

CIVIL AIR REGULATIONS GOVERNING ISSUANCE OF AIRCRAFT MAINTENANCE TECHNICIAN SCHOOL, CERTIFICATES OF RATINGS

ATO ADMINISTRATIVE ORDER NO. 8.09, S. 2001, June 17, 2002

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Pursuant to the provisions of the Republic Act 776, the following rules and regulations are hereby promulgated.

This Administrative Order shall be known as Civil Air Regulation Governing Issuance of Aircraft Maintenance Technician School Certificates and Ratings.

Chapter I

General

1.0 Applicability

This Administrative Order prescribes the requirements for issuing Aviation Maintenance Technical School Certificates and associated ratings and the general operating rules for the holders of these certificates and ratings.

1.1 Certificate Required

a. No person may operate in Aviation Maintenance Technician School without an Air Agency Certificate duly approved by the Assistant Secretary of Air Transportation or those in violation of any provisions of this Administrative Order.

1.1a DEFINITION OF TERMS:

- a. AO — means this Administrative Order 8.09 entitled “Civil Air Regulation Governing Aircraft Maintenance Technician School Certificates and Rating
- b. ASSEC — refers to the Assistant Secretary of Air Transportation Office
- c. ATO — means Air Transportation Office
- d. Certificate — refers to the Air Agency Certificate (AAC) of an Aviation Maintenance Technician School issued based from this Administrative Order.
- e. Certificate Holder — refers to an individual or company that has complied all the requirements of this AO thereby AAC has been issued under his/their name.
- f. Rated Instructor — under this AO it is a person, which has a valid and current A & P or Avionics License and Ground Instructor License.
- g. Specialized Instructor — an instructor knowledgeable to teach Mathematics, Physics, Drawings, Computers and similar subjects but has no A & P nor Avionics and Ground Instructors License.
- h. Ratings — these are ratings covered by the Certificate such as airframe, powerplant, airframe and powerplant or avionics.

1.2 Application and Issue

a. An application for a certificate and rating, or for an additional rating, under this Administrative Order is made on a form in a manner prescribed by the Assistant Secretary, and submitted with —

1. Letter of intent to operate or renew an Aircraft Maintenance Technician School;
2. A description of the proposed curriculum and its syllabus;
3. A list of the facilities and materials to be used with photographs of the facilities;
4. A list of instructors, including the kind of licenses and ratings held, the validity and license number, and their subjects to be taught; and
5. A statement of the maximum number of students it expects to teach at any one time and instructors schedule.

b. An applicant who meets the requirements of this Administrative Order is entitled to an Aviation Maintenance Technician School Certificate and associated ratings prescribing such operations specifications, and limitations that are necessary in the interest of safety.

1.3 Inspection and Duration of Certificates

- a. An Air Agency Certificate to operate an Aircraft Maintenance Technician School with its specific ratings shall be effective for a period of one (1) year unless it is surrendered or revoked.
- b. Holder of a Certificate that is surrendered or revoked for whatever reasons shall be returned to Aviation Safety Division, Air Transportation Office.
- c. The Assistant Secretary or his authorized representative shall inspect certificate holder on its personnel, facilities, equipment and records to determine its compliance with this AO.
- d. Surveillance inspection shall be made within validity of the certificate or at least six (6) months after issuance and renewal inspection on the 11th month or one (1) month prior to renewal.

Chapter IICertification Requirements

2.0 Ratings

The following ratings are issued under this Administrative Order:

- a. Airframe
- b. Powerplant
- c. Airframe and Powerplant
- d. Avionics

2.1 Facilities, Equipment and Material Requirements

- a. An applicant for an Aviation Maintenance Technician School Certificate and Rating must have at least the facilities, equipment and materials specified in 2.2. through 2.4 that is appropriate to the rating he seeks.
- b. The school buildings and their facilities must conform to the National Building Code, electrical, fire, sanitation and health codes.

2.2 Space Requirements

An applicant for an Aviation Maintenance Technician School Certificate and Rating or for an additional rating have such of the following properly lighted and ventilated facilities as appropriate to the rating he seeks and as the Assistant Secretary through his authorized representative/s determines. It must have a maximum number of twenty five (25) students it is expected to be taught at any time. Each classroom must have an area of not less than 30 square meters.

- a. An enclosed classroom, separate from other space and facilities, suitable for teaching theory classes.
- b. Suitable facilities, either central or located in the training areas, arranged to assure proper separation from the working space for the segregation and protection of parts, tools materials and similar articles.
- c. Suitable separate space for doping and painting spraying.
- d. Suitable separate space equipped with washtank and degreasing equipment with air pressure, or other adequate cleaning equipment.
- e. Suitable facilities for running engines.
- f. Suitable separate spare, with adequate equipment, including benches, tables and instruments, to disassemble, repair or assemble, test, service and inspect:
 1. Ignition, electrical equipment and appliances;
 2. Carburetors and fuel system; and
 3. Hydraulic and vacuum systems for aircraft, aircraft engines and their appliances.
- g. Suitable space, with adequate including tables, benches, horses, stands and jacks, for disassembling, inspecting and rigging aircraft.
- h. Suitable space, with adequate equipment, for disassembling, inspecting, overhauling, assembling, and troubleshooting and timing engines.

2.3 Instructional Equipment Requirements

- a. An applicant for an Aviation Maintenance Technical School Certificates and Rating, or for an additional rating must have such of the following instructional equipment as is appropriate to the rating he seeks:
 1. Various kinds of airframes structures, airframes systems and components, powerplants and powerplant systems and components (including propellers) of a quantity and type suitable to complete the practical projects required by its approved curriculum.
 2. At least one (1) aircraft of a type of a currently certificated by ATO for private or commercial operation, with powerplant, propeller, instruments, two (2) way radio, landing lights and other equipment and accessories on which a mechanic might be required to work and which he should be familiar.
- b. The equipment required by paragraph (a,2) of this section need not be in an airworthy condition. However, if it was damaged, it must have been repaired enough for complete assembly.
- c. Airframes, powerplants and propellers, appliances and components thereof, on which instruction is to be given, and from which practical working experience is to be so diversified as to show the different methods of construction, assembly inspection and operation when installed in an aircraft for use. There must be enough units so that no more than eight (8) students will work on any one (1) unit at a time.
- d. If the aircraft used for instructional purposes does not have retractable landing gear and wing flaps, the school

must provide training aids, or operational mock-ups of them.

e. For applicant on Avionics rating, it must have the following basic functional instructional test/tools equipments; Volt-ohm meter (VOM), frequency counter, oscilloscope, signal generator and other equipment necessary for testing aircraft's communication and navigation instrument. It must also have functional comm/nav instruments for instructional purposes.

2.4 Materials, Tools and Shop Equipment Requirements

An applicant for an Aviation Maintenance Technical School Certificate and Rating, or for additional rating must have an adequate supply for materials and tools and such of the shop equipment, special tools and other miscellaneous tools and equipment as appropriate to the approved curriculum of the school and are used in constructing and maintenance aircraft, to assure that each student will be properly instructed. The tools and shop equipment must be in satisfactory working condition and of the proper kind for the purpose for which they are to be used.

2.5 General Curriculum Requirements

a. An applicant for an Aviation Maintenance Technical School Certificate and Rating, or for an additional rating, must have an approved curriculum that is designated to qualify his students to perform the duties of a mechanic for a particular ratings.

b. The curriculum must offer at least the following number of hours or instruction for the rating shown:

1. AIRFRAME — 1150 hours, (400 hours general plus 750 hours airframe)
2. POWERPLANT — 1150 Hours (400 hours general plus 750 hours powerplant)
3. COMBINED AIRFRAME and POWERPLANT — 1900 hours (400 hours general plus 750 hours airframe and 750 hours powerplant)
4. AVIONICS — 1900 hours (400 hours general plus 750 hours aircraft electrical/electronics and 450 hours aircraft navigation and instrumentation and 300 application and basic communications)

c. The curriculum must cover the subjects and items prescribed in Appendix B and in Appendix C and D as applicable. Each item must be taught at the indicated level of proficiency as defined in the Appendix A.

d. The curriculum must show -

1. The required practical projects to be completed.
2. For each subject, the proportion of theory and other instructions to be given; and
3. A schedule of the required school test to be given.

e. The curriculum must be designated that at least fifty (50) percent of the total curriculum time is spent in shop and laboratory instruction excluding On-job-training which must be spent at actual facilities or airlines at about two hundred fifty (250) hours.

2.6 Instructor Requirements

An applicant for an Aviation Maintenance Technical School Certificate and Rating or for additional rating must provide the number of instructors holding Aircraft Mechanic and Specialist and Ground Instructor's licenses and ratings issued under Administrative Order No. 60 that the ATO determines necessary to provide adequate instruction and supervision of the students, including at least one (1) such instructor for twenty five (25) students

in each shop or laboratory class. However, the applicant of AAC may provide specialized instructors to teach only in Mathematics, Physics, Drawing and similar subjects.

Chapter III

Operating Rules

3.0 Attendance and Enrollment, Test and Credit for Prior Instruction or Experience

a. A certificated Aviation Maintenance Technician School may not require any student to attend classes instruction of more than eight (8) hours in a day or more than six (6) days or ten (10) hours in any seven (7) days period.

b. Each school shall give an appropriate test to each student who completes a subject at that school.

c. A school may not graduate a student unless he has completed all the appropriate curriculum requirements. However, the school may credit a student with instruction or previous experience as follows:

1. A school may credit a student with instruction he has satisfactorily completed at an accredited college, state-owned vocational or trade school, or military technical specialty school, or at an aviation maintenance school other than the crediting school before the latter was certificated. It may determine the amount of credit to be allowed by giving the applicant an entrance test equal to the one given to students who complete a comparable required curriculum subject at the school, or by authenticated transcript of his grades from his former school, showing the curriculum in which he was enrolled, the hours of attendance, and his grades in each subject. However, in the case of applicant with military technical specialty training, it may determine the amount of credit only on the basis of an entrance test.

2. A school may credit a student with previous mechanic experience comparable to required curriculum subjects. It must determine the amount of credit to be allowed by documents verifying the experience, and by giving the student a test equal to the one given to students who complete that comparable required curriculum subject at the school.

d. A school may not have more students enrolled than the number stated in its application for a certificate unless it amends its application, and has it approved.

e. A school shall use an approved system for determining final course grades, and for recording and controlling student attendance. The system must show hours of absence allowed, and make-up provisions for classes missed.

3.1 Records

a. Each certificated Aviation Maintenance Technician School shall keep a current record of each student enrolled, showing —

1. His attendance, test and grades received on the subjects required by this Administrative Order;

2. The instruction credited to him under Section 3.0 if any; and

3. The authenticated transcript of his grades from that school.

It shall retain the record for the last two (2) years after the end of the student's enrollment, and make record available for inspection by the Director during that period.

b. Each school shall keep a current program charts or individual progress record for each of its students showing the practical projects of laboratory work completed, by the students in each subject.

3.2 Transcript and Graduation Certificate

- a. Each certificate holder shall give a transcript of his grades to each student who has graduated from that school or who leaves it before being graduated. An official of the school shall authenticate the transcript. The transcript must state the curriculum in which the subject was enrolled, whether the student satisfactorily completed that curriculum or not and final grades received.
- b. Each school shall give a graduation certificate to its students that it graduates. An official of the school shall authenticate the certificate of graduation. It must show that the date of graduation and the approved title.

3.3 Maintenance of Instructor Requirements

Each certificated Aviation Maintenance Technician School shall, after certification or addition of a rating, continue to provide the number of instructors holding appropriate ground instructor certificates and ratings that the ASSEC or his authorized representative/s determines necessary to provide adequate instructions and supervision of the students, including at least one (1) such instructor for each twenty five (25) students in each shop or laboratory class. The school may continue to provide specialized instructors who are not certificated mechanic to teach only Mathematics, Physics, Drawing and similar subjects.

3.4 Maintenance of Facilities, Equipment and Materials

- a. Each certificated Aviation Maintenance Technician School shall provide facilities, equipment and material equal to the standards currently required for the issuance of the certificate and rating that it holds.
- b. A school may not make a substantial change in facilities, equipment and material that have been approved for a particular curriculum, unless that change is approved in advance.

3.5 Maintenance of Curriculum Requirements

- a. Each certificated Aviation Maintenance Technician School adheres to its approved curriculum.
- c. A school may not change its approved curriculum unless the change is approved in advance.

3.6 Quality Instruction

Each certificated Aviation Maintenance Technician School shall provide instruction of such quality that, of its graduates of a curriculum for each rating who apply for mechanic certificate or additional rating within sixty (60) days after they are graduated, the percentage of those passing the applicable Airmen Examination Board of ATO written test on their first attempt during any period of twenty four (24) calendar months is at least the percentage figured as follows:

- a. For a school graduating fewer than fifty-one (51) students during that period the national passing norm minus the number twenty (20).
- b. For a school graduating at least fifty-one (51) but fewer than two hundred one (201) students during that period the national passing norm minus the number fifteen (15).
- c. For a school graduating more than two hundred (200) students during that period the national passing norm minus the number ten (10).

As used in this section, "National Passing Norm" is the number representing the percentage of all graduates (or a curriculum for a particular rating) of all certificated Aviation Maintenance Technician School who apply for a Mechanic Certificate or additional rating within sixty (60) days after they graduated and pass the applicable CAA written test on their first attempt during the period of twenty four (24) calendar months described in this section.

3.7 Display of Certificate

Each holder of an Aviation Maintenance Technician School Certificate and Rating shall display it at a place that is normally accessible to the public and is not obscured. The Certificate must be available for inspection by the ASSEC or his authorized representatives.

3.8 Change of Location

The holder of an Aviation Maintenance Technician School Certificate may not take any change in the school's location unless the change is approved in advance. If the holder desires to change the location, he shall notify the Aviation Safety Division, ATO, in writing, at least thirty (30) days before the date the change is accomplished. If he changes its location without approval from the ASSEC, the Certificate is automatically revoked.

3.9 Inspection

The ASSEC or his authorized representative/s may, inspect an Aviation Maintenance Technician School to determine its compliance with this Administrative Order. Such inspection is normally made on the first six (6) months and on the renewal inspection at the 11th month prior to expiration of the AAC to determine if the school continues to meet the requirements under which it was originally certificated. After such an inspection is made, the school is notified, in writing or on a post briefing report, of any deficiencies found during inspection. Surveillance inspection may be made from time to time to any Certificate Holder.

3.10 Advertising

- a. A certificated Aviation Maintenance Technician School may not make any statements relating to itself that is false or is designed to mislead any person considering enrollment therein.
- b. Whenever an Aviation Maintenance Technician School indicates an advertising that it is a certified school, it is clearly distinguished between its approved courses and those that are not approved.

Chapter IV Penalties and Repealing Provision

Any person who shall violate any provisions of this Administrative Order shall be dealt with in accordance with the provisions of Chapter VII, Republic Act No. 776.

This Administrative Order repeals Administrative Order No. FSS-8.09 series of 1975.

Chapter V Effectivity

5.0 This Administrative Order shall take effect at the beginning of the 15th day after the completion of its publication in the Official Gazette.

(SGD.) MGEN. ADELBERTO F. YAP (RET.)

Assistant Secretary Air Transportation Office

Approved:

(SGD.) HON. PANTALEON ALVAREZ

Secretary Department of Transportation and Communication

APPENDIX A

Curriculum Requirements

This Appendix defines terms used in Appendices B, C, and D of this Administrative Order, and describes the

levels of proficiency at which items under each subject in each curriculum must be taught, as outlined in Appendices B, C and D.

a. Definition. As used in Appendices B, C, and D.

1. “Inspect” means to examine by sight and touch.
2. “Check” means to verify proper operation or according to its use it is intended to.
3. “Troubleshoot” means to analyze and identify malfunctions.
4. “Service” means to perform servicing, cleaning and other routinary functions that assure continued normal operation.
5. “Repair” means to correct a defective condition. Repair of an airframe, powerplant system, includes component replacement and adjustment but not component repair.
6. “Overhaul” means to disassemble, inspect, repair, as necessary, and check.

b. Teaching Levels.

1. Level requires

- i. Knowledge of general principles but no practical application;
- ii. No development of manipulative skill;
- iii. Instruction by lecture, demonstration and discussion.

2. Level 2 requires

- i. Knowledge of general principles and limited practical application;
- ii. Development of sufficient manipulative skill to perform basic operations’
- iii. Instruction by lecture, demonstration, discussion and limited practical application.

3. Level 3 requires

- i. Knowledge of general principles and performance of high degree of practical application;
- ii. Development of sufficient manipulative skill to accomplish return to service.
- iii. Instruction by lecture, demonstration, discussion and a high degree of practical application.

Appendix B

General Curriculum Subjects

This appendix lists the subjects required in at least 400 hours in general curriculum subjects.

The number in parenthesis before each item listed under each subject indicates the level of proficiency at which item must be taught.

A. BASIC ELECTRICITY

Teaching Level

- (1) 1. Measure capacitance and inductance;

- (2) 2. Calculate and measure electrical power;
- (3) 3. Measure voltage, currents, resistance, continuity and leakage;
- (3) 4. Determine the relationship of voltage, current, and resistance in electrical circuits;
- (3) 5. Read and interpret electrical circuit diagrams;
- (3) 6. Inspect and service batteries.

B. AIRCRAFT DRAWINGS

- (2) 7. Use drawings, symbols and schematic diagrams;
- (3) 8. Draw sketches of repairs and alterations;
- (3) 9. Use blueprint information;
- (3) 10. Use graphs and charts.

C. WEIGHT AND BALANCE

- (2) 11. Weight aircraft;
- (3) 12. Perform complete weight and balance check and record data.

D. FLUID LINES AND FITTINGS

- (3) 13. Fabricate and install rigid and flexible fluid lines and fittings.

E. MATERIALS AND PROCESSES

- (1) 14. Identify and select appropriate non-destructive testing methods;
- (2) 15. Performs penetrant, chemical etching and magnetic particle inspections;
- (2) 16. Perform basic heat-treating process;
- (2) 17. Identify and select aircraft hardware and materials;
- (3) 18. Inspect and check welds;
- (3) 19. Perform precision measurements.

F. GROUND OPERATION AND SERVICING

- (2) 20. Start, ground, operate, move, service and secure aircraft;
- (2) 21. Identify and select fuel.

G. CLEANING AND CORROSION CONTROL

- (3) 22. Identify and select cleaning materials;
- (3) 23. Perform aircraft cleaning and corrosion control;

H. MATHEMATICS

- (1) 24. Extract roots and raise numbers to a given power;
- (2) 25. Determine areas and volume of various geometrical shapes;
- (3) 26. Solve ratio proportion and percentage problems;
- (3) 27. Perform algebraic operation involving addition, subtraction, multiplication and division of positive and negative numbers.

I. MAINTENANCE FORMS AND RECORDS

- (3) 28. Write descriptions of aircraft condition and work performed;
- (3) 29. Complete required maintenance forms, records and inspection report.

J. BASIC PHYSICS

- (2) 30. Use the principles of simple machines, sound, fluid and heat dynamics

K. MAINTENANCE PUBLICATIONS

- (3) 31. Select and use Administrative Order or Memo Circulars and manufacturer's aircraft maintenance specifications, data sheets, manuals, and publications, and related Civil Aviation Regulations;
- (3) 32. Read technical data.

L. MECHANIC PRIVILEGES AND LIMITATIONS

- (3) 33. Exercise mechanic privileges within the limitations prescribed by Administrative Order No. 60.

APPENDIX C

Airframe Curriculum Subject

This appendix lists the subjects required in at least 750 of each airframe curriculum in addition to at least 400 hours in general curriculum subjects.

The number in parenthesis before each item listed under each subject indicates the level of proficiency at which that item must be taught.

I

Airframe Structures

A. AIRCRAFT COVERING/FIBERGLASS

- (1) 1. Select and apply fiberglass covering materials;
- (3) 2. Inspect, test and repair fiberglass;

B. AIRCRAFT FINISHES

- (1) 3. Apply, trim letters and touch up paints;
- (2) 4. Identify and select aircraft finishing materials;
- (2) 5. Apply paint and dope;
- (2) 6. Inspect finished, identify defects.

C. SHEET METAL STRUCTURES

- (2) 7. Install special rivets and fasteners;
- (2) 8. Inspect and bounded structures;
- (2) 9. Inspect and repair plastics; honeycomb and laminated structures;
- (2) 11. Inspect, check, service and repair windows, doors and interior furnishings;
- (3) 12. Inspect and repair sheet-metal structures;
- (3) 13. Install conventional rivets;
- (3) 14. Hand form, lay out and bend sheet-metal.

D. WELDING

- (1) 15. Weld magnesium and titanium;
- (1) 16. Solder stainless steel;
- (1) 17. Fabricate tubular structures;
- (2) 18. Solder, braze, gas-weld and arc-weld steel;
- (2) 19. Weld aluminum and stainless steel.

E. ASSEMBLY AND RIGGING

- (1) 21. Rig rotary-wing aircraft;
- (2) 22. Rig fixed-wing aircraft;
- (2) 23. Check alignment of structures;
- (3) 24. Assembly aircraft;
- (3) 25. Balance and rig movable surfaces;
- (3) 26. Jack aircraft.

F. AIRFRAME INSPECTION

- (3) 27. Perform airframe conformity and airworthiness inspections.

II

Airframe Systems and Components

A. AIRCRAFT LANDING GEAR SYSTEM

(3) 28. Inspect, check, service and repair landing gear retraction systems, shock struts, brakes, wheels, tires and steering systems.

B. HYDRAULIC AND PNEUMATICS POWER SYSTEMS

(2) 29. Repair hydraulic and pneumatic power system components;

(3) 30. Identify and select hydraulic fluid;

(3) 31. Inspect, check, service, troubleshoot and repair hydraulic and pneumatic power systems.

C. CABIN ATMOSPHERE CONTROL SYSTEM

(1) 32. Repair heating, cooling, air conditioning, pressurization and oxygen system components;

(1) 33. Inspect, check, troubleshoot, service and repair heating, cooling, air conditioning and pressurization systems;

(2) 34. Inspect, check, trouble shoot, service and repair oxygen systems.

D. POSITION AND WARNING SYSTEMS

(1) 35. Inspect, check and service speed and take-off warning systems, electrical brake control and anti-skid systems;

(3) 36. Inspect, check, troubleshoot, service and repair landing gear position indicating and warning systems.

E. ICE AND RAIN CONTROL SYSTEM

(2) 37. Inspect, check, troubleshoot, service and repair airframe ice and rain control systems.

F. FIRE PROTECTION SYSTEM

(1) 38. Inspect, check, and service smoke and carbon monoxide detection systems;

(3) 39. Inspect, check, service, troubleshoot and repair aircraft fire detection and extinguishing systems.

APPENDIX D Powerplant Curriculum Subject

This appendix lists the subject required in at least 750 hours of each powerplant curriculum, in addition to at least 400 hours in general curriculum subject.

The number in parenthesis before each item listed under each subject heading indicates the level of proficiency at which that item must be taught.

I.

Powerplant Theory and Maintenance

A. RECIPROCATING ENGINES

Teaching Level

- (1) 1. Inspect and repair 14-cylinder or larger radial engine;
- (2) 2. Overhaul reciprocating engine;
- (3) 3. Inspect, check, service and repair opposed and radial engines and reciprocating engine installations;
- (3) 4. Install, troubleshoot and remove reciprocating engines.

B. TURBINE ENGINES

- (2) 5. Overhaul turbine engines;
- (2) 6. Inspect, check, service and repair turbine engines and turbine engine installations;
- (2) 7. Install, troubleshoot, and remove turbine engines.

C. ENGINE INSPECTION

- (3) 8. Perform powerplant conformity and airworthiness inspections.

III

Powerplant Systems and Components

A. ENGINE INSTRUMENTS SYSTEMS

- (2) 9. Troubleshoot, service and repair fluid rate-of-flow indicating systems;
- (3) 10. Inspect, check, service, troubleshoot and repair engine temperature pressure and RPM indicating systems.

B. ENGINE FIRE PROTECTION SYSTEMS

- (3) 11. Inspect, check, service, troubleshoot and repair engine fire detection and extinguishing systems.

C. LUBRICATION SYSTEMS

- (2) 12. Identify and select lubricants;
- (2) 13. Repair engine lubrication system components;
- (2) 14. Inspect, check, service, troubleshoot and repair engine lubrication systems.

D. IGNITION SYSTEM

- (2) 15. Overhaul magneto and ignition harness;
- (2) 16. Repair engine ignition system components;
- (3) 17. Inspect, check, service, troubleshoot and repair reciprocating and turbine engine ignition systems.

E. FUEL METERING SYSTEMS

- (1) 18. Inspect, check and service water injection systems;
- (2) 19. Overhaul carburetor;
- (2) 20. Repair engine fuel metering system components;
- (2) 21. Inspect, check, service, troubleshoot and repair reciprocating and turbine engine fuel metering systems.

F. ENGINE FUEL SYSTEMS

- (2) 22. Repair engine fuel system component;
- (3) 23. Inspect, check, service, troubleshoot and repair engine fuel systems.

G. INDUCTION SYSTEMS

- (2) 24. Inspect, check, troubleshoot, service and repair engine ice and rain control systems;
- (2) 25. Inspect, check, service, and repair heat exchangers and superchargers;
- (3) 26. Inspect, check, service, and repair carburetor air intake and induction manifolds.

H. ENGINE COOLING SYSTEMS

- (2) 27. Repair engine cooling system components;
- (3) 28. Inspect, check, troubleshoot, service and repair engine cooling systems;

I. ENGINE EXHAUST SYSTEMS

- (2) 29. Repair engine exhaust system components;
- (3) 30. Inspect, check, troubleshoot, service and repair engine exhaust systems.

J. PROPELLERS

- (1) 31. Inspect, check, service and repair propeller synchronizing and ice control systems;
- (2) 32. Identify and select propeller lubricants;
- (2) 33. Balance propeller;
- (2) 34. Repair propeller control system components;
- (2) 35. Inspect, check, service and repair fixed-pitch, constant-speed and feathering propeller and propeller governing systems;
- (3) 36. Install, troubleshoot and remove propellers.

K. AIRCRAFT FUEL SYSTEMS

- (1) 37. Check and service fuel dump systems;
- (1) 38. Perform fuel management transfer, and defueling;

- (1) 39. Inspect, check and repair pressure fueling systems;
- (2) 40. Repair aircraft fuel system components;
- (2) 41. Inspect and repair fluid quantity indicating systems;
- (2) 42. Troubleshoot, service and repair fluid pressure and temperature warning systems;
- (3) 43. Inspect, check, service, trouble-shoot and repair aircraft fuel systems.

APPENDIX E

AVIONICS CURRICULUM SUBJECT

This appendix lists the subjects required in at least 750 hours of each airframe curriculum in addition to at least 400 hours in general curriculum subjects.

The number in parenthesis before each item listed under each subject heading indicates the level of proficiency at which that item must be taught.

A. AIRCRAFT ELECTRICAL SYSTEMS

- (2) 1. Repair aircraft electrical system components;
- (3) 2. Install, check, and service airframe electrical wiring, controls, switches, indicators, motors and protective devices;
- (3) 3. Inspect, check, troubleshoot, service and repair alternating current and direct current electrical systems.

B. ENGINE ELECTRICAL SYSTEMS

- (2) 4. Repair engine electrical system components;
- (3) 5. Install, check and service engine electrical wiring, controls, switches, indicators and protective devices.

C. COMMUNICATION AND NAVIGATION SYSTEMS

- (3) 6. Inspect, check and service autopilot and approach control systems;
- (3) 7. Inspect, check and service aircraft electronic communication and navigation systems; such as ATC transponder, Distance Measuring Equipment, Automatic Direction Finder, Very High Frequency Omni Range, Instrument Landing Systems, Marker beacons, Radio Altimeter and Weather Radar.
- (3) 8. Inspect and repair antenna and electronic equipment installations.
- (3) 9. Inspect and test satellite dependent equipments such as Inertial Navigation Systems, Global Positioning Stations transceivers, Instrument Warning Systems, Ground Proximity Warning Systems, Magnetic Heading Reference Systems, Terrain Collision Alert Systems, Cockpit Voice Recorder, Digital Flight Data Recorder, Air Data Pressure Instrument, Mach Airspeed Indicators, altitude alerts systems, auto pilot and flight director and other current and state of the art instruments

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