



SKILL TEST STANDARDS: AIRCRAFT MAINTENANCE TECHNICIAN

SECTION 1 GENERAL

1.1 PURPOSE

This Advisory Circular (AC) provides guidance to individuals, organizations and examiners regarding the determination that an individual's skill level is adequate for the—

- Original issuance of an Aircraft Maintenance Technician License (AMT)
- Original issuance of a "limited" AMT License
- Add an Rating to the AMT license
- Delete limitations from the AMT license.

1.2 STATUS OF THIS ADVISORY CIRCULAR

This is an [B] 2015 issuance of this AC.

1.3 BACKGROUND

- A. ICAO Standards in Annex 1, Personnel Licensing, require that, before issuing an Aircraft Maintenance Technician License, the State must assess the knowledge and skill of the individual to perform such operations.
- B. VAR Part 7 establishes the specific requirements for AMT testing that parallel the ICAO Standards.
- C. This AC provides amplified standards for a AMT applicant and the person assigned to conduct the skill test for license

1.4 APPLICABILITY

- A. These Skill Test Standards are for use by examiners for determination of an individual's fitness to be issued and continue to hold AMT privileges.
- B. Aircraft Maintenance Technician instructors are expected to use these standards when preparing applicants for their AMT skill tests.
- C. Applicants should be familiar with these skill test standards and refer to them during their training.

- 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.

1.5 RELATED REGULATIONS

The following regulations are directly applicable to the guidance contained in this advisory circular—

- VAR Part 4, Airworthiness
- VAR Part 5, Approved Maintenance Organizations
- VAR Part 6, Instruments & Equipment
- VAR Part 7, Personnel Licensing
- VAR Part 10, Operations of Aircraft

1.6 RELATED PUBLICATIONS & REFERENCES

For further information on this topic, individuals, instructors and examiners are invited to consult the following publications—

1) Civil Aviation Authority of Vietnam

- ◆ AC 04-002: Application & Process: Special Certificates of Airworthiness.

Copies may be obtained from the CAAV Flight Safety Standards Department.

- ◆ AC 04-003: Disposition of Unsalvageable Parts & Materials
- ◆ AC 04-004: Eligibility & Traceability of Replacement Parts
- ◆ AC 04-005: Handling of Suspected Unapproved Aircraft Parts

2) EASA Part 66

3) International Civil Aviation Organization (ICAO)

- ◆ Annex 1, Personnel Licensing
- ◆ Annex 8, Airworthiness of Aircraft
- ◆ Document 9051, Airworthiness Technical Manual
- ◆ Document 9760, Airworthiness Manual
- ◆ Document 9824, Human Factors for Aircraft Maintenance Manuals
- ◆ Circular 251, Human Factors in Aircraft Maintenance and Inspection

Copies may be obtained from Document Sales Unit, ICAO, 999 University Street, Montreal, Quebec, Canada H3C 5H7.

4) Recommended Commercial Publications

- ◆ ABS: Aircraft Basic Science, Glencoe-Macmillan/McGraw-Hill Publishing Co.
- ◆ AEE: Aircraft Electricity and Electronics, Glencoe-Macmillan/McGraw-Hill Publishing Co.
- ◆ AMR: Aircraft Maintenance and Repair, Glencoe—Macmillan/McGraw-Hill Publishing Co.
- ◆ AMT-G: Aviation Maintenance Technician Series—General, Aviation Supplies and Academics (ASA), Inc.
- ◆ JSAT: A & P Technician Airframe Textbook—Jeppesen-Sandersen, Inc.
- ◆ JSGT: A & P Technician General Textbook—Jeppesen-Sandersen, Inc.

1.7 DEFINITIONS & ACRONYMS

The following definitions are used in this advisory circular—

- 1) **Examiner.** As used in this document, this word denotes either the CAAV Inspector or CAAV Designated Examiner who conducts the Skill Test.

1.7.1 ACRONYMS & ABBREVIATIONS

The following acronyms and abbreviations are used in this advisory circular—

- 1) **AC** = Alternating Current
- 2) **AMT** = Aircraft Maintenance Technician License
- 3) **CAAV** = Civil Aviation Authority of Vietnam
- 4) **CG** = Center of Gravity
- 5) **DC** = Direct Current
- 6) **FSSD** = Flight Standards Inspectorate Service
- 7) **MAC** = Mean Aerodynamic Chord
- 8) **PEL** = Personnel Licensing
- 9) **VAR** = Vietnam Civil Aviation Regulations
- 10) **TCDS** = Type Certificate Data Sheet

SECTION 2 INTRODUCTORY INFORMATION

2.1 AIRCRAFT MAINTENANCE TECHNICIAN SKILL TEST PREREQUISITES

An applicant for the Aircraft Maintenance Technician Skill Test is required to—

- 1) Be at least 18 years of age;
- 2) Be able to read, speak, write, and understand the English language.
- 3) Have passed the appropriate aircraft maintenance technician rating since the beginning of the 24th month before the month in which he or she takes the skill test;
- 4) Have satisfactorily accomplished the required training and/or obtained the aeronautical experience prescribed;
- 5) Also have an endorsement certifying that the applicant has demonstrated satisfactory knowledge of the subject areas in which the applicant was deficient on the knowledge test.

2.2 APPLICANT SKILL TEST PREPARATION CHECKLIST

The following guidance is provided to ensure that the applicant arrives at the appointment with all equipment and documents necessary for the administration of the skill test, including—

2.2.1 APPOINTMENT WITH EXAMINER

- A. Contact the CAAV-FSSD to be assigned an examiner for the purpose of the skill test.
- B. Contact the examiner to arrange a suitable location, date and time.
- C. Plan to arrive at the designated location before the actual time of the appointment.

2.2.2 TOOLS & EQUIPMENT

- A. The examiner will must provide the tools, equipment, forms, supplies and technical data necessary to conduct the appropriate skill test.
- B. The applicant may bring personal tools to the skill tests, if permitted by the examiner.

2.2.3 PERSONAL RECORDS

The applicant must provide the following personal records before the skill test can be administered—

- 1) Identification-photo/signature ID
- 2) PEL license (if applicable)
- 3) Completed FSSD Form 542, Other PEL Rating Application, with Instructor's Signature (if applicable)
- 4) Aeronautical knowledge test report
- 5) FSSD-Form 555, Notice of Disapproval (if applicable)
- 6) Graduation certificate from an Approved Training Organization (if applicable)

2.3 A PRETEST INTERVIEW WILL BE CONDUCTED

2.3.1 CONTENTS OF INTERVIEW

The examiner will accomplish the pretest interview face to face, by telephone/fax, through e-mail, or other methods to—

- 1) Discuss fees, testing procedures, projects, and type of equipment to be used and what the applicant should expect if they pass, fail, or do not complete the test.
- 2) Determine whether the applicant will take the full test, or desires to take an abbreviated test which may result in significant limitations placed on his license.

Refer to Appendix A for the authorized reductions to the full test for an airframe or power-plant rating and the subsequent limitations.
- 3) Advise the applicant when the day's activities terminate, and when testing resumes if more than 1 day is needed.
- 4) Ensure the applicant's eligibility.
 - (a) Review the application for completeness and correctness.

All applicants must have met the prescribed experience requirements as stated in VAR Part 7.
 - (b) This may require the applicant to return to CAAV where authorization was obtained.
 - (c) Review the applicant's current written test results that are applicable to the rating(s) sought.
 - (d) Advise applicant of retesting after failure provisions and restrictions.

SECTION 3 GUIDELINES FOR SKILL TESTING

- A. The Aircraft Maintenance Technician Skill Test Standards include the Testing Categories with Subject Areas of knowledge and skill for the original issuance of an aircraft maintenance technician license and/or the addition of a rating.
 - The subject areas include the competency elements in which aircraft maintenance technician applicants must have knowledge and/or demonstrate skill.
- B. Detailed descriptions relating to the subject areas are not included in the Skill Test Standards, because this information can be found in references listed and/or in manufacturer or CAAV-approved or acceptable data related to each subject area.

- C. Each subject area has an objective. The objective lists the important knowledge and skill competency elements that must be utilized by the--
- 1) Examiner in planning and administering aircraft maintenance technician tests; and
 - 2) Applicant to be prepared to satisfactorily perform.

3.1 USE OF THE SKILL TEST STANDARDS

- A. The CAAV requires that all Skill Tests be conducted in accordance with the appropriate Skill Test Standards. When using these Skill Test Standards contained in this document, the examiner must evaluate the applicant's knowledge and skill in sufficient depth to determine that the objective for each subject area element selected is met.
- B. An applicant is not permitted to know before testing begins which competency elements in each subject area will to be included in his/her test (except the core competency elements, which all applicants are required to perform).
- Those skill elements identified as "Core Competency Elements" will required for all applicants.
- Therefore, an applicant should be well prepared in *all* oral and skill areas included in the Skill Test Standard outlined in this document.

3.2 COMPETENCY TERMS

The following terms may be reviewed with the applicant prior to, or during, element assignment--

- 1) "Inspect" means to examine by sight and/or touch (with or without inspection enhancing tools/equipment).
- 2) "Check" means to verify proper operation.
- 3) "Troubleshoot" means to analyze and identify malfunctions.
- 4) "Service" means to perform functions that assure continued operation.
- 5) "Repair" means to correct a defective condition.

3.3 PERFORMANCE LEVELS

The following is a detailed description of the meaning of each level—

3.3.1 LEVEL 1

- Know basic facts and principles.
- Be able to find information and follow directions and written instructions.
- Locate methods, procedures, instructions, and reference material.
- Interpretation of information not required.
- No skill demonstration is required.

3.3.2 LEVEL 2

- Know and understand principles, theories, and concepts.
- Be able to find and interpret maintenance data and information, and perform basic operations using the appropriate data, tools, and equipment.
- A high level of skill is not required.

3.3.3 LEVEL 3

- Know, understand, and apply facts, principles, theories, and concepts.
- Understand how they relate to the total operation and maintenance of aircraft.
- Be able to make independent and accurate airworthiness judgments.

- Perform all skill operations to a return-to-service standard using appropriate data, tools, and equipment. Inspections are performed in accordance with acceptable or approved data.
- A fairly high skill level is required.

3.4 SELECTING COMPETENCY ELEMENTS FOR TESTING

- A. The knowledge (oral) and skill (practical) competency elements listed in the STS in this document will be used by the examiner to administer the skill test.
- Examiners will be working from a plan of action that has been approved by the CAAV to ensure that the testing uses standardized methodology.
- B. Applicants should be aware that all knowledge questions and skill element test projects used by the examiner to test the competency elements have been reviewed and approved by the CAAV prior to their use in the testing process.

3.5 PRESCRIBED LENGTH OF TIME

- A. There is no standard length of time prescribed for the knowledge and skill test.
- Both the applicant and the examiner should plan the testing times so the applicant completes most of the test once it commences.
- B. The testing period will be long enough to make a valid determination in each Subject Area for the rating sought.
- C. The examiner will take appropriate time to ensure that all required knowledge element questions and skill element practical projects have been completed for the rating sought.
- D. Although it may be necessary to continue a test for more than 1 day, tests must not be allowed to continue for long periods.
- Suspending the test to allow the applicant further study is not allowed.
- Progressive testing is defined as testing which continues for more than four sessions in a 4-day period.

3.5.1 TESTING CATEGORIES

- A. Aircraft maintenance licenses include the following categories —
- 1) Category A
 - 2) Category B1
 - 3) Category B2
 - 4) Category B3
 - 5) Category C
- B. Categories A and B1 are subdivided into subcategories relative to combination of aeroplanes, helicopters, turbine and piston engines. These subcategories are:
- 1) A1 and B1.1 - Aeroplanes Turbine
 - 2) A2 and B1.2 - Aeroplanes Piston
 - 3) A3 and B1.3 - Helicopters Turbine
 - 4) A4 and B1.4 - Helicopters Piston
- C. Category B3 is applicable to piston-engine non-presurised aeroplanes of 2000 kg MTOM and below.

3.5.2 CONDUCTING THE ORAL PORTIONS OF THE TEST

- A. Oral questioning may be used at any time during the practical test.

- At least four questions will be asked in each Subject Area.
 - These questions should be from more than one element listed under Objective 1 in the STS for that Subject Area.
 - The applicant must be able to answer successfully 70 percent of the oral questions asked in each Subject Area.
 - Each Subject Area must be passed in order to pass a Testing Category.
 - No more than 10 questions will be used by the examiner to evaluate a Subject Area.
- B. An applicant's answers to oral questions must show an understanding of the subject and ability to apply knowledge.
- The applicant's skill of oral expression or ability to memorize details will not be allowed to affect oral test evaluation.
 - The examiner may ask additional exploratory questions to verify the applicant's understanding of the subject area, but this will not be considered as part of the test.
- Applicants shall not be expected to memorize all mathematical formulas that may be required in the performance of various elements in this Skill Test standard.
 - However, where relevant, applicants must be able to locate and apply necessary formulas to obtain correct solutions.
- C. The knowledge questions will be—
- 1) Clear.
 - 2) Grammatically correct.
 - 3) Concise.
 - 4) Pertinent to the skill element when combining knowledge (oral) and skill elements.
 - 5) Have only one correct answer.
- Content should establish the conditions or significant circumstances so the examiner and the applicant will have the same mental picture.
- Long questions can be complex and ambiguous.
- D. The questions will not—
- 1) Be open-ended or multiple-choice questions.
 - 2) Require any further information or clarification.
 - 3) Be manufacturer-specific.
 - 4) Contain double negatives.
 - 5) Have two parts.
 - 6) Contain clues to the answer.
- E. Knowledge questions should be limited only to who, what, when, where, how, or why, not a combination.
- F. Answers to the knowledge questions must be found within CAAV-approved or accepted information sources, including—
- 1) Recommended references
 - 2) Advisory circulars (AC)
 - 3) VARs.
- G. The examiner is looking to evaluate the applicant's basic knowledge. To determine if the oral questions are answered correctly, the examiner must be able to reference information (e.g., manufacturer's data, ACs, VARs). The examiner must be objective in making the determination.
- The applicant must be able to answer successfully all oral questions without the use of any reference materials.
 - While the answers to the oral questions should be available in the VARs, manufacturer's maintenance data, or other aviation related data, the use of any reference materials will not be allowed.

3.6 CONDUCTING THE PRACTICAL PORTIONS OF THE TEST

3.6.1 SUBJECT AREAS

- A. All Subject areas required for the rating sought must be tested; however, the examiner is not required to test every element in each Subject area.
- B. In Subject Areas where a core competency element is identified, the examiner must test the applicant on the core competency element and at least one other skill element selected from the Subject Area.
- C. The applicant must pass each Subject Area to pass a Testing Category.
 - The examiner may combine two or more Subject Areas within a practical project as needed to facilitate testing.
 - However, the examiner must be able to make an objective determination of an applicant's performance in each Subject Area tested.

3.6.2 SKILL (PRACTICAL) ELEMENT PROJECTS

- A. The objective of this portion of the skill testing is to measure an applicant's basic skills in a Competency Elements/Task.
- B. The examiner has designed the projects directly relational to its assigned level and to the accuracy of this measurement.

Several Subject Areas may be evaluated during an assigned practical project.
--
- C. The following basic guidelines were used to develop the skill projects.
 - 1) The givens (e.g., specific tools, equipment, mock ups, technical data) that will be required for the project will be provided;
 - 2) The level should be clearly identified, clear and concise with the level; and
 - 3) The standard(s) by which the project will be graded will be presented. The examiner has a develop a performance standard for each project which include—
 - (a) What the applicant must do. As an example: (for mechanic applicants) install an assigned control surface; (for parachute rigger applicants) inspect a pilot chute.
 - (b) How it must be done. As an example: use of proper information (e.g., manufacturer's data, Type Certificate Data Sheet (TCDS)) proper tooling, and observance of all applicable safety precautions.

3.6.3 EVALUATION OF THE PRACTICAL PROJECTS

- A. The examiner must determine if the applicant's project is acceptable.
 - The examiner must personally observe all practical projects performed by the applicant.
 - Be objective in making this determination. The applicant must be able to demonstrate satisfactory proficiency and competency using basic aircraft mechanic skills.
- B. The applicant must demonstrate an approval for return to service standard, where applicable, and demonstrate the ability to locate and apply the required reference materials, where applicable.
- C. For instances where an approval for return to service standard cannot be achieved, the applicant must be able to explain why the return to service standard cannot be met (e.g., when tolerances are outside of a product's limitations).

3.6.4 TOOLS, EQUIPMENT & REFERENCE MATERIALS

- A. The examiner will provide all tools, equipment, and reference materials for the Subject Area elements selected. These materials must include, but are not limited to—

- VARs
 - TCDS
 - Airworthiness Directives
 - Advisory circulars
 - Manufacturer's technical and parts manuals, service information, and any other instructions and/or reference materials that are necessary for the objective accomplishment of the assigned Subject Area element(s).
- B. All reference material must be unmarked and in good condition.
- The applicant's use of other reference material, not provided by the examiner, is prohibited.
- C. Applicants may use personal tools and equipment at the discretion of the examiner.
- Use of non-programmable calculators is permitted where appropriate.
- D. Publications other than those listed may be used as references if their content conveys substantially the same information as the referenced publications.
- E. Information contained in manufacturer and/or CAAV approved/acceptable data always takes precedence over advisory or textbook referenced data.

- Document references listed in this document are NOT meant to supersede or otherwise replace manufacturer or other CAAV-approved or acceptable data.
- They serve as general information and study material sources.

3.7 EVALUATION OF PERFORMANCE

- A. The examiner who conducts the Skill Test is responsible for determining that the applicant meets acceptable standards of knowledge and skill in the STS subject areas for the rating sought.
- Since there is no formal division between the knowledge and skill portions of the Skill Test, this becomes an ongoing process throughout the test.
- B. An applicant is not expected to be competent in all phases of overhaul, maintenance, alteration, and repair, or be highly skillful in performing complex manipulative operations.
- But applicants are expected to have developed basic skills and be able to demonstrate them during the practical test.
- C. The examiners will inform the applicant of the level of performance expected before beginning each project.
- Applicants can find the required performance levels in the STS in this document.

3.7.1 SATISFACTORY PERFORMANCE

- A. The Skill Test is passed if the applicant demonstrates the prescribed proficiency in the assigned elements (core competency and other selected elements) in each subject area to the required standard.
- B. The following standards will be used by the examiner for evaluating applicant performance—
- 1) Approach to the project; proper information and tools; preparation of the equipment; and observation of safety precautions;
 - 2) Cleaning, preparing, and protecting parts; skill in handling tools; thoroughness and cleanliness;
 - 3) The functions of the units or systems of the assigned project; use of current maintenance and/or overhaul procedures;
 - 4) Final inspection for safety and operation;

- 5) Completion of required forms and records;
- 6) Application of appropriate rules; and
- 7) Attitude toward safety, manufacturer's recommendations, and acceptable industry practices.

3.7.2 UNSATISFACTORY PERFORMANCE

- A. If the applicant does not meet the standards of any of the elements performed (knowledge, core competency, or other skill elements), the associated subject area is failed, and thus the Skill Test is failed.
- B. Typical areas of unsatisfactory performance and grounds for disqualification include the following—
 - 1) Any action or lack of action by the applicant that requires corrective intervention by the examiner for reasons of safety.
 - 2) Failure to follow acceptable or approved maintenance procedures while performing skill (practical) projects.
 - 3) Exceeding tolerances stated in the maintenance instructions.
 - 4) Failure to recognize improper procedures.
 - 5) The inability to perform to a return to service standard, where applicable.
 - 6) Inadequate knowledge in any of the subject areas.

3.7.3 FAILURE TO PERFORM AT AN ACCEPTABLE LEVEL

3.7.3.1 Testing Category

- A. When it becomes obvious during the test that an applicant cannot perform at an acceptable level and has already failed several Subject Areas in a Testing Category, the examiner may discontinue testing in that category and go on to the next category.
- B. In some cases, however, it may be advantageous to continue to the end of the category so the applicant will know his/her strengths and weaknesses when preparing for retest.

3.7.3.2 Subject Area

- A. If, in the judgment of the examiner, the applicant does not meet the standards of performance of any task performed, the subject area is failed and; therefore, the skill test performance will be unsatisfactory.
- B. When it becomes obvious during the test that an applicant cannot perform at an acceptable level and has failed a Subject Area, the examiner may discontinue testing in that Subject Area and go on to the next Subject Area.

- The test may be continued only with the consent of the applicant.
- The examiner or the applicant may discontinue the testing any time after the failure of a Subject Area.

3.7.3.3 Disapproval or Discontinuance

- A. If the test is discontinued, the applicant is entitled to credit for only those areas of operation and their associated tasks satisfactorily performed.
- B. When a Notice of Disapproval is issued, the examiner shall record the—

During the re-test and at the discretion of the examiner, any element in a Subject Area may be re-evaluated, including those previously passed.

- 1) Applicant’s unsatisfactory performance in terms of the area of operation and specific task(s) not meeting the standard appropriate to skill test conducted;
- 2) The area(s) of operation/task(s) not tested; and
- 3) Number of skill test failures shall also be recorded.

3.7.3.4 Letter of Discontinuance

- A. When a skill test is discontinued for reasons other than unsatisfactory performance (i.e., equipment failure or illness), the examiner at that time shall prepare, sign and issue a Letter of Discontinuance to the applicant.

The Letter of Discontinuance should identify the Elements and the Core Competency tasks of the skill test that were successfully completed.
- B. The following documents will be returned to the applicant—
 - 1) The license application form; and
 - 2) The Aircraft Maintenance Technician knowledge test results
- C. The applicant shall be advised that the Letter of Discontinuance shall be presented to the examiner when the skill test is resumed, and made part of the certification file.

3.7.4 INCOMPLETE TEST

- A. Should the test not be completed in the allotted time frame, the examiner will forward this incomplete test file to the CAAV office within 7 calendar-days.
- B. When practical, schedule a retest for the areas not completed at the time the test is discontinued.

Treat this retest as if the applicant had failed those portions not tested.

3.7.5 RE-TEST IN ALL REQUIRED AREAS

- A. Applicants for a re-test in all areas of the oral and/or practical tests in the Testing Category(s) or Area(s) of Operation listed as failed, that was/were not taken, or that has/have expired.
- B. Applicants who apply for retesting within 60 calendar-days to the same examiner who gave the failed test may, at the option of the examiner, be tested in only the Subject Areas failed on the previous test (provided applicant has successfully passed all other Subject Areas within that Testing Category).

New questions and practical projects may be included in the retest.
- C. Practical projects will be re-tested at the same level as failed.

SECTION 4 GENERAL SUBJECTS

The applicant must first satisfactorily complete the Subject Areas in this Testing Category for the Airframe or Powerplant ratings.

	LEVEL		
	A	B1	B2
7.1 Safety Precautions-Aircraft and Workshop Aspects of safe working practices including precautions to take when working with electricity, gases especially oxygen, oils and chemicals. Also, instruction in the remedial action to be taken in the event of a fire or another accident with one or more of these hazards including knowledge on extinguishing agents.	3	3	3

<p>7.2 Workshop Practices Care of tools, control of tools, use of workshop materials; Dimensions, allowances and tolerances, standards of workmanship; Calibration of tools and equipment, calibration standards.</p>	3	3	3
<p>7.3 Tools Common hand tool types; Common power tool types; Operation and use of precision measuring tools; Lubrication equipment and methods. Operation, function and use of electrical general test equipment.</p>	3	3	3
<p>7.4 Avionic General Test Equipment Operation, function and use of avionic general test equipment.</p>	—	2	3
<p>7.5 Engineering Drawings, Diagrams and Standards Drawing types and diagrams, their symbols, dimensions, tolerances and projections; Identifying title block information; Microfilm, microfiche and computerised presentations; Specification 100 of the Air Transport Association (ATA) of America; Aeronautical and other applicable standards including ISO, AN, MS, NAS and MIL; Wiring diagrams and schematic diagrams.</p>	1	2	2
<p>7.6 Fits and Clearances Drill sizes for bolt holes, classes of fits; Common system of fits and clearances; Schedule of fits and clearances for aircraft and engines; Limits for bow, twist and wear; Standard methods for checking shafts, bearings and other parts.</p>	1	2	1
<p>7.7 Electrical Wiring Interconnection System (EWIS)</p>	LEVEL		
	A	B1	B2
<p>Continuity, insulation and bonding techniques and testing; Use of crimp tools: hand and hydraulic operated; Testing of crimp joints; Connector pin removal and insertion; Co-axial cables: testing and installation precautions; Identification of wire types, their inspection criteria and damage tolerance. Wiring protection techniques: Cable looming and loom support, cable clamps, protective sleeving techniques including heat shrink wrapping, shielding; EWIS installations, inspection, repair, maintenance and cleanliness standards.</p>	1	3	3
<p>7.8 Riveting Riveted joints, rivet spacing and pitch; Tools used for riveting and dimpling; Inspection of riveted joints.</p>	1	2	—

7.9 Pipes and Hoses Bending and beelling/flaring aircraft pipes; Inspection and testing of aircraft pipes and hoses; Installation and clamping of pipes.	1	2	—
7.10 Springs Inspection and testing of springs.	1	2	—
7.11 Bearings Testing, cleaning and inspection of bearings; Lubrication requirements of bearings; Defects in bearings and their causes.	1	2	—
7.12 Transmissions Inspection of gears, backlash; Inspection of belts and pulleys, chains and sprockets; Inspection of screw jacks, lever devices, push-pull rod systems.	1	2	—
7.13 Control Cables Swaging of end fittings; Inspection and testing of control cables; Bowden cables; aircraft flexible control systems.	1	2	—
7.14 Material handling			
7.14.1 Sheet Metal Marking out and calculation of bend allowance; Sheet metal working, including bending and forming; Inspection of sheet metal work.	—	2	—
7.14.2 Composite and non-metallic Bonding practices; Environmental conditions; Inspection methods.	—	2	—
7.15 Welding, Brazing, Soldering and Bonding			
(a) Soldering methods; inspection of soldered joints.	—	2	2
(b) Welding and brazing methods; Inspection of welded and brazed joints;	—	2	—
	LEVEL		
	A	B1	B2
Bonding methods and inspection of bonded joints.			
7.16 Aircraft Weight and Balance			
(a) Centre of Gravity/Balance limits calculation: use of relevant documents;	—	2	2
(b) Preparation of aircraft for weighing; Aircraft weighing.	—	2	—
7.17 Aircraft Handling and Storage Aircraft taxiing/towing and associated safety precautions; Aircraft jacking, chocking, securing and associated safety precautions; Aircraft storage methods; Refuelling/defuelling procedures; De-icing/anti-icing procedures; Electrical, hydraulic and pneumatic ground supplies. Effects of environmental conditions on aircraft handling and operation.	2	2	2

7.18 Disassembly, Inspection, Repair and Assembly Techniques				
(a)	Types of defects and visual inspection techniques; Corrosion removal, assessment and re-protection;	2	3	3
(b)	General repair methods, Structural Repair Manual; Ageing, fatigue and corrosion control programmes;	—	2	—
(c)	Non-destructive inspection techniques including, penetrant, radiographic, eddy current, ultrasonic and boroscope methods;	—	2	1
(d)	Disassembly and re-assembly techniques;	2	2	2
(e)	Trouble shooting techniques.	—	2	2
7.19 Abnormal Events				
(a)	Inspections following lightning strikes and HIRF penetration;	2	2	2
(b)	Inspections following abnormal events such as heavy landings and flight through turbulence.	2	2	—
7.20 Maintenance Procedures				
	Maintenance planning; Modification procedures; Stores procedures; Certification/release procedures; Interface with aircraft operation; Maintenance Inspection/Quality Control/Quality Assurance; Additional maintenance procedures; Control of life limited components.	1	2	2

End of Advisory Circular