical and fly-by-wire			
28		Fuel systems			
28-40		Fuel systems monitoring and indicating			
29		Hydraulic power			
29		Hydraulic power monitoring and indicating			
30		Ice and rain protection			
31		Indicating and recording systems			
31A		Instrument systems			
32		Landing gear			
32		Landing gear monitoring and indicating			
33		Lights			
34		Navigation			
35		Oxygen			

ATA chap	Required? Y/N	Elements	Theory Assessment Person/Sign/ Date	Practical Assessment Person/Sign/ Date	Quality Assurance Person/Sign/ Date
36		Pneumatic			
36		Pneumatic monitoring and indicating			
37		Vacuum			
38		Water and waste			
41		Water ballast			
42		Integrated modular avionics			
44		Cabin systems			
45		On Board maintenance systems (except if the element is covered in the element for ATA chapter 31)			
46		Information systems			
50		Cargo and accessory compartments			
49		Airborne auxiliary power (APUs)			
PISTON ENGINES					
70		Standard practices-engines			
70A		Constructional arrangement and operation (namely, installation, inlet, compressors, combustion section, turbine section, bearings and seals, lubrications systems)			
70B		Engine performance			
71		Powerplant			
72		Engine turbine and turbo prop and ducted fan and unducted fan			
73		Engine fuel and controls			
73-20		FADEC			
74		Ignition			
75		Air			
76		Engine controls			

ATA chap	Required? Y/N	Elements	Theory Assessment Person/Sign/ Date	Practical Assessment Person/Sign/ Date	Quality Assurance Person/Sign/ Date
77		Engine indicating systems			
78		Exhaust			
79		Oil			
80		Starting			
82		Water injections			
83		Accessory gear-boxes			
84		Propulsion augmentation			
70		Standard practices-engines			
70A		Constructional arrangement and operation (installation, inlet, compressors, combustion section, turbine section, bearings and seals, lubrications systems)			
70B		Engine performance			
71		Powerplant			
73		Engine fuel and control			
73A		FADEC			
74		Ignition			
76		Engine controls			
77		Engine indicating Systems			
79		Oil			
80		Starting			
81		Turbines			
82		Water injections			
83		Accessory gear-boxes			
84		Propulsion augmentation			
60		Standard practices – propeller			
61		Propellers/ Propulsion			
61A		Propeller construction			

ATA chap	Required? Y/N	Elements	Theory Assessment Person/Sign/ Date	Practical Assessment Person/Sign/ Date	Quality Assurance Person/Sign/ Date
61B		Propeller pitch control			
61C		Propeller synchronising			
61D		Propeller electronic control			
61E		Propeller ice protection			
60F		Propeller maintenance			