U.S. Department
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Advisory Circular

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Certification And Operation Of Aviation Maintenance Technician Schools

Initiated by: AFS-340

U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: CERTIFICATION AND OPERATION OF AVIATION MAINTENANCE TECHNICIAN SCHOOLS

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Change:

1. PURPOSE. This advisory circular (AC) provides guidance to assist persons in obtaining and maintaining Federal Aviation Administration (FAA) certification of an Aviation Maintenance Technician School (AMTS).

2. RELATED FEDERAL AVIATION REGULATIONS (FAR).

a. FAR Part 1, Definitions and Abbreviations.

b. FAR Part 43, Maintenance, Preventative Maintenance, Rebuilding, and Alteration.

c. FAR Part 65, Certification: Airmen Other Than Flight Crewmembers.

d. FAR Part 91, General Operating and Flight Rules.

e. FAR Part 145, Repair Stations.

f. FAR Part 147, Aviation Maintenance Technician Schools.

g. FAR Part 183, Representatives of the Administrator.

3. RELATED READING MATERIAL. AC's and other documents relating to this subject may be found in Appendix 6 of this AC.

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Acting Director, Flight Standards Service

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CHAPTER 1. INTRODUCTION

1. GENERAL. The FAA-approved program is frequently only a part of a school's overall instruction program (i.e., baccalaureate degrees that include an FAA Airframe and Powerplant Mechanic Certificate). The requirements of FAR Part 147 should not be interpreted as applying to any courses other than those required by the FAR Part 147 curriculum.

2. BACKGROUND. FAR Part 147, Aviation Maintenance Technician Schools, specifies requirements for the certification and operation of an AMTS. The regulation includes both the curriculum requirements and operating rules for all certificated AMTS. The regulation's origin was in Civil Air Regulations (CAR) Part 53. When the CAR were recodified in 1962, CAR Part 53 became FAR Part 147. In 1970, FAR Part 147 was completely revised. The revision increased the required core curriculum hours from 1,500 to 1,900 and provided more definitive subject content and teaching guidelines than before.

3. DISCUSSION. An AMTS is an educational facility certificated by the FAA to train aviation maintenance technicians (AMT) for careers in the airline industry, in aviation maintenance facilities, and in commercial and general aviation. The knowledge, skills, and abilities (KSA) required of aviation technicians are considerable and demand high quality training. Therefore, the FAA requires high standards of AMTS.

a. In terms of the time and costs involved, the development and certification of an AMTS involve a considerable undertaking. From initiation of the certification process to issuance of the certificate, the outlay of time and capital for required facilities, equipment, and curriculum development can be significant.

b. AMTS applicants are encouraged to exceed the FAA minimum standards for facilities, curriculum, teaching levels, etc. For example, AMTS applicants are encouraged to teach subjects beyond those required by the regulations; e.g., composite material repair, solid state electronics, nondestructive inspection techniques, and built-in test equipment. (See Appendix 6 for additional course material recommendations.) However, when an AMTS chooses to exceed FAA minimum standards, this new standard must be approved by the FAA and, if approved, becomes part of an FAA-approved curriculum. The new standard becomes a mandatory

compliance requirement and remains a mandatory requirement until the FAA is informed of a change by the school.

c. Since an AMTS is certificated and inspected by the FAA, satisfaction of FAR Part 147 requirements should be the primary concern of an AMTS. When local and State educational requirements conflict with the FAA's regulation of an AMTS, those requirements must be resolved to satisfy FAR Part 147. In other words, FAA standards take precedence over other requirements.

4. GLOSSARY OF TERMS. This listing contains clarifications of some of the terms defined in FAR Part 147. When used within the context of FAR Part 147, these terms apply to AMTS requirements and are not necessarily used the same way they are used in other FAA regulations; i.e, FAR Part 145, Repair Stations.

a. Accreditation. As referenced in FAR Part 147, this term refers exclusively to schools accredited within the United States and Canada.

b. Approved Instructors. Non-FAA certificated instructors who have been approved by the FAA to teach pertinent subjects at a particular AMTS. The AMTS must submit to the FAA a list of instructions and substitute instructors. The list must specify which subjects will be taught by each instructor. The FAA will then approve or disapprove each instructor individually. An instructor who does not hold an FAA mechanic certificate cannot be approved to teach subjects other than certain general curriculum subjects, such as mathematics, physics, mechanical drawing, etc. The list of approved instructors must be maintained by the AMTS.

c. Certificated Instructors. Those instructors who hold FAA mechanic certificates and the ratings appropriate for the subjects to be taught.

d. Certification. As referenced in FAR Part 147, this term refers to AMTS certificated by the FAA. AMTS are certificated exclusively within the United States.

e. Check. To verify proper operation. A check is performed to verify proper operation without the item necessarily qualifying for return to service condition. In an AMTS, the item checked does not have to be the item overhauled.

f. Common Handtools. Small, ordinary tools such as ratchets, sockets, etc.

g. Instructional Aids. Equipment used to provide instruction. Examples include diagrams, visual aids, computers, interactive software, aircraft, mockups of aircraft, engines, components, etc., as well as actual components, such as magnetos, fuel controls, etc. An instructional aid does not have to meet return to service standards.

h. Instruction Hour. The educational unit hour, as used by an AMTS, that consists of a time period of 50-60 minutes. This instructional time period conforms to the existing practices at many education institutions.

i. Laboratory. Facilities for providing instruction in general principles that may require student demonstrations or participation. Determination of what laboratory equipment will be required depends on the subject taught and the teaching level at which it is taught.

j. Overhaul. To disassemble, inspect, repair as necessary, and check in accordance with FAA acceptable instructions; i.e., manufacturers' maintenance manuals, FAA directives, and service bulletins. For an AMTS, the overhaul requirement in a teaching scenario does not require the overhauled component to meet return to service mechanical tolerances. For example, a runout turbine powerplant may be adequate to teach students overhaul techniques but could present a danger if operated.

k. Practical Project. A "hands-on" assignment that requires the use manipulative skills taught at a teaching level of either 2 or 3. A practical project does not include nonmanipulative activities such as book reports. However, for certain required general subjects such as maintenance publications, the use of FAA directives, manufacturers' data, etc., constitutes a practical project.

l. Ratings. An AMTS may be certificated for the following ratings: airframe, powerplant, or combined airframe and powerplant. The general portion of the required curriculum is not a rating, but it is a required part of all the ratings.

m. Return to Service. As used in FAR Part 147, with respect to skills developed, to make a part or component airworthy, or to be in an airworthy condition; i.e., instructional aid.

n. Shop. Facilities for providing instruction on projects taught at teaching Levels 2 or 3. The shop environment should resemble a typical aviation repair facility. However, the school is primarily a training and educational facility and must reflect that function.

o. Shop Equipment. Machinery such as fabricating devices, sheet metal equipment, battery chargers, etc.

p. Special Tools. Highly specialized tools such as tensionometers, micrometers, torque wrenches, etc.

q. Teaching Levels.

(1) Level 1. Level 1 requires knowledge of general principles, but no practical application; no development of manipulative skill; and instruction by lecture, demonstration, and discussion. This teaching level generally refers to classroom instruction and does not require practical application. Teaching aids or instructional equipment may include charts, books, diagrams, or other visual teaching aids. If an AMTS chooses to teach Level 1 courses incorporating actual components, the components do not have to be operational.

(2) Level 2. Level 2 requires knowledge of general principles and limited practical application; development of sufficient manipulative skill to perform basic operations; and instruction by lecture, demonstration, discussion, and limited practical application. This teaching level requires some hands-on manipulative skills and their accompanying actual or simulated components/equipment, but still may be taught primarily in the classroom environment.

(3) Level 3. Level 3 requires knowledge of general principles; performance of a high degree of practical application; development of sufficient manipulative skill to accomplish return to service; and instruction by lecture, demonstration, discussion, and a high degree of practical application. This teaching level requires hands-on skill, as well as sufficient and appropriate instructional aids to train the student to develop manipulative skills sufficient to simulate return to service mechanical skill. At this level, the teaching aids must be similar to or be the actual items of equipment on which the student is expected to develop required skill levels. A Level 3 subject cannot be taught solely by lecture in the

classroom; the appropriate training aids and hands-on experience must be used.

r. Troubleshoot. To analyze and identify malfunctions and to identify the source of trouble in an airframe, powerplant, or aircraft component. For the purposes of AMTS, the item of equipment or simulator training aids must be in operating condition. For example, a turbine powerplant must be operational in order for the student to troubleshoot it.

CHAPTER 2. CERTIFICATION REQUIREMENTS FOR SCHOOLS CERTIFICATED UNDER FAR PART 147

5. AMTS RATINGS. An AMTS may be FAA-certificated for the following ratings: airframe, powerplant, and/or combined airframe and powerplant. The general section of the curriculum is not a rating but its completion is a prerequisite of eligibility for ratings. Schools certificated only for combined airframe and powerplant ratings cannot grant single ratings such as airframe or powerplant. Students enrolled in a combined curriculum are required to finish the entire combined curriculum before eligibility for FAA written testing.

6. DURATION OF CERTIFICATE. An AMTS' FAA certificate remains in effect until it is surrendered, suspended, or revoked. However, a change in location, facilities, and ratings or the addition or deletion of a rating will require the school to be recertificated by the FAA.

7. DISPLAY OF CERTIFICATE. The AMTS is required to display its FAA certificate in a prominent location that is accessible and visible to the public. The certificate must be made available for inspection by the FAA.

8. ADVERTISING. In all advertising and brochures, an AMTS is required to indicate that it is an FAA-certificated school. Course literature must clearly distinguish between those courses that have been approved by the FAA and those that have not. For example, an FAA-certificated AMTS that is part of a junior college system may offer courses in aviation management but must clearly state in its literature that those courses are not FAA approved.

9. INSPECTION REQUIREMENTS. When an AMTS applies to the FAA for certification, it enters into a regulatory agreement with the FAA to allow itself to be inspected by the FAA at any time. Normally, an FAA inspection is conducted approximately every 6 months to determine if the school continues to meet its certification requirements. However, the FAA will perform more inspections if required. In all cases, an AMTS will be inspected by the FAA at least once each year. See FAR Section 147.43.

10. CURRICULUM REQUIREMENTS. The AMTS curriculum is comprised of the courses needed to meet FAR Part 147 requirements. The

curriculum is the single most important document an AMTS applicant will submit. This is basically an agreement between the FAA and the AMTS that shows how the AMTS will train students for certification as AMT's, and how it will meet the academic and regulatory requirements of the regulations. Elements comprising an AMTS curriculum can vary widely. However, many AMTS include all or some of the required operating rule compliance documents in the curricula. Since these documents must be supplied to the FAA in any case, this has an advantage in that it incorporates all FAR Part 147 school requirements in a single document. As revisions are required periodically, and as those revisions must be FAA-approved, curriculum documents should have a format that permits easy revision. The curriculum document should have a revision control chart or page that indicates the location of each revision and includes the approving FAA official's signature.

a. Curriculum Background. FAR Section 147.21 provides the minimum curriculum requirements. Maintenance of curriculum requirements is stated in FAR Section 147.38.

(1) An AMTS is required to adhere to its approved curriculum. Any FAR Part 147 course material the school wishes to add must be incorporated into the approved curriculum and approved by the FAA before it may be used. This does not prohibit an AMTS from teaching non-FAA-approved courses such as refresher courses or academic courses required to complete a degree program. However, those courses must be clearly distinguishable from FAA-approved AMTS courses.

(2) An AMTS should strive to keep its approved AMTS curriculum current with industry needs by revising courses as appropriate. These revisions require FAA approval before they can be implemented.

(3) Practical projects, referred to in FAR Section 147.21(d), include all functions specified in the curriculum that involve hands-on tasks. Therefore, practical projects will include virtually any task taught at Levels 2 or 3 since all of these require some practical application, as specified in FAR Part 147 Appendices.

b. Curriculum Development. Curriculum development generally progresses through several stages. These stages are described in the following chapter. Practical examples may be found in Appendix 1.

(1) Stage 1. The first stage is to conceptualize the KSA's that an aviation mechanic must acquire in order to become certificated by the FAA. To determine the KSA requirements, the FAA commissioned a study of the AMT occupation. Some of the results of the study, "The National Study of the Aviation Mechanic's Occupation," were used in the development of FAR Part 147. This study is often described as "The Allen Study" after the chief researcher, Dr. David Allen. Although it does not constitute an AMTS curriculum, the Allen Study does provide a partial foundation for the development of a sound curriculum that will address the requirements of the regulations. The study also identifies the training and KSA's the student must acquire to qualify as an airframe and powerplant mechanic.

Note: Although useful, the Allen Study is not technically current for all topics.

(2) Stage 2. The second stage of curriculum development involves identifying which specific tasks must be performed, determining the specific performance standard that must be reached for each task in each subject area, and assigning the amount of instructional time in theory, laboratory and shop that will achieve that performance standard.

(3) Stage 3. The third stage in curriculum development must produce a curriculum that contains all the elements required to teach, test, and conform to the rule. Stage 3 must also develop practical projects and objective project grading criteria. Practical projects and associated tests may be presented within the main body of the curriculum or in associated workbooks, workbook supplements, or project guides. Wherever the practical projects are presented, they ultimately become part of an FAA-approved curriculum and must be submitted to the FAA for approval. The testing and evaluation of practical projects may represent the most difficult task in curriculum development. No one method is "best." Instead, there are a number of methods used by AMTS that have proven to be valid. One important concept to keep in mind is that the KSA's required of an AMT student must be validated by the testing procedures used when each required project is performed. Appendix 1 offers a brief description of practical project guides and the various methods that AMTS use to objectively grade practical projects. Minimally, a complete curriculum:

(i) Conforms to FAR Part 147.

(ii) Provides a method to teach the KSA's an AMT student is required to learn.

(iii) Has objectives that are clearly expressed.

(iv) Provides objective test criteria that conform to subjects studied both in shop/laboratory and in the classroom.

(v) Shows the appropriate teaching level and number of required shop and theoretical hours to complete the program for a given rating.

(vi) Includes a complete description of each practical project and the methods and materials required to accomplish each one.

(vii) Shows the relationship of practical projects to the required subjects.

c. Curriculum Components. An acceptable FAR Part 147 curriculum will consist of at least the following elements:

(1) Subjects conforming to Appendices B, C, and D.

(2) Course content conforming to Appendices A, B, C, and D.

(3) Teaching level requirements conforming to Appendix A.

(4) Objective testing and grading criteria.

(5) Classroom or theory hours conforming to FAR Section 147.21.

(6) Shop or laboratory hours conforming to FAR Section 147.21.

(7) Total number of hours required for successful completion.

(8) A schedule of required tests which indicates the sequence of examinations for each subject in the curriculum.

(9) The order of instruction for each subject element.

d. Additional Requirements.

(1) Each subject item must be taught at least at the indicated level of proficiency as defined in FAR Part 147 Appendices. When the school wishes to teach a subject item to a level beyond the requirements, the teaching level must be approved by the FAA and made part of the FAA-approved curriculum. As an example, a subject required by FAR Part 147 to be taught at Level 1 may be taught at teaching Level 2 by a school that has obtained FAA approval at a level beyond the requirements. Subject items cannot be taught at a level less than that shown in the FAA-approved curriculum or less than those shown in the FAR Part 147 Appendices.

(2) Additional subjects/courses required by the school for its own purposes; i.e., degree program subjects such as geography, should not be submitted for FAA approval as part of the curriculum.

(3) Subjects such as basic aerodynamics or theory of flight can be taught within pertinent, related subjects such as physics, aircraft rigging, etc. This would not necessarily increase required instruction hours.

(4) The teaching of additional subject material, beyond the requirements of FAR Part 147, Appendices B, C, and D, may require additional instruction hours beyond those required by FAR Section 147.21.

e. Curriculum Focus. Many AMT schools enhance portions of their curricula to develop graduates who are directed toward particular areas of the aviation industry. Examples are schools that train graduates specifically for commercial airlines, helicopter operation, repair stations, agricultural aircraft operations, etc. Curricular enhancement generally results in a curriculum with more hours of instruction than the minimum specified by FAR Section 147.21 for airframe and powerplant. Schools with directed curricula may be permitted by the FAA to reduce teaching hours (but not teaching levels) in areas they want to deemphasize and increase teaching hours (and sometimes teaching levels) in areas targeted for enhancement. Several examples of focused curricula can be:

(1) Example 1. A small AMTS in a rural area may want to direct AMT students toward general aviation and agricultural applicator aircraft operations. In this case,

airframe subjects such as wood, dope, fabric, welding, rigging, and ground handling would be emphasized by increasing the teaching hours and perhaps teaching levels for these subjects. Powerplant courses such as Propellers and Reciprocating Powerplants, including radial and opposed, would also be emphasized in the same ways and further by exploring better or more efficient instruction and/or methods. On the other hand, turbine engines, electronics, and air-conditioning may be reduced in teaching hours. FAR Part 147 does not permit a reduction in teaching level.

(2) Example 2. A large AMTS in a metropolitan area may concentrate on supplying AMT students for major airlines. This AMTS would tend to emphasize areas such as turbine engines, nondestructive inspection, air-conditioning systems, corrosion control, electronics, and airline maintenance systems. This AMTS may want to reduce its teaching hours in wood, dope, fabric, welding, and reciprocating engine subjects.

(3) In both examples, the number of teaching hours for certain subjects may be either reduced or increased, as appropriate. However, course content cannot be lowered in teaching levels, and the number of teaching hours for each subject would have to have FAA approval. It is obvious from this discussion that it is permissible to concentrate curricula toward certain areas in order to prepare the students for the appropriate service market. It is recommended that the AMTS develop its curricula direction during the initial certification.

(4) It is important to note that the teaching level of each subject in the curriculum directly affects the number of hours required to teach that subject. An AMTS should be aware that it must offer a sufficient number of hours for each subject in order to permit an average student to perform at the required subject level.

f. Curriculum Format. There is no format specifically required for a curriculum. However, as testing is part of the teaching validation process, the curriculum is required to show testing and grading procedures (see FAR Section 147.21(d)(3)).

g. Hours of Instruction. The number of hours of instruction offered for any rating must be at least the minimum specified by FAR Section 147.21. The school may offer more hours of instruction than the FAA requires. The following blocks of time are not to be included in calculating the minimum number of instructional hours specified in FAR Section 147.21:

(1) Time used to take the FAA oral and practical test.

(2) Time spent in taking the FAA written test or time spent registering for the test, etc.

(3) Time set aside for FAA test review and testing at the conclusion of the course. This is not to preclude review and testing for curriculum courses but to differentiate between the time spent in learning approved curriculum material and that spent in review for the FAA test.

(4) Time used for lunch, breaks, class changes, etc.

h. Order of Instruction. The curriculum should list the order of course progression in a logical sequence for each rating offered. For example, Basic Electricity would be completed before taking Aircraft Electrical Systems.

i. Curriculum Structure. An AMTS with ratings of airframe or powerplant, but not combined airframe and powerplant, is required to have a clearly defined general subject curricula. It is recommended that the general curriculum follow the format prescribed in FAR Part 147, Appendix B. This will ensure that a student graduating from one rating curriculum will meet the FAA requirements to receive the same general curriculum courses that a student graduating from another rating curriculum will receive (see Appendix 4).

j. Testing and Grading. Testing should be included as part of the required curriculum hours and must be directly related to the subject matter covered (see Appendix 3).

(1) Passing grades must be sufficient to achieve the required teaching level in FAR Part 147. Within the requirements, AMTS can set their own standards for passing grades in both shop and the classroom. Theoretical portions may have different grading standards from those required in shop classes. A common academic standard for passing is a minimum score of 70 percent. FAA written tests also use the 70 percent standard. An AMTS may choose to require a different minimum passing grade, although many AMTS elect to use the 70 percent passing standard.

(2) All theoretical and practical portions of each subject listed in the curriculum are required to be individually passed to the AMTS approved grading standard. Each practical project must also be separately passed to the approved standard. It follows that students must complete all required shop projects with passing grades. Practical

project testing and grading criteria must be explicit. The requirements for successful completion must be sufficient to maximize objective grading and reduce any subjective project grading to an absolute minimum.

(3) Upon completion of each curriculum subject, a test must be scheduled. In addition, at the school's discretion, quizzes may be scheduled at any time. From an educational standpoint, it is more effective and appropriate to schedule a test after a subject unit such as Welding rather than after a comprehensive subject such as Airframe Structures that contains Welding and six other subject units. When testing for subjects that have many hours of instruction; i.e., Sheet Metal Structures, an AMTS should consider planning more than one test or quiz during the instructional unit.

(4) The AMTS should have a system to provide test security. This system may include provisions for regular test changes and secure storage of tests and quizzes.

k. Practical Application Projects.

(1) The curriculum must list each of the practical projects that must be completed for each subject item. There must be a sufficient number of practical projects to address the requirements of FAR Part 147 (Appendices B, C, and D, as applicable). The curriculum should include enough detail to identify the practical projects for the correct teaching level and to clearly define performance standards and objective grading criteria.

(2) The AMTS must specify the teaching level (either 2 or 3) for each practical project to be covered in each subject item. The minimum teaching level is specified in FAR Part 147 Appendices. If the teaching level for practical projects is to exceed those requirements, it must be specified as such in the curriculum.

(3) The curriculum must show an appropriate amount of time for an average student to complete each project. Data contained in the Allen Study will provide useful information on project completion times. However, the Allen Study guidelines are only suggestions.

(4) The curriculum should be designed so that each task in each subject item is accomplished. For example, if a subject element listed in the appendices requires that the student inspect and repair to accomplish a Level 2 or Level 3 subject, a project requirement for both inspection and repair must be included in the curriculum. It is possible that one

project may satisfy all the requirements for that subject element.

(5) FAR Section 147.21(e) requires that the overall curriculum must be taught at least 50 percent in the shop or laboratory. However, not every subject item lends itself to 50 percent shop work. The curriculum should be designed so that shop and theory are balanced as appropriate to the subject item being taught. An AMTS should avoid structuring courses that are artificially organized to meet the 50 percent requirement.

l. Makeup Provisions.

(1) An AMTS must specify its provisions for the evaluation of students after failure.

(2) The curriculum must show the number of hours of allowed absences.

(3) All classroom material missed during allowed absences shall be made up in the same subject area.

(4) All practical projects missed during allowed absences shall be made up. These shall be either the same projects missed or those that are very similar. Projects must be completed according to the approved grading standards.

(5) Absences exceeding the number of excused hours that are allowed by the AMTS or absences that are not excused require that portion of the curriculum to be retaken.

m. Revisions to the Curriculum. Changes to an approved curriculum must be approved by the FAA before an AMTS can implement them. Changes in the curriculum may include changes in any of the following:

(1) Teaching level.

(2) Hours of instruction.

(3) Business hours during which instruction is conducted.

(4) Testing/grading criteria.

(5) Makeup provisions.

(6) Course content.

(7) Equipment or facilities affecting instruction in

theoretical subjects or the accomplishment of practical projects.

(8) Order of instruction, sequence in which subjects would be taught.

(9) Addition or deletion of a rating.

(10) Changes in the student-to-teacher ratio.

n. Crediting Procedures for Previous Instruction or Experience. The AMTS should use either a reliable method of evaluating a student's instruction or an entrance test to ensure that previous instruction is comparable to that offered by the crediting school. When not using an entrance test, an AMTS should use authenticated transcripts, catalogs, course descriptions, and other documents to determine the credit to be granted.

(1) Crediting for the General Curriculum. When a student successfully completes a course of study for one rating and obtains that rating, that course of study will have included the general portion of the curriculum. When that student returns to the AMTS to study for a second rating after having graduated from the course and obtained the first rating, the student will not have to retake the general portion of the curriculum. This applies providing that the general portion is clearly separate and distinct from either the airframe or the powerplant portions and conforms to the requirements of FAR Part 147, Appendices A and B. (See Appendix 4.)

(2) Except for certain mitigating circumstances, if a certificated AMTS is under suspension by the FAA, courses taught during the suspension period cannot be credited retroactively, even if the school becomes recertificated later.

(3) An AMTS applicant may not teach students as an AMTS before FAA certification and then give credit for that training after the school becomes certificated.

(4) An AMTS can choose to credit a student with instruction that was satisfactorily completed at another AMTS before or after its FAA certification, other than the crediting school (see FAR Section 147.31(c)(1)(iv)). For example, this prohibits an institution teaching nonaviation courses (such as diesel mechanics) from granting those credits to students taking an aviation maintenance course at the same institution. This does not apply to schools that are not eligible for FAA certification; i.e., foreign schools. See paragraph 20, Foreign Schools.

(5) Crediting Previous Instruction from Other Schools (Nonaviation Maintenance Technician Schools, Accredited Only). In general, AMTS that are not FAA-certificated, credit may be granted only for a limited range of subjects that apply to the general portion of the curriculum; i.e., Mathematics, Basic Physics, and similar subjects.

(6) Crediting Previous Instruction from United States Military Technical Schools. If an AMTS chooses to grant such credit, it may be granted only on the basis of an entrance test, as specified in FAR Section 147.31(c)(2)(iii).

(7) Credit for Previous Experience (Military and Civilian). As a rule, creditable previous mechanic experience must be aviation maintenance experience comparable to the required AMTS curriculum subjects. For example, a person applying for credit for the aircraft Weight and Balance subject area on the basis of experience as a military aircraft load-master might be granted experience credit in that specific area but not for the aircraft Sheet Metal Structures subject area. Credit for all previous aviation maintenance technician experience must be documented and demonstrated by testing. The test must be equal to the test given to students who complete AMTS comparable required curriculum subjects.

11. FACILITIES. The instructional aids, shop equipment, and physical layout of the building must meet the requirements outlined in FAR Sections 147.15, 147.17, and 147.19. The applicant should keep in mind that the facility must constitute an environment suitable for learning. Distractions from learning, such as excessive noise, dust, fumes, heat, cold, clutter, etc., must be considered during development of the AMTS facility.

a. Facilities must be of a size adequate for the number of FAA-authorized students to accomplish any of the shop/laboratory projects designated for that area and all classroom instruction.

b. Facilities must be located and classes scheduled so that students can travel between classes without cutting into instructional time. An AMTS should avoid scheduling situations in which the students cannot go from one class to another within the time the school specifies for class transit.

c. The school should ensure that the shop and laboratory floors are free from clutter, such as extension cords and air hoses.

12. FACILITY LAYOUT. All facilities will have to conform to local and State codes. Discussion of those requirements is beyond the scope of this AC. The layout of the AMTS facilities will be influenced by the ratings the school plans to obtain. The following sections provide basic information on facility layout according to the requirements of each subject area.

a. General Subjects (FAR Part 147, Appendix B). The facility layout should ensure that lead-acid and nickel-cadmium battery charging stations are appropriately isolated from each other. Laboratory storage facilities and electrical/laboratory work stations must be appropriate. Heat-treatment furnaces and metal working equipment must be safe and well ventilated. Nondestructive inspection equipment (including magnetic particle inspection equipment) should be of a design suitable for inspection of aircraft components, and high pressure fluid line and pressure hose test devices must be safe to use.

b. Airframe Subjects (FAR Part 147, Appendix C). The shop layout must provide painting and doping facilities that are temperature controlled and force ventilated. Paint spray booths should meet State, local, and industry standards. The aircraft assembly area should be adequate and clean. The equipment for gear retraction demonstration and service (whether live aircraft or an instructional aid) should be in a clear area, safe to use, and accessible to a maximum of eight students. The sheet metal area must have a sufficient number of benches, vises, and an adequate air supply with built-in connectors. Facility layout should incorporate doors that are adequate to move aircraft and in-and-out. This facility should constitute a learning environment appropriate for simulation of return to service.

c. Powerplant Subjects (FAR Part 147, Appendix D). The layout of the facility must provide cleaning and degreasing facility areas that are appropriate and ventilated. A clean area for powerplant and accessory inspection and repair must be provided. There must be a safe engine runup area and an engine test cell or engine runup stand with appropriate test monitoring instrumentation. A propeller service and balancing area should be provided. As in the case of the airframe facility, the powerplant shop facility should constitute a learning environment appropriate for simulation of return to service.

13. TECHNICAL DATA LIBRARY REQUIREMENTS. An AMTS must provide a suitable technical data reference facility or area. The technical data reference area should have appropriate facilities for study and data examination. It should have an area that is isolated from high noise levels. Suitable bookshelves, microfiche readers and supplies, and data files

should be available. The technical data must be of a type appropriate for the AMTS ratings. As a minimum, the technical data shall include the following:

a. Federal Aviation Regulations.

b. Aircraft, engine, propeller, and type certificate data sheets and specifications.

c. Airworthiness directives.

d. Supplemental type certificates.

e. Maintenance manuals.

f. Advisory circulars.

g. Other instructional materials, such as textbooks on basic physics, math, hydraulics, powerplants, etc.

14. INSTRUCTIONAL AIDS AND AIRCRAFT.

a. The instructional aids required in FAR Section 147.17 must be appropriate to the scope and depth of the curriculum of the school. The applicant should ensure that the complexity of instructional aids is appropriate to the specific teaching level of the subject item. An inventory of instructional aids is required.

b. FAR Section 147.17(a)(2) requires a school to have (for instructional purposes) an aircraft of a type currently eligible for certification by the FAA. In this case, certification refers to FAA type certification. Many schools use surplus military aircraft to show compliance with this rule; however, at least one must be of a type that is eligible for an FAA type certificate. As an example, many light observation military aircraft have FAA type certificates but most fighter aircraft do not; and, hence, these would not meet the rule requirements. In some situations, an AMTS may choose to use an airworthy aircraft for certain instructional purposes in shop classes. This is permissible as long as the aircraft is on the school premises at the time of instruction. Active aircraft used to comply with FAR Section 147.17(a)(2)(d) become part of the approved instructional equipment; therefore, they must be available as specified in FAR Section 147.37 and listed in the instructional aids inventory.

c. An AMTS must comply with requirements for the ratio of instructional aids to students in each shop course. FAR Section 147.17(2)(c) permits no more than eight students to

work on any one unit of equipment at a time. This does not necessarily mean that a school must have each type of instructional aid for at least every eight students enrolled. However, as an example, if a school has an enrollment of 30 students in the powerplant course of study and has only two turbine engines, the school must clearly demonstrate in the curriculum what project the students who exceed the 16 permitted on the turbine engines at any one time will be doing; i.e., projects on piston engines, carburetors, etc. However, the FAA (or the AMTS) may determine that eight students may be too many to safely and competently conduct a certain project; e.g., instruction on live aircraft that are used for the demonstration of gear retraction systems.

15. SHOP EQUIPMENT REQUIREMENTS.

a. An AMTS is required to have enough shop equipment in place and in satisfactory operating condition to adequately serve the student enrollment and meet shop/project subject requirements.

b. The equipment must be located so that it can be operated by students in a safe and efficient manner. Large, standing equipment must be securely installed. Placement of large shop equipment should provide sufficient aisle space so that students can move about freely. The equipment must be listed.

16. SPECIAL TOOLS STANDARDS. The AMTS must provide an inventory of special tools required to provide instruction. For subjects taught at Level 3, all special tools required to meet "return to service" standards must be in satisfactory working condition, properly calibrated/tested, and of the proper kind for the purpose for which they are intended. FAR Section 147.19 requires the AMTS to furnish an adequate supply of special tools appropriate to the ratings and curriculum of the AMTS. Special tools may be custom fabricated for the intended purpose and furnished by the AMTS.

17. STUDENT HANDTOOL REQUIREMENTS. The school may either provide common handtools or require students to furnish their own. In either case, the school must establish a policy on provision of common handtools. The school must provide a list of required handtools to the students. Any tools that the school requires the student to furnish must be listed specifically in the curriculum and that list must be provided to the students.

18. MATERIAL REQUIREMENTS. The school must provide a list of materials required for instruction. The school must have

sufficient materials in stock and properly stored to provide for the approved student enrollment. In order to ensure adequate instruction, the amount and variety of stocks should directly reflect the requirements of the curriculum. For example, sufficient quantities of rivets, hydraulic fluid, gaskets, sheet metal, etc., are needed to complete a course of study.

19. INSTRUCTOR REQUIREMENTS AND RESPONSIBILITIES.

a. Faculty Requirements. Individuals listed as instructors, laboratory assistants or teaching assistants must be FAA-certificated with an FAA mechanic certificate having ratings appropriate to those subjects taught (other than certain general subjects such as mathematics, physics, drawing, etc.). The suitability of noncertificated instructors to teach certain general courses will be evaluated by the FAA on an individual basis. As an example, a school may propose to use a non-FAA-certificated, but experienced, engineering instructor to teach the mathematics and physics requirements of the general curriculum. Other employees, such as stock clerks or parts persons, are not required to be FAA-certificated.

b. Student/Teacher Ratios. FAR Section 147.23 requires at least one certificated instructor for every 25 students in each shop or laboratory class. The AMTS may choose to provide a lower student-to-teacher ratio according to the needs of the class or subject. The AMTS must have procedures to maintain the required minimum instructor ratios when regular instructors are on leave.

20. FOREIGN SCHOOLS. FAR Part 147 does not make any provisions for FAA certification or surveillance of aviation mechanic schools located outside the United States. Foreign AMTS applicants are not eligible for FAA certification.

21. SATELLITE SCHOOLS. An AMTS may not operate as a satellite facility. All AMTS must be FAA certificated as separate facilities.

CHAPTER 3. OPERATING RULES

22. MAINTENANCE OF FACILITIES. Under FAR Part 147, a school is required to continuously maintain the same standards under which it was certificated originally. This includes the maintenance of all facilities and equipment that were required for initial certification.

23. CHANGE OF LOCATION. An AMTS may not make any change in the school's location unless the change is approved by the FAA in advance. The AMTS is required to notify the FAA in writing at least 30 days prior to the date the change would take effect. During the change in location, no disruption may be made to student instruction or normal classroom attendance. Equipment, facilities, and instructors must be at least at the same level as the standards approved for the vacated facilities.

24. TIME AND ATTENDANCE. An AMTS must specify in the approved curriculum the number of instructional hours the school intends to offer. An AMTS must ensure that typical time loss items do not affect approved curriculum hours. Student attendance requirements are specified in FAR Section 147.31(a). Some typical time loss items are as follows:

a. Instructors ill or on leave. In small schools, this could result in canceled classes or students sent to a study room.

b. Teachers' strikes.

c. Weeks scheduled for private study and/or testing outside of the approved curriculum.

d. Class outings, not related to aviation maintenance, that take time away from instructional hours.

e. Student achievement days, sports days, and special event days.

f. Teachers' meetings and grading days.

g. Student absences beyond those permitted in the FAA-approved curriculum.

h. Classroom or shop time spent on noninstructional activities such as school administrative work and pep rallies, cleaning, painting, preparation of instructional aids, etc.

i. Any other activity that intrudes on instructional time.

25. ENROLLMENT. An AMTS applicant cannot have more students enrolled than the number stated on the certificate application. As enrollment increases or decreases, an AMTS may choose to change either the number of certificated or noncertificated instructors or the subjects to be taught by each. However, when instructors are changed or if enrollment exceeds the FAA approved figures, the FAA must be notified in advance.

26. RECORDS, TRANSCRIPTS, AND GRADUATION CERTIFICATES. An AMTS must provide the FAA with documents that show records on each student for the following items. (New AMTS applicants must also show the proposed method of meeting FAA records requirements.)

a. Records. Records must make clear which tests, quizzes, and practical projects are required, and which ones are optional. Student records should clearly distinguish between successful performance and unsuccessful performance. The record should show how credit was granted for previous experience and/or previous instruction. Progress records or charts do not have to show student grades for practical projects or laboratory work if those grades are available in another record at the school. Student attendance records should show the number of hours of absences. FAR Section 147.33 requires schools to retain tests for 2 years. This does not refer to each student's personal tests but to the grades received on tests given to the student for each subject. Examples of the forms used for these records should be in a document such as the curriculum.

b. Transcripts. Grade transcripts must be authenticated by an official of the school. Transcripts must contain a complete record of the courses, grades, and dates of completion and must be made available to the student regardless of whether or not the student graduates.

c. Graduation Certificates or Certificates of Completion. These must be authenticated by an officer of the school and can be issued only if all the curriculum requirements have been completed (either by taking or passing the specified courses or by being properly credited with them). All students meeting the AMTS graduation or completion requirements must be issued

the appropriate certificate. The certificates should contain the name of the AMTS, its certificate number, the approved course name, and date of graduation.

27. MAINTENANCE OF INSTRUCTOR REQUIREMENTS. After an AMTS is certificated or has added or dropped a rating, the AMTS must continue to provide an appropriate number of instructors with the ratings and certificates required by the FAA. The AMTS must continue to provide at least one FAA-approved instructor for each 25 students in each shop or laboratory class.

28. MAINTENANCE OF INSTRUCTIONAL AIDS. An AMTS must continue to maintain all instructional aids and equipment in good working order and in a condition for safe operation. Broken or deteriorated instructional aids must be repaired or replaced. The school must continue to provide sufficient instructional aids so that there will not be more than eight students per instructional aid unit at any one time.

29. MAINTENANCE OF TECHNICAL DATA REFERENCE MATERIALS. An AMTS should provide a system that identifies the person responsible for updating the technical data/reference materials. The procedure must clearly show the methods for maintaining and upgrading the data.

30. MAINTENANCE OF SHOP EQUIPMENT AND SPECIAL TOOLS. Shop equipment should be maintained in good working order and be in a condition for safe operation. A system should be in place for routine preventive maintenance and component replacement on all shop equipment. A system should be in place to maintain special tools in satisfactory working condition.

31. MAINTENANCE OF TOOL SUPPLY. The school must continue to provide all tools and special tools specified in the tool list. During school operation, tools may not be removed from the AMTS inventory without being replaced.

32. MAINTENANCE OF INSTRUCTIONAL MATERIALS. The AMTS must continue to provide required materials specified in the material list.

33. MAINTENANCE OF QUALITY OF INSTRUCTION. An AMTS must continue to provide instruction of the same quality as it demonstrated to the FAA during and immediately after certification. The instrument used by the FAA to measure AMTS instruction quality is a document titled "The National Passing

Norms". This norm is a measure of the performance of AMTS graduates from each school who are taking the Airframe and Powerplant Mechanic Test measured against the performance of other applicants taking the FAA Airframe and Powerplant Mechanic Test. Each certificated school will periodically receive copies of the national passing norm.

34. AVAILABILITY OF TYPE CERTIFICATED AIRCRAFT. FAR Section 147.17(a)(2) requires an AMTS to continue to provide a type certificated aircraft for student instruction. Specific requirements are discussed in Chapter 2, paragraph 14b.

CHAPTER 4. CERTIFICATION PROCEDURES

35. GENERAL. The AMTS certification process is an interaction between the AMTS applicant and the FAA. The certification process extends from the initial inquiry by the school applicant to the final issuance of the AMTS Air Agency Certificate (FAA Form 8000-4). This process ensures that the school's curricula, programs, policies, facilities, and methods of compliance with the regulations are thoroughly reviewed, evaluated, and validated. A certification schedule flow chart for the AMTS certification process is shown in Appendix 2. Figure 4-1 provides a certification checklist as an aid to ensuring all documents and procedures are complied with and recorded. The FAA certification process consists of five separate phases listed below:

a. Preapplication Phase.

b. Formal Application Phase.

c. Document Compliance Phase.

d. Demonstration/Inspection Phase.

e. Certification Phase.

Note: These phases may often overlap and can proceed concurrently. As an example, the document compliance phase may begin as soon as documents are received, before or during the formal application phase.

36. PREAPPLICATION PHASE.

a. Initial Inquiry. An applicant seeking to develop an AMTS must contact the local FAA Flight Standards District Office (FSDO) and advise the office of the intent to pursue FAA FAR Part 147 school certification. The FAA will provide the school applicant with a copy of FAA Form 8400-6, Preapplication Statement of Intent (PASI), and will explain to the applicant how to complete it. The FSDO will also advise the applicant which regulations must be met and where copies of the regulations can be obtained. The applicant must review the requirements and return the completed PASI to the FSDO before a Preapplication meeting can be scheduled.

b. PASI. An applicant should submit copies of the PASI only after reviewing the appropriate regulations and advisory material. Prior to PASI submission, the applicant should consider the personnel, facility, equipment, and regulatory requirements for certification and operation. See Figures 4-2 and 4-3, Preapplication Statement of Intent.

c. Preapplication Meeting. Following receipt of the completed PASI, the FAA will contact the AMTS applicant and arrange a Preapplication meeting. During this meeting, the applicant should ask any questions that he or she may have concerning FAA certification. The following events take place during the Preapplication meeting:

(1) FAA personnel brief the applicant on the regulatory requirements and policies regarding certification and operation of an AMTS.

(2) The applicant informs the FAA as to which of the three types of ratings are sought: airframe, powerplant, or combined airframe and powerplant.

Note: Due to the complexity and costs involved in certification, many AMTS applicants initially choose to seek certification for only one rating to reduce certification time and get classes under way.

(3) The applicant is given copies of FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application, to complete. See Figure 4-4.

(4) The applicant is given a thorough briefing on required attachments to the formal application. An applicant will be briefed on how to comply with these requirements, since the quality of these documents is a positive determining factor in FAA certification review. Note that these attachments can be presented to the FAA in writing either before or when formal application is made. The attachment documents should include:

(i) A document compliance statement listing each applicable FAR Part 147 section. The statement should provide either a brief narrative or, preferably, a specific reference to a manual, curriculum, or other document that describes the manner of compliance with each part of that regulation.

(ii) A system for recording student attendance and the student attendance policy.

(iii) A system providing procedures for maintenance of precision/special tools.

(iv) A letter requesting that the application be processed and indicating when the facilities and equipment will be ready for a formal inspection by the FAA.

(v) Two completed copies of FAA Form 8310-6, Aviation Maintenance School Certificate and Ratings Application.

(vi) A detailed description of the proposed curriculum. Since the curriculum must be approved by the FAA before the school can be certificated, an applicant can save time and money if the proposed curriculum is submitted before the formal application. Typically, a curriculum may take several FAA/AMTS review sessions prior to approval. See curriculum requirements in Chapter 2, paragraph 10.

(vii) A written description of the facilities to be used for instruction. The applicant should also provide detailed drawings, with dimensions, of the classrooms and the technical library, laboratory/shop facilities. Drawings should show the relative location of each school facility to each other facility. If classroom or laboratory/shops are located at significant distances from each other, the applicant should describe how and if travel time will affect required class attendance time.

(viii) A proposed inventory of the following items must be submitted:

(A) Instructional aids that include the numbers and types of mockups, aircraft, aircraft components, charts, etc.

(B) All shop equipment.

(C) All special tools.

(D) Required student handtools (the applicant must list in detail which handtools will be provided by the school and which tools the student will be required to own).

(E) Shop and laboratory instructional materials (rivets, sheet metal, etc.).

(ix) A list of proposed instructors showing all required certificate numbers(s), ratings, and the subjects to be taught by each instructor. Every subject in the proposed curriculum must be accounted for on the instructor listing. At least one FAA-approved instructor is required for every 25 students in each shop or laboratory class, and this must be shown in the list of instructors.

(x) A statement indicating the maximum number of students to be taught for each rating during each enrollment period. This information must be shown on the application form as well.

(xi) A written description of the contents and location of the proposed technical data reference area, including the appropriate and current technical data necessary for the ratings sought. The description should contain procedures on how, when, and by whom the technical data will be updated. As a minimum, the technical data must include the following:

(A) Federal Aviation Regulations.

(B) Type Certificate Data Sheets.

(C) Airworthiness Directives.

(D) Supplemental Type Certificates.

(E) Maintenance Manuals.

(F) FAA Advisory Circulars.

(G) Other instructional materials on subjects required by FAR Part 147, such as textbooks on basic physics, mathematics, hydraulics, aircraft maintenance, etc.

(xii) A written description of the method the school will use to grant credit to students for previous aviation maintenance technician experience. FAR Section 147.31(c)(3) requires that only documentary evidence and testing may be used to grant credit for experience. Previous experience must be aviation maintenance experience and must be comparable to the required curriculum subjects.

(xiii) A written description of the method the school will use to grant credit to students for previous aviation maintenance technician training. FAR Section 147.31(c)(1) permits several methods to be used for granting credit for previous training. School transcripts, catalogues, and other course documentation can be used to grant credit. An AMTS applicant cannot teach students before holding AMTS certification and then grant credit for that training after FAA certification.

(xiv) If not already specifically included in the curriculum, a written description of the method the school will use to record and maintain student time and attendance and course grades. The system must include a method of determining final course grades which are a combination of classroom,

laboratory, and practical project grades. The system must show the number of hours of absence that will be permitted and the makeup provisions for the classes that are missed. All makeup time must be in the classes and subjects that were missed. All required practical projects must be completed to at least the minimum grading standards.

(xv) System that indicates how testing and grading security will be maintained.

(xvi) Listing of any texts that will be used in the approved curriculum. These must be appropriate to the instructional material, curriculum, and the FAA ratings sought.

37. FORMAL APPLICATION PHASE.

a. Document Review. After the required PASI and preapplication information have been submitted to the FAA, the FSDO will review the documents. When the FSDO has determined that all the documents are complete and acceptable, the school will be contacted and a formal application meeting will be arranged.

b. The Formal Meeting. In the formal application meeting, the AMTS applicant's key decisionmaking personnel should be available to meet with the FAA and discuss the entire application package. Any open questions or discrepancies should be resolved at this time. Based on the document review and the results of these meetings, the FAA will accept or reject the application at this time. Results of this meeting will be documented in writing. In the case of a rejected applicant, the application and attachments will be returned to the applicant with the reasons stated for rejection.

38. DOCUMENT COMPLIANCE PHASE. This phase generally overlaps the preapplication phase and extends through the formal application phase. It is recommended that this phase be initiated as early as possible in the certification process.

a. Evaluation of Documentation. All documents submitted during the preapplication phase will be carefully reviewed. The FAA can be expected to place particular emphasis on the curriculum content and the methods within the curriculum that are used to comply with the regulations. The FAA will maintain contact with the applicant during this phase. All deficiencies found in the curriculum or in any other preapplication documents will be returned to the applicant with a letter outlining the deficient areas. The FAA generally offers suggestions on modifying the product but will not write the applicant's documents. A future meeting between the FAA and the applicant will be scheduled to discuss each deficiency in

detail. If the documents, as a whole, are not of sufficient quality to complete the certification, the entire certification process will be terminated by the FAA.

b. Termination. In the case of termination of the certification process, the applicant must submit a new PASI in order to begin the certification process again.

39. DEMONSTRATION AND INSPECTION PHASE.

a. Inspection Schedule. Following a successful formal application phase, the FAA will arrange with the applicant to inspect the facility. At this point, the AMTS facility will be expected to be complete with all the shop equipment, instructional aids, instructional aircraft, special tools, and other required laboratory or shop installations in place. Before scheduling an inspection, the applicant should be certain that the facility is ready to meet the standards required to begin instruction.

b. Emphasis. During the inspection, the FAA inspectors will carefully examine the facilities and equipment in order to ensure that the procedures, programs, facilities, and equipment meet FAA requirements and are safe and sufficient for the training program in the shop to be effective.

c. Demonstration Criteria. In particular, the AMTS must demonstrate compliance with the following regulations:

(1) Facilities must meet the requirements of FAR Sections 147.13 and 147.15.

(2) Instructional equipment must meet the requirements of FAR Section 147.17.

(3) All special tools, handtools, shop equipment, and instructional materials must meet the requirements of FAR Section 147.19.

d. Demonstration Deficiencies. When deficiencies in the demonstration arise, the FAA will provide a written list of the discrepancies to the applicant. Depending on the magnitude of the deficiencies, the FAA may schedule a meeting to discuss in detail the appropriate corrective actions that must be taken. At or immediately following the meeting, the applicant must provide the FAA with a list of all corrective actions taken. No AMTS will be FAA-certificated with any outstanding discrepancies. All must be corrected before certification may be granted. If the discrepancies cannot be resolved and/or the

applicant does not demonstrate compliance with the regulations, the FAA will terminate the certification process and send the applicant a letter of rejection and a list of the discrepancies still outstanding.

e. Termination. If the FAA terminates the application, then the applicant must correct the discrepancies and submit a new PASI to reinitiate the certification process.

40. CERTIFICATION PHASE.

a. Successful Application. When all the regulatory requirements have been met, the school will be issued an Air Agency Certificate, FAA Form 8000-4. The form will contain the name of the school and its ratings. At this time, the school's curriculum will be returned by the FAA, signed, and dated on all the effective pages and on any revision pages.

b. Surveillance. The FAA will inspect and observe the school frequently during the first 90 days of operation to determine compliance with the applicable FAR. During this initial period, the FAA may determine that it is necessary to schedule additional inspections in order to determine compliance. The FAA may also direct certain changes in the methods or techniques of school operation.

This checklist may be used by an AMTS applicant to ensure all requirements are covered during the certification process.

AMTS CERTIFICATION CHECKLIST GUIDE				
NAME OF SCHOOL:	INSPECTION			
	Date	SAT.	UNS.	N/A
1. Initial Inquiry to FAA				
2. Obtain copy of regulations/PASI				
3. Develop PASI				
4. Submit PASI to FAA				
5. Preapplication Meeting with FAA				
6. Develop Formal Application - Detailed Curriculum - Grade/Credit/Record System - Attendance System - Library and Text Requirements - Tool/Instruct. Aids Inventory - Complete FAA Form 8310-6 - Facility Description - List of Instructors/Quals. - Statement Maximum No. Students				
7. Formal Application Meeting				
8. Curriculum Evaluation				
9. AMTS Facility Inspection by FAA - Basic Facility Check - Instructional Aids Check - Shop Equipment Check - Special Tool/Calibration				
10. Discrepancy Meeting, if applicable				
11. FAA Certification				

Figure 4-1. AMTS Certification Checklist Guide

Form Approved
OMB No. 2120-0008

U.S. Department of Transportation
Federal Aviation Administration

PREAPPLICATION STATEMENT OF INTENT

Section 1A. To Be Completed By All Applicants

1. Name and mailing address of company	2. Address of principal base where operations will be conducted (do not use post office box)

3. Proposed Startup date	4. Requested three-letter company identifier in order of preference 1. 2. 3.

5. Management Personnel

Name (Last, first, middle)	Title	Telephone (including area code)

Section 1B. To Be Completed By Air Operators

6. Proposed type of operation (check as many as applicable)

- ☐ Air Carrier Certificate
- ☐ Operating Certificate
- ☐ Part 121
- ☐ Part 125
- ☐ Part 135
- ☐ Passengers and Cargo
- ☐ Cargo Only
- ☐ Scheduled Operations
- ☐ Nonscheduled Operations
- ☐ Single Pilot Operator
- ☐ Single Pilot-in-Command Operator
- ☐ Basic Part 135 Operator

Section 1C. To Be Completed By Air Agencies

7. Proposed type of agency and rating(s)

- ☐ Part 145 Repair Station
  - ☐ Domestic
  - ☐ Foreign ☐ *New* ☐ *Renewal*
  - ☐ Satellite
    - ☐ Airframe ☐ Instrument
    - ☐ Powerplant ☐ Accessory
    - ☐ Propeller ☐ Specialized Service
    - ☐ Radio
- ☐ Part 147 Maintenance Technician School
  - ☐ Airframe
  - ☐ Powerplant
  - ☐ Both
- ☐ Part 149 Parachute Loft

Section 1D. To Be Completed By Air Operators

8. Aircraft Data		9. Geographic area of intended operations
Numbers and types of aircraft *(by make, model, and series)*	Number of passenger seats or cargo payload capacity	

FAA Form 8400-6 (4-47)

Figure 4-2. Preapplication Statement of Intent (Front)

Section 1E. To Be Completed By All Applicants		
10. Additional information that provides a better understanding of the proposed operation or business (attach additional sheets, if necessary)		
11. The statements and information contained on this form denote an intent to apply for FAA certification.		
Signature	Date	Name and Title
Section 2. To Be Completed By FAA District Office		
Received by (district office):		Date forwarded to Region:
Date:		For: ☐ Action ☐ Information only
Remarks:		
Section 3. To Be Completed By Regional Office		
Received by:		Precertification Number:
Date:		Date coordinated with AVN-120:
District office assigned responsibility:		Date forwarded to district office:
Remarks:		

Figure 4-3. Preapplication Statement of Intent (Back)

Form Approved, OMB No. 04-R0108

DEPARTMENT OF TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION

AVIATION MAINTENANCE TECHNICIAN SCHOOL CERTIFICATE AND RATINGS APPLICATION

INSTRUCTIONS: Type or print in ink. Submit original and two copies of this form (complete this side ONLY) and two copies of all attachments to the nearest FAA General Aviation District Office or Air Carrier District Office as set forth in Federal Aviation Regulations, Part 147.

1. NAME OF SCHOOL	2. TELEPHONE NO.
3. ADDRESS (Number, street, city, State, & ZIP Code)	4. TRAINING DIRECTOR

5. APPLICATION SUBMITTED FOR (Check as applicable)	6. RATING(S) APPLIED FOR AND TOTAL HOURS PER COURSE		7. MAXIMUM NO. OF STUDENTS ENROLLED AT ANY ONE TIME	
	RATINGS	TOTAL HOURS	DAY	EVENING
☐ ORIGINAL CERTIFICATE	☐ AIRFRAME (A)			
☐ CHANGE IN RATING (Specify)	☐ POWERPLANT (P)			
☐ CHANGE IN OWNERSHIP (Specify)	☐ A & P			
☐ CHANGE IN LOCATION, FACILITIES, AND EQUIPMENT (Specify)	7A. MAXIMUM TOTAL SCHOOL ENROLLMENT			
☐ CHANGE IN ENROLLMENT (Specify)	8. SCHOOL STATUS (Check as applicable)			
☐ OTHER (Specify)	☐ PUBLIC	☐ PRIVATE	☐ NON-PROFIT	
	9. SCHOOL LOCATION (Check as applicable)			
	☐ ON AIRPORT	☐ IN CITY	☐ IN SUBURBS	

10. COURSE CHARACTERISTICS

RATINGS	HOURS PER WEEK		WEEKS PER COURSE		INSTRUCTION HOURS PER		ENROLLMENT PERIODS PER YEAR FOR		ENTRANCE REQUIREMENTS							
									PHYSICAL				SCHOLASTIC			
									DAY		EVENING		DAY		EVENING	
	DAY	EVENING	DAY	EVENING	DAY	EVENING	DAY	EVENING	YES	NO	YES	NO	YES	NO	YES	NO
AIRFRAME (A)																
POWERPLANT (P)																
A & P																

11. ATTACHMENTS (Check applicable items)

☐ A. PROPOSED CURRICULUM	☐ E. LIST OF REQUIRED PRACTICAL PROJECTS
☐ B. LIST OF FACILITIES AND EQUIPMENT TO BE USED	☐ F. SCHEDULE OF REQUIRED TESTS
☐ C. PHOTOGRAPHS OF FACILITIES	☐ G. COPY OF STUDENT RECORD SYSTEM
☐ D. LIST OF INSTRUCTORS-NAMES, CERTIFICATE NOS., TYPE, AND RATINGS HELD, AND SUBJECTS TO BE TAUGHT	☐ H. OTHER (Specify)

12. APPLICANT'S CERTIFICATION

NAME OF OWNER (Include name(s) of individual owner, all partners, or corporation name giving State and date of incorporation)

I hereby certify that I have been authorized by the school identified in item 1 to make this application and that statements and attachment hereto are true and correct to the best of my knowledge.

DATE	TITLE	AUTHORIZED SIGNATURE

13. CERTIFICATION ACTION (FOR FAA USE ONLY)

ACTION	CERTIFICATE NO. ASSIGNED	RATINGS	INDICATE RATING(S) ISSUED		APPROVED MAXIMUM ENROLLMENT FOR	
			DAY	EVENING	DAY	EVENING
☐ APPROVED →		AIRFRAME (A)				
☐ DISAPPROVED	FAA FORM 8310-4 FORWARDED ON	POWERPLANT (P)				
		A & P				

REMARKS

14. DATE CERTIFICATE ISSUED	15. OFFICE IDENTIFICATION	16. ISSUING OFFICIAL'S SIGNATURE

FAA Form 8310-6 (6-72) SUPERSEDES PREVIOUS EDITION

Figure 4-4. FAA Form 8310-6 Aviation Maintenance Technician School Certificate And Ratings Application

APPENDIX 1. SAMPLE CURRICULUM OUTLINES

Chapter 2 states that curriculum development may evolve from several developmental stages. An example of working through a curriculum is found in Samples 1, 2, and 3. The first stage in curriculum development is the evaluation of performance goals and salient issues that the applicant should grasp. The Allen Study is one example that demonstrates how these issues could be worked through. Sample 1 is an excerpt from the Allen Study.

SAMPLE 1, Stage 1, The Allen Study:

THE NATIONAL STUDY OF THE AVIATION MECHANICS OCCUPATION
FAR PART 147 APPENDIX B, SUBJECT F
GROUND OPERATION AND SERVICING

Item 21. Identify and Select Fuels.

Identify Aircraft Fuels:

Student Performance Goal

- Given: Aircraft operator's manual, a list of colors and octane rating ranges and a fuel system of an airplane.
- Performance: The student will obtain fuel samples from the fuel system of an airplane and verify that the fuel at least equals the minimum required octane rating. The student will associate each color with the correct octane range, describe how volatility is related to vapor lock, and discuss the advantages and limitations of kerosene as a turbine fuel.
- Standard: Matching of color to octane rating will be 100 percent correct.

Key Points	Feedback
Significance of octane/ performance number in identification of fuel.	•What is iso-octane? •What is normal heptane? •How do these produce the octane number?

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

SAMPLE 1, Stage 1, The Allen Study: (Continued)

	•Why are performance numbers used when a fuel exceeds 100 octane rating? •What is the significance of the second number in fuel rating i.e., 100/130? •What happens if the octane rating is: a. Too low? b. Too high? •Which is more critical? •How is the minimum octane rating of fuel for each engine installation determined?
Color identifying octane performance number	•What colors are used in identification of fuels? •Do they adversely affect combustion? •How do colors aid in detecting leaks?

The Allen Study makes general recommendations as to the hours of instruction, the teaching level, and the performance standards required of the student, but each AMTS must assign these values according to its own requirements and, in the case of teaching levels, the requirements of the FAR.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

SAMPLE 2, Stage 2, Continuing Curriculum Development

The following sample shows an example of the second stage in developing a curriculum. It addresses the same subject area as stage 1 but it also defines the amount of instruction time, the specific FAR section addressed, teaching level, and the performance standard the student is expected to achieve. However, testing and grading criteria are not yet developed.

DE PLANE AMTS FAR PART 147, Appendix B, Subject F, Ground Operation and Servicing

UNIT TITLE: IDENTIFY AND SELECT FUELS. Subject Item 21

TEACHING LEVEL (2)

Classroom teaching time: 2.5 hours

Laboratory or shop time: 2.5 hours

Instructional time: 5 hours

IDENTIFY AIRCRAFT FUELS

Given: Aircraft operator's manual, a list of colors and octane rating ranges and fuel samples or illustrations.

Student Performance: The student will obtain fuel samples and/or aircraft specifications. The student will associate each color with the correct octane range according to aircraft specifications, describe volatility is related to vapor lock, discuss how octane ratings affect engine performance.

Standard: Matching of color to octane rating will be 100 percent correct.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

SAMPLE 3, Stage 3, Complete Curriculum Element

The following sample on the subject of aircraft cleaning and corrosion control contains all the elements required to teach, test and conform to the rule. It is not intended to be an expansive text. It is a short outline of elements expected in the final curriculum product. Sample 3(A) describes the typical contents of a single subject element and Samples 3(B) through 3(E) provide information on practical projects, tests, and grading criteria.

DE PLANE AMTS FAR PART 147 APPENDIX B, SUBJECT G

SUBJECT: CLEANING AND CORROSION CONTROL
ITEM 23. PERFORM AIRCRAFT CLEANING AND CORROSION CONTROL

TEACHING LEVEL (3)

Classroom time:	3 hours
Laboratory or shop time:	2 hours
Total time:	5 hours

(Sample 3(A)) Curriculum Subject Guide

(Sample 3(B)) Practical Project Guide

(Sample 3(C)) Theory Test

(Sample 3(D)) Practical Tests

(Sample 3(E)) Practical Project Grading Criteria

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

SAMPLE 3(A), Curriculum Subject Guide

In a typical curriculum, the elements included in this subject guide may be separated or combined in many different combinations. The following teaching items should be present in some form in an FAA-approved AMTS curriculum.

(1) Introduction and Subject Element Objectives (Purpose)

(2) Instructors' Guide (Teaching Outline)

(3) Technical information and equipment - References (Manuals, Tools, Materials)

(4) Workbooks or other guidance for classroom, laboratory and shop (Procedures)

The sample on the following page, 3B (Practical Project Guide), demonstrates how teaching items 1 thru 4 may be incorporated into Practical Project Requirements.

Note: These teaching items may appear in any format, explicit or nonexplicit, and should be present in all subject elements, both theory and practical projects. For example, the instructors' guide/teaching outline may be combined with procedures. In some cases, certain items' outlines may be combined with procedures. Many other concepts are also in common usage.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

SAMPLE 3(B) Practical Project Guide

The following is a sample practical project guide (Guide For General Curriculum Subject Item 23, Perform Aircraft Cleaning and Corrosion Control). When preparing a practical project guide, instructions should be accompanied by photographs, diagrams, or technical illustrations showing methods and techniques expected of the student, as applicable.

DE PLANE AMTS

PRACTICAL PROJECT GUIDE FOR GENERAL SUBJECT 23,

FAR PART 147, APPENDIX B, SUBJECT G
ITEM 23: PERFORM AIRCRAFT CLEANING AND CORROSION CONTROL

PURPOSE: To acquaint the student with emulsion-type cleaners and processes associated with the proper cleaning of exterior aircraft components.

REFERENCES:

(1) Appropriate FAA AC's.
(2) Product information on cleaners, lubricants, waxes, aircraft or component manufacturer's service information.
(3) Aircraft or component manufacturer's service information.

EQUIPMENT AND TOOLS NEEDED:

(1) Water supply and bucket.
(2) Brush, sponge, and soft, clean rags.
(3) Component to be cleaned.

SUPPLIES AND MATERIALS NEEDED:

(1) Emulsion type cleaner (an emulsion cleaner of of MIL-C-125769 specifications will be satisfactory).
(2) Water displacing lubricant and corrosion inhibitor.
(3) Paste or liquid wax suitable for aircraft exterior.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

SAMPLE 3(B) Practical Project Guide (Continued)

PROCEDURE:

A. Assemble all materials.

B. Chock main wheels.

C. Prepare aircraft: Close aircraft windows and vent doors, cover static port and pilot tube.

D. Install all maintenance struts or locking devices.

E. Remove all electrical power from aircraft.

F. Read the aircraft or component manufacturer's cleaning instructions.

G. Read the manufacturer's cleaning instructions.

H. Mix cleaner with the appropriate amount of water.

I. Pre-rinse aircraft with water to eliminate dirt. See Figure 1.

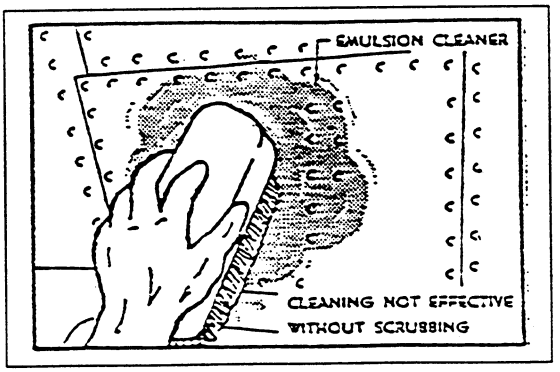


Figure 1

NOTE: Certain areas may require light scrubbing with a soft bristle brush.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

SAMPLE 3(B) Practical Project Guide (Continued)

Systematically apply premixed cleaner and water to small areas working from the top down using rags wet with solution. See Figure 2.

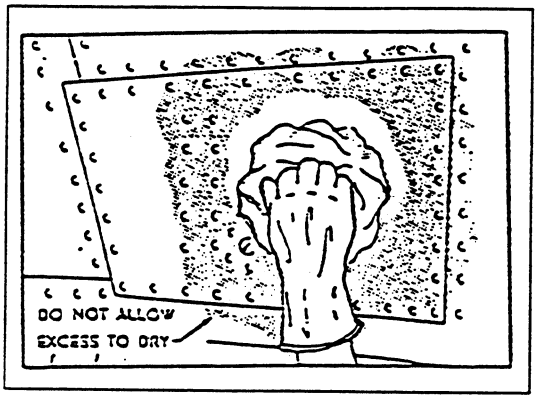


Figure 2

Rinse component and lubricate and/or spray corrosion inhibitor on all areas according to aircraft manufacturer's instructions. Wax as appropriate. See Figure 3.

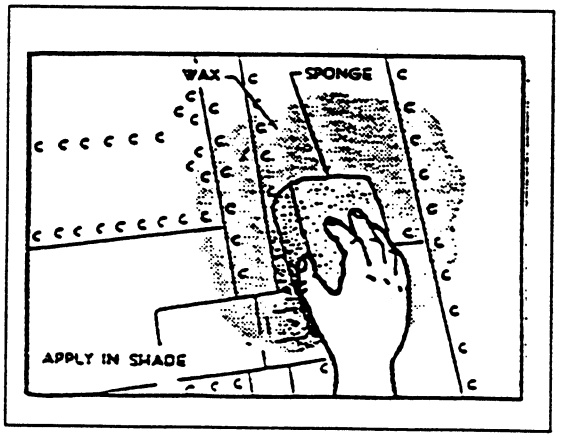


Figure 3

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

SAMPLE 3(C) Sample Theory Test

DEPLANE AMTS TEST
AIRCRAFT CLEANING AND CORROSION CONTROL THEORY TEST
FAR PART 147, APPENDIX B, SUBJECT G
ITEM 23: DETERMINING STUDENTS' KNOWLEDGE OF AIRCRAFT CLEANING AND CORROSION CONTROL

THEORY TEST

A. Complete these factual statements related to corrosion:

1. Electrochemical process that can reduce aluminum alloys to powder: _____.

2. Sheet metal construction formed by laying one piece partly over another piece at the edge: _____.

3. Cleaner that mixes with water or solvent in an emulsion: _____.

B. Based on information you have learned, describe the type of aircraft structural corrosion shown in the illustrations below:

Corrosion type:

1. _____

Corrosion type:

2. _____

Note: The sample theory test outlined here is very limited in scope and is intended only to serve as an example. An actual theory test would necessarily have to be more comprehensive in order to address the key points related to this subject.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

SAMPLE 3(D) Sample Practical Test

DEPLANE AMTS PRACTICAL TEST
FAR PART 147, APPENDIX B, SUBJECT G
ITEM 23: PERFORM AIRCRAFT CLEANING AND CORROSION CONTROL

PRACTICAL TEST 1: CORROSION CONTROL

Moisture held in contact with a metal surface by an accumulation of dirt or grease is a significant cause of corrosion. Therefore, cleanliness of the exterior surface of the aircraft is one of the best methods to control corrosion. If the surface can be kept reasonably dry and clean, corrosion has little chance of getting started. The essence of corrosion control is prevention rather than removal.

The student will be provided with an aircraft component showing evidence of corrosion.

The practical test for this subject consists of the following steps:

A. Identify part to be inspected.

B. Identify type of corrosion.

C. Use of reference materials and technical publications.

D. Discussion of the corrosion control process to be used for this specific type of corrosion.

E. List of cleaning and corrosion preventive chemical to be used.

F. Mechanical corrosion removal correctly performed.

G. Correct application of corrosion preventive.

H. Correct application of primer coating, etc.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

SAMPLE 3(E), Sample Practical Project Grading Criteria

There are no established FAA criteria for the grading of completed practical projects. No matter which method an AMTS applicant uses, whether those shown here or a method the school may choose, the grading should be objective and repeatable. The grading method should reflect both the required teaching level of the subject and the subject proficiency requirements (for example, a student may be required to construct, adjust, or overhaul, etc.). An AMTS should avoid assigning points for student "good grooming" and "most improved" student, as those do not directly relate to the accomplishment of a practical project and are subjective in nature. Although many different methodologies are employed for grading practical projects, AMTS practical project grading systems previously approved by the FAA may be broadly grouped into three general methods.

Method A: In this method, practical projects are graded by establishing grading standards for job accomplishment or completeness, work performance or workmanship (airworthiness), verbal knowledge, and development of professional AMT skills. Typically, Method A assigns more weight to some skill elements in a project than others. It also may assign numerical grades to each project element. See Method A grading example.

Method B. This method grades projects on a more specific criteria, such as competency in general skills and degree of skill accomplishment for specific elements and critical aspects of the task. For example, grade points, such as Superior, Average, etc., may be assigned for the competency of the student's work. Additional points may be assigned for specific elements of the project, such as the use of correct procedures, proper reference materials, overall airworthiness, completion to a return-to-service condition, or on-time completion. Further, certain project tasks or portions of a practical project may be considered "must pass" items, requiring 100 percent conformity with FAA airworthiness standards. See Method B example.

Method C. This type of grading procedure is more suitable for practical projects in which a component is fabricated, for example, subjects such as welding or sheet metal. For these projects, grading criteria can be clearly defined by measurement of the completed project, such as sheet metal patch size, rivet size and pitch, weld quality, and fillet configuration. This method is less suitable and less frequently used for practical projects involving the development of manipulative skills in projects such as gear retraction mechanism adjustments, engine trouble shooting, etc. See Method C grading example.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

METHOD A

The following section presents an example of the practical project grading criteria as shown in Method A. In this case, the project to be graded is from Sample 3(D), Practical Test 1, Corrosion Control.

SUBJECT ELEMENTS	GRADE POINTS
A. Identification of Part to be Inspected	10
B. Identification of Type of Corrosion	10
C. Selection of Correct Reference Data	5
D. Verbal Knowledge of Corrosion Control Process	5
E. Performance of Corrosion Removal	50
F. Performance of Preventive Measures	5
G. Performance of Primer Application	5
H. Job Completeness (Includes Cleanup)	5
I. Workmanship (Airworthiness)	5
TOTAL POINTS POSSIBLE - - - - - - - - - - - - - - - -	100
Minimum Passing Grade:	70 points.

Note: The selection of numerical values for each subject element is left to the discretion of the school. In this case, the actual performance of the corrosion removal process is considered the most important element, and failing this section (i.e., no points) prevents a student from passing this project. In most cases, an AMTS will choose to assign more weight to areas considered critical.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

METHOD B

This section presents an example of the practical project grading criteria as shown in Method B. The project to be graded is the same one shown in Method A, Practical Test 1, Corrosion Control. In Method B, the grading criteria are more specific than in other methods shown. In this method, student performance is graded on a scale from failure to superior. Although the example here shows a limited student performance range, some schools may choose to develop more elaborate criteria.

(1) Consider the following student performance grade scale:

F =	Failure of element by student	= 0 points
P =	Passing to standard by student	= 1 point
S =	Superior performance by student	= 2 points

(2) Within each practical project, a value is assigned to each project step or element. In this example, the value for any specific element ranges from 5 to 20, in increments of 5.

(3) In this example, certain elements of the project are "must pass" items. All "must pass" project elements are to be completed to the approved standard in order to successfully finish the practical project. Note that not all projects within a curriculum may use "must pass" items; however, the practice is widespread in AMTS grading systems.

(4) In this example, it is possible to successfully complete this complete practical project by failing an element of the project. However, the other elements would have to have superior performance and all the "must pass" items would have to be successfully completed.

(5) This method of project grading is accomplished as follows: The grade that a student achieves on the performance scale for each subject element is multiplied by the value of the subject element to determine the points a student can achieve on each subject element. As an example, on one subject element a student passes to the grading standard and achieves a grade of P, which equals 1 point. If the subject element has a value of 5 points, the grade points on this element are: 1 x 5 = 5 grade points. If the student achieves a superior performance, or S, which equals 2 points, the grade points on this element would be: 2 x 5 = 10 grade points.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

In this example, the project to be graded by Method B is the same one shown in Method A, Practical Test 1, Corrosion Control.

Note: Project elements with an asterisk (*) are "must pass" items. Project element values are shown in parentheses (). Performance scale values are Fail=0, Pass=1, Superior=2.

SUBJECT ELEMENTS	PERFORMANCE SCALE	GRADE POINTS
A.* Identification of Part		Pass
B.* Identification of Corrosion		Pass
C. Selection of References (5)	1	5
D. Verbal Knowledge (10)	1	10
E.* Removal of Corrosion		Pass
F. Performance of Preventive Measures (20)	1	20
G. Primer Application (20)	1	20
H. Finish Application (5)	1	5
I. Job Completeness (10)	1	10
J. Workmanship (10)	1	10
TOTAL POINTS -		80
Minimum Passing Grade:		80 points.

The maximum number of points possible would be 160, indicating fully superior performance. In the example shown, the student has received a passing grade for each subject element, resulting in a grade of 80.

APPENDIX 1. SAMPLE CURRICULUM OUTLINES (Continued)

METHOD C

The following example shows how an AMTS might grade a practical project using Method C. As stated before, this system is more suitable for practical projects where a student constructs a piece of hardware, i.e., sheet metal, wood, fabric, or welding.

Method C, Practical Test 1: Repair Aircraft Structures Built From Sheet Metal

INSTRUCTION 1 - STUDENT WILL ACCOMPLISH A SHEET METAL REPAIR BY PATCHING A DAMAGED WING RIB SECTION.

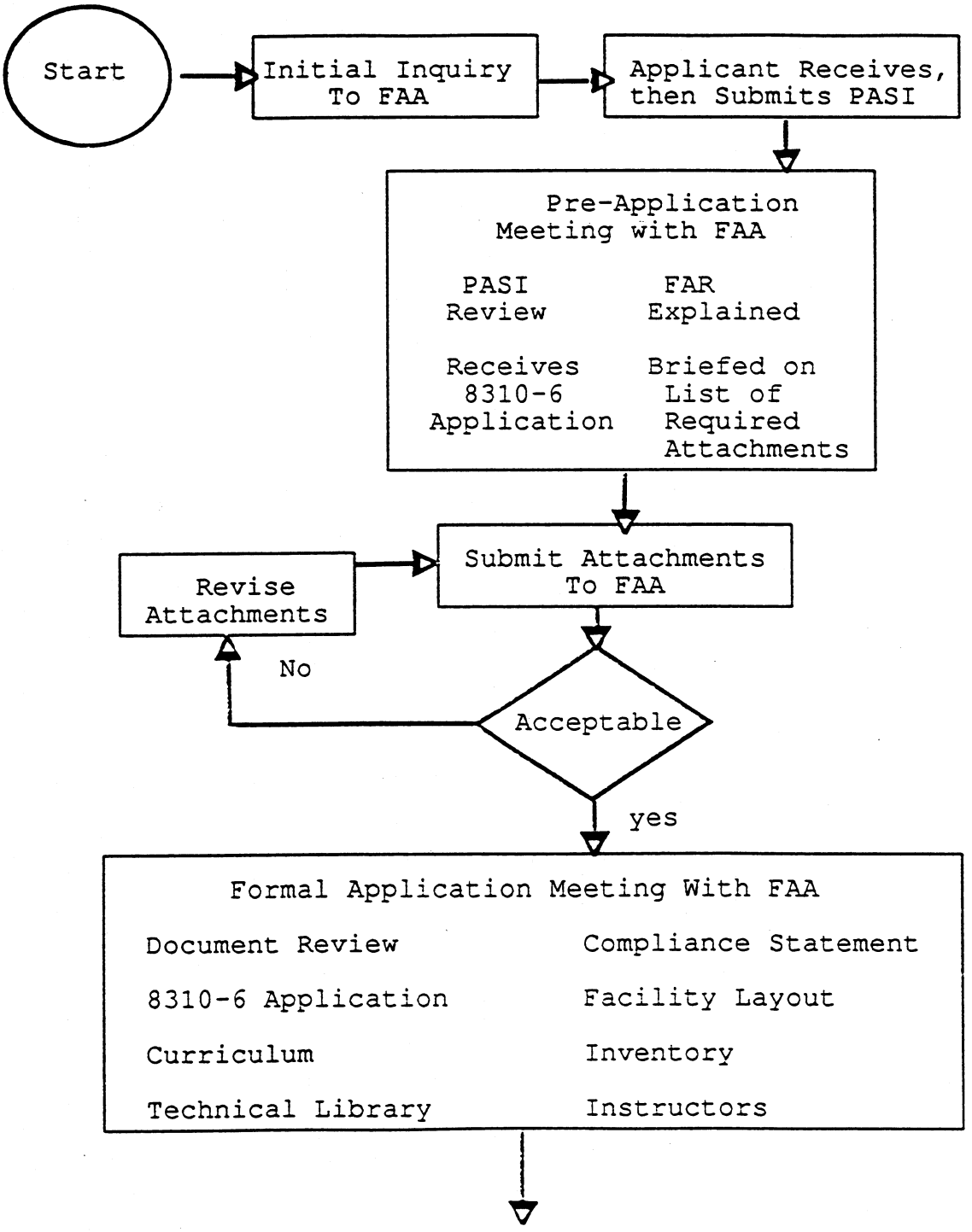
In this case, a drawing or blueprint of the patch should be supplied to the student. The drawing will show the size, shape, thickness, etc., of the patch to be made. The student will be expected to use correctly the rivet size, rivet pitch, edge distance, and other criteria shown on the drawing. If the grading standard at the AMTS is, for example, 70 percent, at least 70 percent of the rivets, patch sizes, shapes, and other criteria must meet the drawing specifications. In addition, points may be subtracted for general workmanship, scribe marks, scratches, riveting damage, and other workmanship that may detract from airworthiness. In many cases, the criteria may be simply a pass/fail type based on the drawing specifications.

INSTRUCTION 2 - STUDENT WILL ACCOMPLISH THE FOLLOWING STEPS TO THE APPROVED STANDARD USING THE SUPPLIED DRAWING.

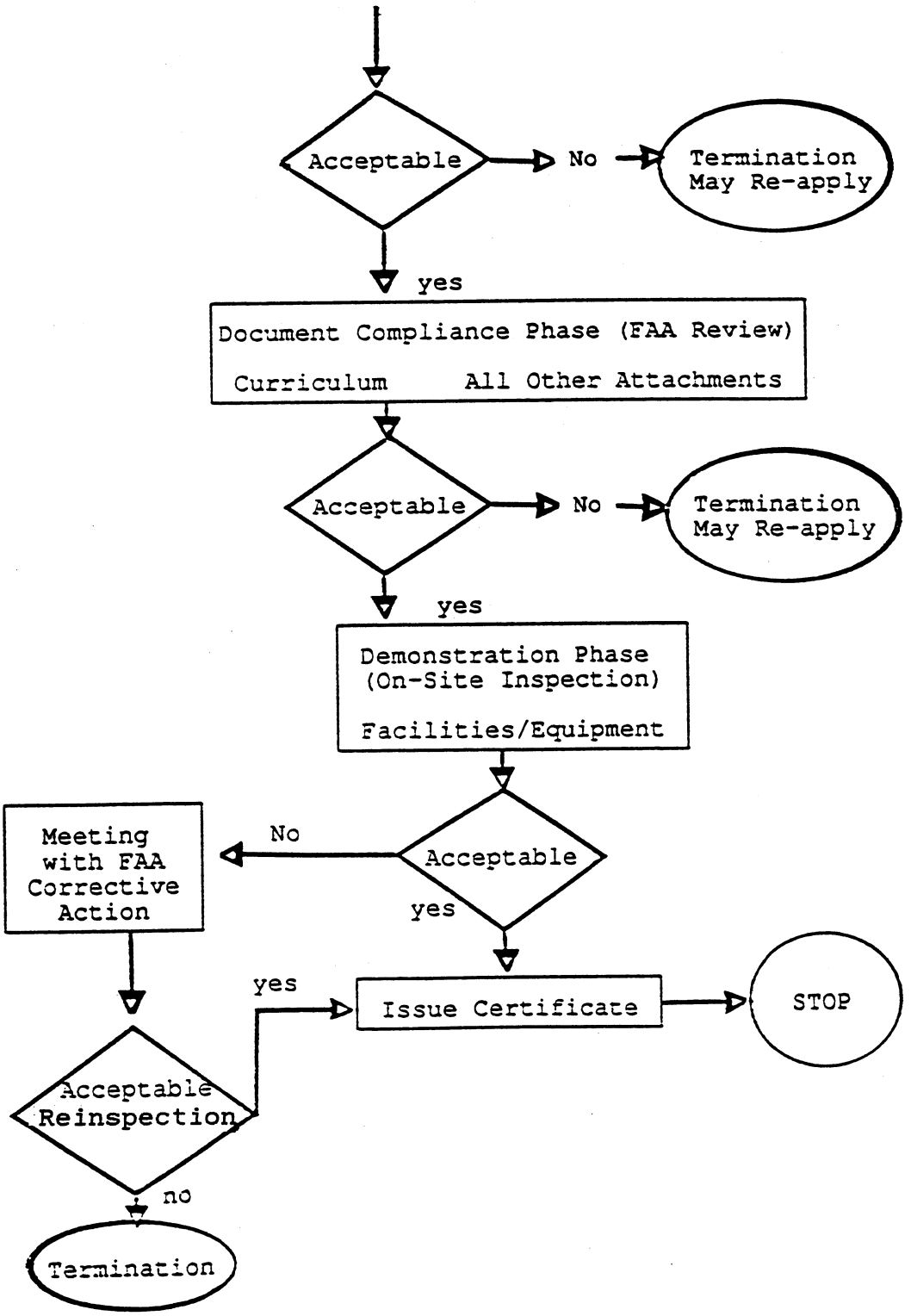
A. Determine size and shape of patch.
B. Plan and layout rivet patterns.
C. Select proper number and types of rivets.
D. Use proper riveting techniques on repairs.
E. All work will be performed to an airworthy standard.
F. Unless otherwise stated all work shall conform to the criteria specified in FAA AC 43.13-1A, "Acceptable Methods, Techniques and Practices-Aircraft Inspection and Repair," as amended.

As can be seen from the information discussed in these methods, AMTS may use several different types of grading systems to grade practical projects. In fact, an AMTS may use several different grading methods in the curriculum, depending on the types of practical projects to be evaluated. However, no matter which method or methods a school elects to use, the grading methods must be clearly described in the curriculum.

APPENDIX 2. CERTIFICATION SCHEDULE FLOW CHART



APPENDIX 2. CERTIFICATION SCHEDULE FLOW CHART (Continued)



APPENDIX 3

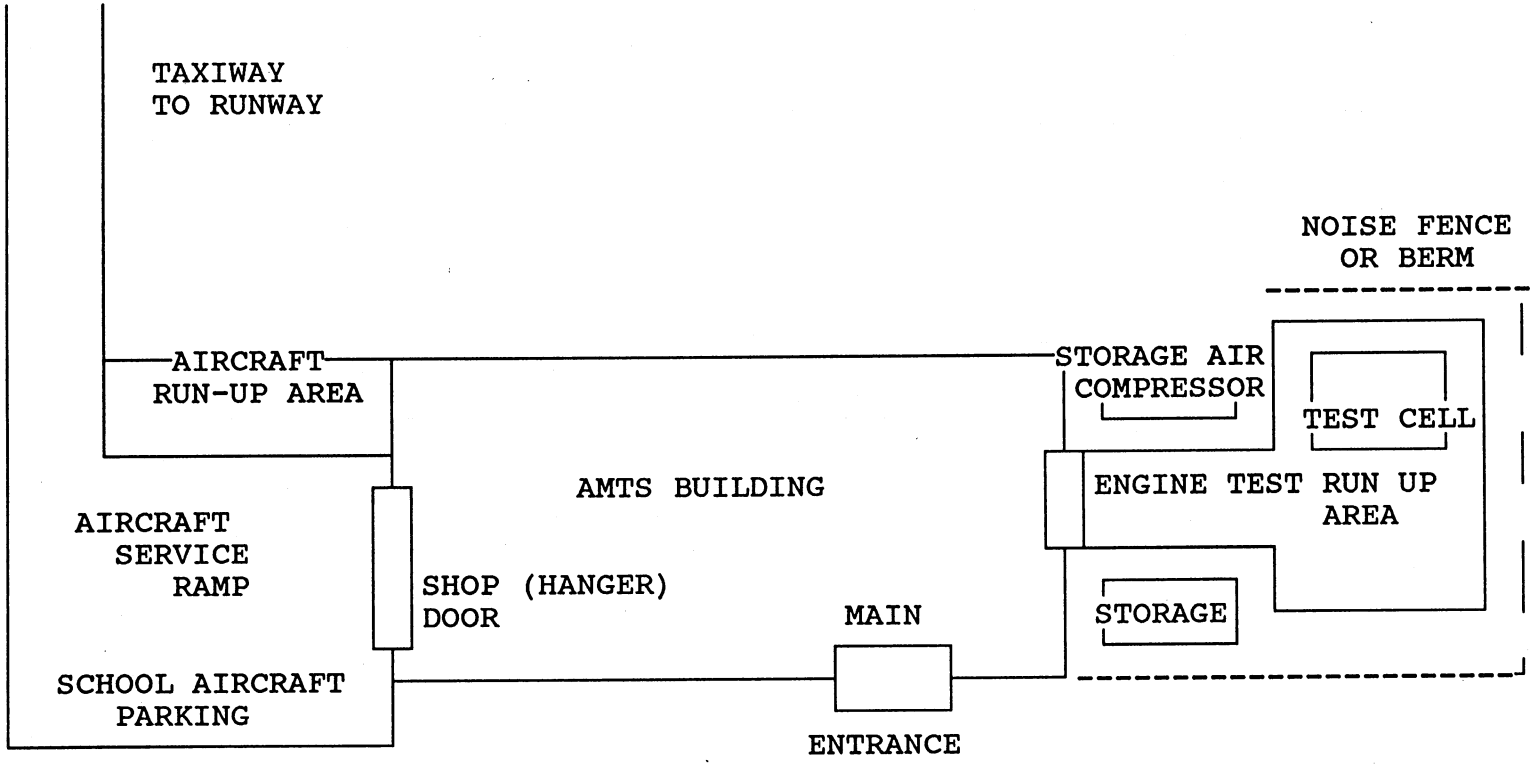


Figure 3-1. A Typical Example of a Facility Layout

APPENDIX 3 (Continued)

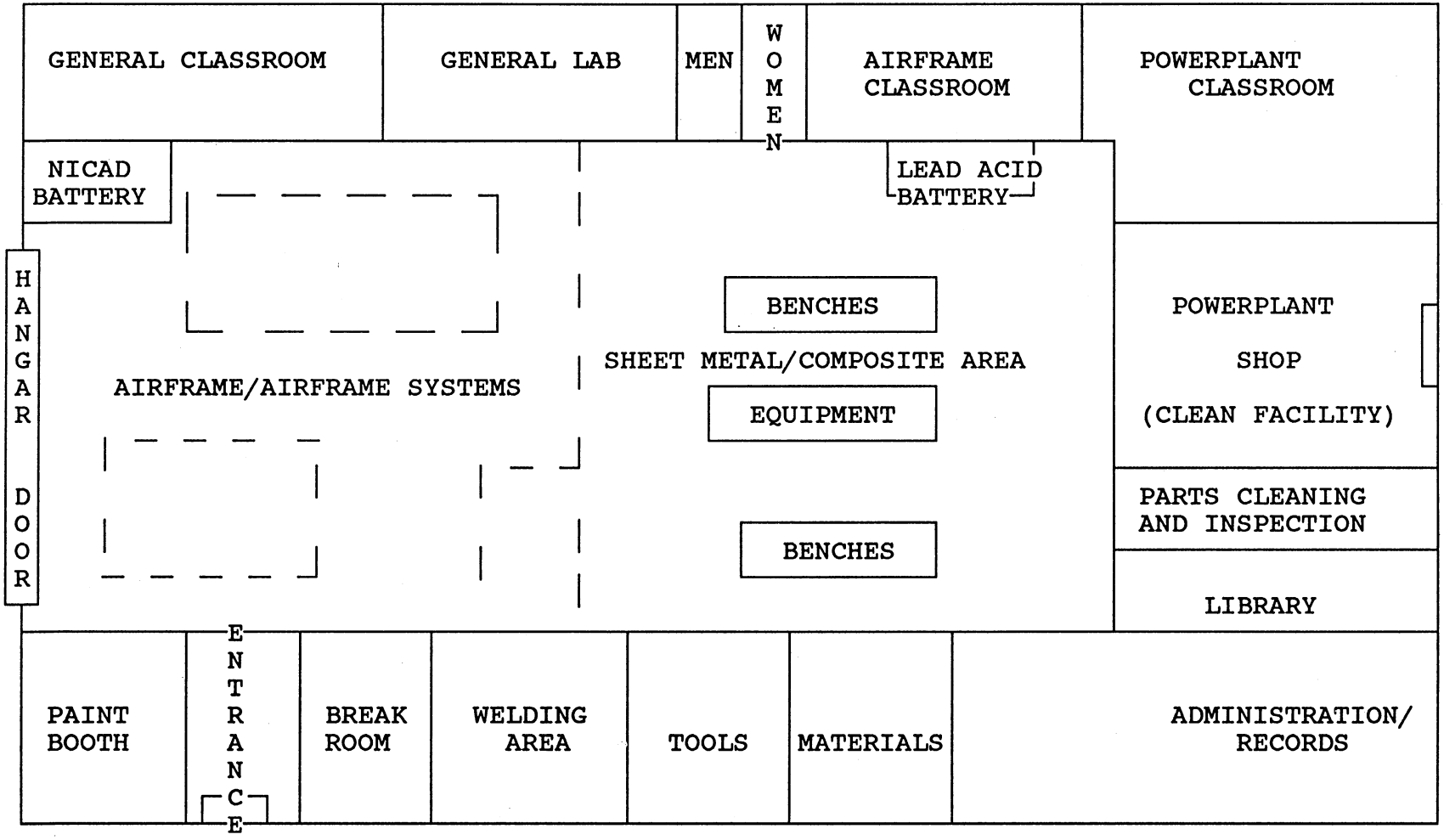


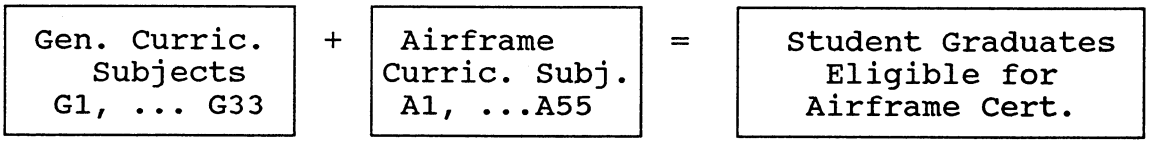
Figure 3-2. A Typical Example of a Facility Layout

APPENDIX 4. MAINTENANCE OF THE GENERAL CURRICULUM

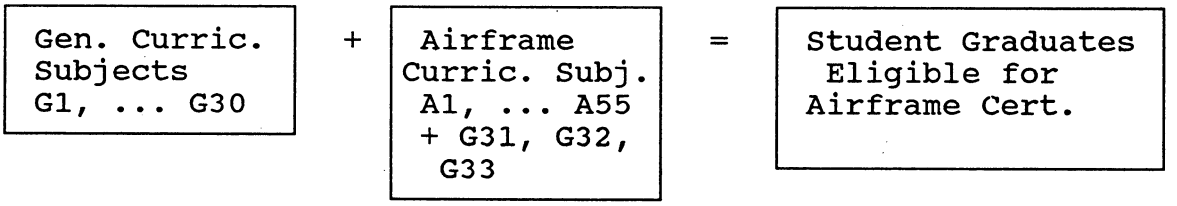
AMTS are encouraged to keep the subjects within the curriculum areas shown in FAR Part 147, Appendices B, C, and D. When subjects are taught in the areas shown in the Appendices, it is not difficult for the FAA to determine whether all the required subjects for a particular rating are taught. This practice is recommended to ensure that a school can also determine clearly that all required subjects are taught, particularly when a school offers more than one rating. For example, consider the following sample curriculum development cases:

AMTS XYZ and AMTS ABC are two schools that hold the same rating, in this case, airframe.

CASE 1: AMTS XYZ is an approved school with an airframe rating and teaches all required general subjects within the General Curriculum.

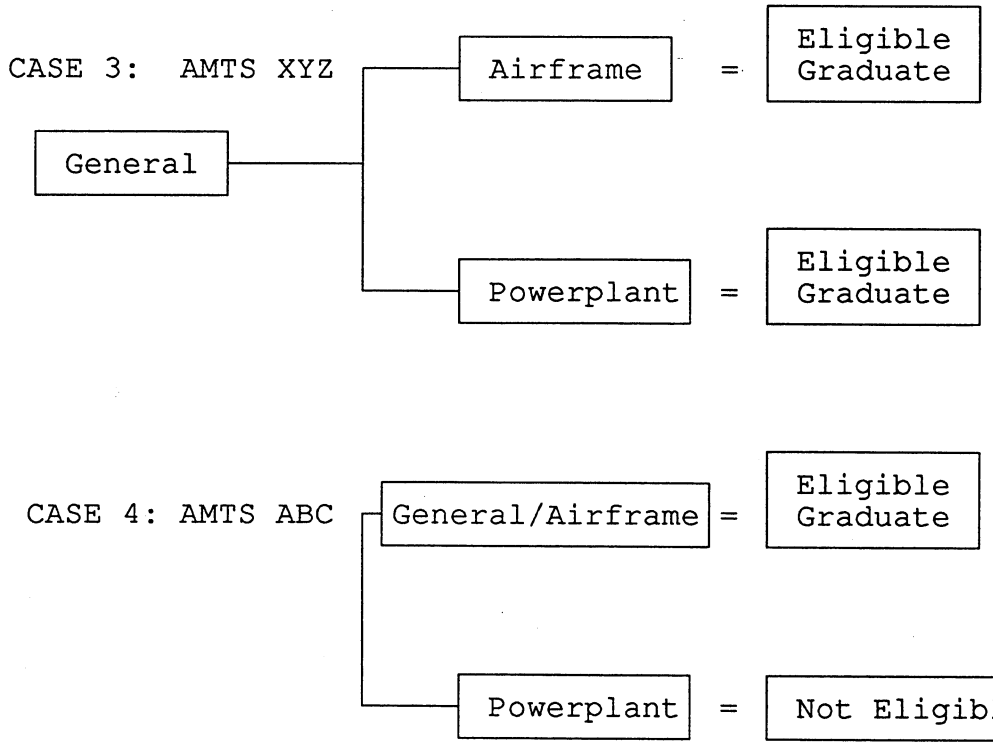


CASE 2: AMTS ABC has an airframe rating only and teaches all required general subjects mixed with subjects from the airframe curriculum.



APPENDIX 4. MAINTENANCE OF THE GENERAL CURRICULUM (Continued)

Both schools now elect to add a powerplant rating:



A student at school ABC taking the powerplant curriculum only would not be eligible for graduation from the powerplant curriculum since some of the required general subjects are in the airframe curriculum and would be missed if the student took only the powerplant curriculum. In order to properly graduate students in the powerplant curriculum, AMTS ABC would be required to either teach a parallel set of the missed general subjects in the powerplant curriculum or teach all general subjects only in the General Curriculum. From an administrative standpoint, the most desirable method is to teach all general subjects in the General Curriculum.

APPENDIX 5. ADDITIONAL COURSE MATERIAL RECOMMENDATIONS

The introduction of new aerospace technologies and maintenance requirements have imparted the KSA's required of AMTs. A number of AMTS have developed course materials to instruct students in emerging disciplines. Although the current regulations do not require it, a significant number of AMT schools are establishing these courses to satisfy industry demands. Following are some examples of courses offered in emerging areas:

1. Composite Material Repair. A composite repair course can be as simple as teaching fiberglass repair using prepackaged student instruction kits available from various sources, or as complex as a full scale repair facility. Full scale composite repair facilities teach and repair many types of composite materials, such as fiberglass, Kevlar, boron, carbon materials, etc. Instructional aids and shop equipment can include clean rooms, down draft worktables, positively vented rooms, composite autoclaves, refrigerated material storage, and various aircraft composite structures for instruction. Some AMTS offering composite repair courses combine a nondestructive inspection course along with the basic course.

2. Nondestructive Inspection (NDI). An NDI course that teaches beyond the requirements of FAR Part 147 (Magnetic Particle, etc.), generally includes training in radiography (X-ray), ultrasound, eddy current inspection and borescope techniques. Information on and equipment for NDI course development are widely available from commercial sources.

3. Solid State Electronics/Avionics/Built-In Test Equipment. Many AMTS currently offer extended training or stand-alone course work leading to an electronics subspecialty in addition to an FAA airframe and powerplant mechanic certificate. Although the FAA does not grant certification in the subspecialties, many potential aviation employers are requiring AMT's to have this enhanced training. These courses may be incorporated into existing required AMTS courses, such as Basic Electricity and Basic Physics. Course material, curricula, and laboratory/shop equipment are readily available from commercial sources.

APPENDIX 6. RELATED AMTS PUBLICATIONS AND MATERIAL

1. Related advisory circulars listed below are available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9371.

a. AC 43.13-1, Acceptable Methods, Techniques and Practices - Aircraft Inspection and Repair, as amended. SN 050-007-00806-6, $18.00.

b. AC 43.13-2, Acceptable Methods, Techniques, and Practices - Aircraft Alterations, as amended. SN 050-007-00625-0, $5.50.

c. AC 65-9, Airframe and Powerplant Mechanics-General Handbook, as amended. SN 050-007-00379-0, $18.00.

d. AC 65-11, Airframe and Powerplant Mechanics Certification Information, as amended. SN 050-007-00750-7, $1.00.

e. AC 65-12, Airframe and Powerplant Mechanics Powerplant Handbook, as amended. SN 050-007-00373-1, $12.00.

f. AC 65-15, Airframe and Powerplant Mechanics Airframe Handbook, as amended. SN 050-007-00391-9, $13.00.

g. AC 91-23, Pilot's Weight and Balance Handbook, as amended. SN 050-007-00405-2, $5.00.

h. AC 147-2, Directory of FAA Certificated Aviation Maintenance Technician Schools, as amended. SN 050-007-00754-0, $1.00.

2. Related advisory circulars available free of charge are listed below. You may order free AC's from U.S. Department of Transportation, Utilization and Storage Section, M-443.2, Washington, DC 20590.

a. AC 00-2.3, Advisory Circular Checklist, as amended.

b. AC 20-37, Aircraft Metal Propeller Maintenance, as amended.

c. AC 20-77, Use of Manufacturers' Maintenance Manuals, as amended.

d. AC 20-107, Composite Aircraft Structure, as amended.

APPENDIX 6. RELATED AMTS PUBLICATIONS AND MATERIAL (Continued)

e. AC 21-15, Announcement of Availability - Aircraft, Aircraft Engines and Propeller Type Certificate Data Sheets and Specifications, as amended.

f. AC 39-6, Announcement of Availability - Summary of Airworthiness Directives, as amended.

g. AC 43-4, Corrosion Control for Aircraft, as amended.

h. AC 43-9, Maintenance Records, as amended.

i. AC 43.9-1, Instructions for Completion of FAA Form 337, as amended.

j. AC 43-16, General Aviation Airworthiness Alerts, as amended.

k. AC 60-20, Announcement of Availability: New Airmen Written Test System, as amended.

l. AC 91-60, The Continued Airworthiness of Older Airplanes, as amended.

m. AC 183-32, FAA Designated Maintenance Technician Examiner Directory, as amended.

3. Other Related Publications may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9371. The check or money order should be made payable to the Superintendent of Documents.

a. FAA-T-8080-10 (current edition), Aviation Mechanics General Question Book. SN 050-007-00838-4, $4.25.

b. FAA-T-8080-11 (current edition), Aviation Mechanic Powerplant Question Book. SN 050-007-00841-4, $5.00.

c. FAA-T-8080-12 (current edition), Aviation Mechanic Airframe Question Book. SN 050-007-00854-6, $6.00.

* U.S. G.P.O.:1991-523-508:40304

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