INSPECTION AUTHORIZATION KNOWLEDGE TEST GUIDE

U.S. Department of Transportation
Federal Aviation Administration

INSPECTION AUTHORIZATION
KNOWLEDGE TEST GUIDE

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PREFACE

The Flight Standards Service of the Federal Aviation Administration (FAA) has developed this guide to help applicants meet the knowledge requirements for Inspection Authorization (IA) certification.

This guide contains information about eligibility requirements, test descriptions, testing and retesting procedures, and sample test questions representative of those used in the official tests. Sample test questions and choices of answers are based on regulations, principles, and practices valid at the time this guide was printed. In addition, this guide provides guidance for persons who conduct annual and progressive inspections and approve major repairs and/or major alterations of aircraft, engines, propellers, and appliances. This guide stresses the important role that thecertificated mechanics who hold an Inspection Authorization have in air safety.

The applicant will find, in appendix 1, examples of forms and sample entries for various maintenance recordation with which an IA must be familiar. Appendix 2 provides a list of publications and technical data the IA must have available in studying for the test and later when exercising the privileges of the certificate. Appendix 3 provides a list of reference materials and subject matter knowledge codes. The list of subject matter knowledge codes should be referred to when reviewing areas of deficiency on the airman test report.

Future changes to the reference materials and subject matter knowledge codes list will be located in AC 60-25, Reference Materials and Subject Matter Knowledge Codes for Airman Knowledge Testing. To obtain this advisory circular electronically or for a current listing of other Flight Standards Service airman publications and test banks available electronically through FedWorld, review the FedWorld file, CERT_LST in the FAA-ATT Library.

FedWorld may be accessed through the National Technical Information Service (NTIS), an agency of the U.S. Department of Commerce; (703) 321-3339, 24 hours a day, 7 days per week. For technical assistance regarding computer software and modem requirements for this service, contact the FedWorld help desk at (703) 487-4223 from 7:30 a.m. to 5 p.m. EDT, Monday through Friday. Refer to AC 60-26, Announcement of Availability: Flight Standards Service Airman Testing and Training Information, for further information concerning FedWorld access.

Advisory Circular (AC) 65-19F, Inspection Authorization Study Guide, dated 1994, is canceled.

This guide may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325 or ordered through the U.S. Government Printing Office bookstores located in major cities throughout the United States.

Comments regarding this guide should be sent to:

Federal Aviation Administration
Operations Support Branch, AFS-630
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INSPECTION AUTHORIZATION
KNOWLEDGE TEST GUIDE

INTRODUCTION

This knowledge test guide was developed to be used by applicants preparing to take the Inspection Authorization Knowledge Test on the computer.

The FAA initiated the issuance of the Inspection Authorization more than 35 years ago. This system of allowing qualified mechanics the privilege of performing certain inspections has served well in the maintenance of the U.S. civil fleet. The attainment of an Inspection Authorization and performance of the duties of that certificate greatly enhance the privileges and responsibilities of the aircraft mechanic. The Inspection Authorization permits the Airframe and Powerplant (A&P) mechanic to perform a greater variety of maintenance and alterations than any other single maintenance entity.

The determination of airworthiness during an inspection is a serious responsibility. For many general aviation aircraft, the annual inspection could be the only in-depth inspection it receives throughout the year. In view of the wide ranging authority conveyed with the authorization, the test examines a broader field of knowledge than required for the A&P certificate and reflects the emphasis that is placed on the holder of the certificate in perpetuating air safety.

This guide is not offered as a quick and easy way to obtain the necessary information for passing the knowledge tests. There is no quick and easy way to obtain knowledge in addition to the skills needed to acquire an Inspection Authorization. Rather, the intent of this guide is to define and narrow the field of study, as much as possible, to the required knowledge for obtaining an Inspection Authorization certificate.

ELIGIBILITY REQUIREMENTS

NOTE: Eligibility shall be established at the local Flight Standards District Office prior to taking the knowledge test.

Applicants are eligible for the Federal Aviation Administration (FAA), Inspection Authorization if they meet the requirements of Title 14 of the Code of Federal Regulations (14 CFR) part 65, section 65.91, which includes the following:

1. Hold a currently effective mechanic certificate with both an airframe and a powerplant rating, each of which is currently effective and has been in effect for a total of at least 3 years.

2. Have been actively engaged, for at least the 2-year period before the date of application, in maintaining civil aircraft. (NOTE: Actively engaged means employed in the aviation industry and exercising the privileges of their mechanic certificate.)

3. Have a fixed base of operations where they can be located in person or by telephone during the normal working week.

4. Have the necessary equipment, facilities, and inspection data available to properly inspect airframes, powerplants, propellers, or any related parts or appliances.

5. Pass a knowledge test.

KNOWLEDGE AREAS ON THE TEST

The test is comprehensive as it must test an applicant's knowledge in many subject areas. An applicant for an Inspection Authorization should review 14 CFR section 65.91(c)(5) for the knowledge areas on the test.

DESCRIPTION OF THE TEST

All test questions are objective, multiple-choice type, with three choices of answers. The test contains 50 questions, numbered 1 through 50. Each question can be answered by the selection of a single response. Each test question is independent of other questions, that is, a correct response to one does not depend upon, or influence the correct response to another.

The maximum time allowed for the test is 3 hours. The allotted time is based on previous experience and educational statistics. This amount of time is considered more than adequate for applicants with proper preparation.

Communication between individuals through the use of words is a complicated process. In addition to being an exercise in the application and use of aeronautical knowledge, a test is also an exercise in communication since it involves the use of the written language. Since the tests involve written rather than spoken words, communication between the test writer and the person being tested may become a difficult matter if care is not exercised by both parties. Consequently, considerable effort is expended to write each item in a clear, precise manner. Applicants should carefully read the information and instructions given with the tests, as well as the statements in each test item.

When taking a test, the applicant should keep the following points in mind:

1. Answer each question in accordance with the latest regulations and procedures.

2. Read each question carefully before looking at the possible answers. You should clearly understand the problem before attempting to solve it.

3. After formulating an answer, determine which of the alternatives most nearly corresponds with that answer. The answer chosen should completely resolve the problem.

4. From the answers given, it may appear that there is more than one possible answer. However, there is only one answer that is correct and complete. The other answers are either incomplete or are derived from popular misconceptions.

5. If a certain question is difficult for you, it is best to mark it for RECALL and proceed to the other questions. After you answer the less difficult questions, return to those which you marked for recall and answer them. (The recall marking procedure will be explained to you prior to starting the test.) Leave no question without an answer being recorded for it when you are finished. The computer will alert you to all unanswered questions. This procedure will enable you to use the available time to the maximum advantage.

6. When solving a calculation problem, select the answer nearest your solution. The problem has been checked with various types of calculators; therefore, if you have solved it correctly, your answer will be closer to the correct answer than any of the other choices.

TAKING A KNOWLEDGE TEST BY COMPUTER

You should contact your local Flight Standards District Office to make an appointment to interview with an Aviation Safety Inspector (airworthiness) to determine eligibility **before** registering for the computer knowledge test. At the interview, the inspector will ask you to complete an FAA Form 8610-1, Mechanic's Application for Inspection Authorization (Refer to appendix 1, figure 1) and provide positive proof of identification. The identification presented must include a current photograph of the applicant, the applicant's signature, and the

applicant's actual residential address, if different from the mailing address. This information may be presented in more than one form of identification.

Acceptable forms of identification include, but are not limited to, drivers' licenses, government identification cards, passports, alien residency cards, and military identification cards. Other forms of identification that meet the requirements of this paragraph are acceptable. Some applicants may not possess the identification documentation described. In any case, you should always check with your local Flight Standards District Office if you are unsure of what kind of authorization to bring to the interview.

During the interview, you will be asked to demonstrate to the inspector's satisfaction that you meet the requirements for the authorization as specified in 14 CFR section 65.19(c)(1)through(4), such as:

1. Holding a current mechanic's certificate, with airframe and powerplant ratings, that has been effective for at least 3 years.

2. Having been actively engaged in maintaining certificated aircraft for at least the 2-year period prior to applying.

3. Having a fixed base of operation at which you can be located in person or by telephone during a normal working week. This base need not be the place where you will exercise the inspection authority.

4. Having available the equipment, facilities, and inspection data necessary to conduct proper inspection of airframes, powerplants, propellers, or any related part or appliance.

You will also be asked to present the publications and technical data as outlined in appendix 2, that you intend to use as an IA. This data must be kept current.

The inspector will interview to the extent necessary to determine that you clearly understand the inspection authorization privileges, limitations, responsibilities, and the functions in the aviation community. Once your qualifications have been demonstrated, the inspector will provide you with the name and location of the computer test facility that provides the Inspection Authorization knowledge test; not all test sites offer this test.

The next step is the actual registration process. Most computer testing designees (CTD's) require that all applicants contact a central 1-800 number. At this time, you should select the test center indicated by the FAA Inspector, schedule a test date, and make financial arrangements for taking the test. Applicants may register for tests several weeks in advance of the proposed testing date. You may also cancel your appointment up to 2 business days before test time, without financial penalty. After that time, you may be subject to a cancellation fee as determined by the CTD.

You will not need to take any of your IA reference material to the test center; however, you will need your ID. When you enter the actual testing area, you will be permitted to take only scratch paper furnished by the test administrator and an authorized calculator, approved for use in accordance with FAA Order 8080.6, Conduct of Airman Knowledge Testing via the Computer Medium, and AC 60-11, Aids Authorized for Use by Airman Written Test Applicants.

You are now prepared to take the test. Remember, you always have an opportunity to take a sample tutorial test before your actual test begins. Your actual test is under a time limit, but if you know your material, there should be sufficient time to complete and review your test. Within moments of completing the test, you will receive an airman knowledge test report, which contains your score. It also lists in code, by subject knowledge areas, those areas where questions were answered incorrectly. **The total number of subject matter knowledge codes shown on the test report is not necessarily an indication of the total number of questions answered incorrectly.** These codes refer to a list of subject matter knowledge areas, which can be found in appendix 3 of this guide. You can study the subject matter knowledge code references to increase your knowledge of the subject.

The minimum passing score is 70; however, if the test is failed, there will be a 90-day waiting period before retesting is allowed. An attempt to retest prior to the waiting period is contrary to 14 CFR part 65, and could result in revocation of any airman certificates held.

The airman test report, which must show the computer testing company's embossed seal, is an important document. **DO NOT LOSE THE AIRMAN TEST REPORT** as you will need to present it at the Flight Standards District Office if you obtain a passing score to receive your Inspection Authorization, or if the test is failed, it must be presented at the test center when you are ready to retest after the 90-day waiting period. Loss of this report means that you will have to request a duplicate copy from the FAA in Oklahoma City. This will be costly and time consuming.

After passing the test, present your test report to an FAA Aviation Safety Inspector at the Flight Standards District Office where you interviewed (it is best to return to the original interviewer if possible; however, any available Airwothiness Inspector there can complete the authorization process). At that time, the Safety Inspector will again review your application and discuss any questions you have. When the Safety Inspector is satisfied that all requirements are met, the certificate will be issued.

CHEATING OR OTHER UNAUTHORIZED CONDUCT

Computer testing centers follow rigid testing procedures established by the FAA. This includes test security. When entering the test area, you are permitted to take only scratch paper furnished by the test administrator and an authorized calculator, approved for use in accordance with FAA Order 8080.6, Conduct of Airmen Knowledge Testing via the Computer Medium, and AC 60-11, Aids Authorized for Use by Airmen Written Test Applicants. The FAA has directed all testing centers to stop the test at any time a test administrator suspects a cheating incident has occurred. An FAA investigation will then follow. If the investigation determines that cheating or other unauthorized conduct has occurred, any airman certificate that you hold may be revoked, and you may not be allowed to take a test for 1 year.

RETESTING PROCEDURES

A person who fails the Inspection Authorization knowledge test may not apply for retesting until 90 days after the date the applicant failed the test. An applicant requesting retest after a failure must present a failed airman test report at the testing center. After failing the test, an attempt to retest prior to the 90-day waiting period is contrary to 14 CFR part 65, and could result in revocation of any airman certificates held.

If the score on the airman test report is 70 or above, the report is valid for 24 calendar months. You may elect to retake a **passed** test in anticipation of a better score, after 30 days from the date your last test was taken. Prior to retesting, you must give your current airman test report to the computer testing administrator. Remember, the score of the **latest** test you take will be the official test score. The FAA will not consider allowing anyone with a passing score to retake a test prior to the 30-day remedial study period.

BASIC FUNCTIONS OF AN IA

GENERAL

The basic functions of the holder of an IA are set forth in 14 CFR section 65.95. With the exception of aircraft maintained in accordance with a Continuous Airworthiness Program under 14 CFR part 121 or 127, an IA may inspect and approve for return to service any aircraft or related part or appliance after a major repair or major alteration. Also the holder of an IA may perform an annual inspection and he or she may supervise or perform a progressive inspection.

APPROVING MAJOR REPAIRS AND MAJOR ALTERATIONS

A primary responsibility of the holder of an IA is to determine airworthiness by inspecting repairs or alterations for conformity to approved data, and assuring that the aircraft is in a condition for safe operation. During inspection of major repairs or major alterations, the holder of an IA must also determine that they are compatible with previous repairs and alterations that have been made to the aircraft.

The holder of an IA must personally perform the inspection. The Federal Aviation Regulations do not provide for delegation of this responsibility.

Approving major repairs and major alterations is a serious responsibility. The approval action should consist of a detailed investigation to establish, at least that:

1. All replacement parts installed conform to approved design and/or have traceability to the original equipment manufacturer (OEM).

2. As installed, the installation conforms to approved data that is applicable to the installation.

3. Workmanship meets the requirements of 14 CFR section 43.13 (the aircraft or product is equal to its original or properly altered condition).

4. The data used is appropriate to the aircraft certification rule (e.g. CAR 3, 14 CFR part 23).

5. Work is complete and compatible with other structures or systems.

The holder of an IA CANNOT approve the DATA for major repairs or major alterations. They may, however, inspect to see that alterations conform to data PREVIOUSLY APPROVED BY THE ADMINISTRATOR (14 CFR section 65.95). This means the holder of an IA must assure that approved data is available and is used as a basis for the approval. This availability determination should be made prior to beginning the repair or alteration. If data is unavailable, or if the holder of an IA is unsure of the acceptability of the available data, the local FAA Inspector should be consulted. The FAA Inspector may, as the circumstances warrant, be able to:

1. establish an acceptable basis for approval;

2. approve the data; or

3. recommend application for a supplemental type certificate.

Quite often major repairs are performed that are eventually covered by fabric, metal skin, or another structure. When this situation exists, the holder of an IA should have a clear understanding with the mechanic performing the repair that a precover inspection is necessary. The inspection should assure that the repair was made in accordance with acceptable methods, techniques, and practices prescribed by 14 CFR part 43 and the structure to be covered is free from defects, corrosion, or wood rot, and is protected from the elements. In addition, the holder of an IA should inspect other affected areas for hidden damage, if the aircraft has been involved in an accident or

incident. An entry is required to be made in the maintenance record and FAA Form 337, Major Repair and Alteration, must be completed. (Refer to appendix 1, figure 4, showing typical entries on the back of FAA Form 337.)

Minor deviation from approved data is permissible if the change is one that could be approved as a minor alteration when considered by itself. Be sure to list the deviations on FAA Form 337 and the maintenance record entry when completing the aircraft records. When in doubt, contact the local FAA Inspector who may decide the change is not minor and would need specific approval or amendment of the original approval.
Approved data to be used for major repairs and major alterations may be one or more of the following:

1. Type Certificate Data Sheets

2. Aircraft Specifications

3. Supplemental Type Certificates (STC's)

4. Airworthiness Directives (AD's)

5. Manufacturer's FAA Approved Data (DOA)

6. Designated Engineering Representative (DER) Approved Data With FAA Form 8110-3, Statement of Compliance

7. Designated Alteration Station (DAS) Approved Data

8. Appliance Manufacturer's Manuals (Excluding Installation Instructions)

AC 43.13-1, Acceptable Methods, Techniques, and Practices (Aircraft Inspection and Repair), may be used directly as approved data (for repairs only) without further approval **only** when there is no manufacturer repair or maintenance instructions that address the repair and the user has determined that it is:

1. appropriate to the product being repaired;

2. directly applicable to the repair being made; and

3. not contrary to manufacturer's data.

This data may also be used as a basis to gain FAA data approval for major repairs.

FAA FIELD APPROVAL (FAA FORM 337) issued for duplication of identical aircraft may be used as approved data **only** when the identical alteration is performed on an aircraft of identical make, model, and series by the **original** modifier. FAA Form 337's approved in 1955 or earlier may be used as approved data.

Inspecting repairs or alterations consists of these basic operations:

1. Determine that the repair or alteration data has FAA approval.

2. Inspect the configuration of the repair or alteration for conformity to the approved data and the performance standards of 14 CFR part 43. At the same time, the aircraft should still comply with applicable airworthiness requirements and the repair or alteration must be compatible with all other installations.

3. All operating limitations affected by an alteration should be appropriately revised. Sometimes limitations are in the form of flight manual supplements, instrument range markings, placards, or combinations of these. See the local FAA Inspector for limitations on changes which can be made.

4. Determine that aircraft record entries have been made and the weight and balance data and equipment list revised, when appropriate. There should be a statement on the FAA Form 337 to the effect that the weight and balance data and equipment list have been revised. When an alteration results in a change in the center of gravity (CG) position, the affected CG limit should be investigated under adverse loading conditions unless the new CG falls within an approved empty CG range. For instance, if the CG has shifted aft, the loading conditions should be computed to see that the aircraft does not exceed the aft CG limit. It is the pilot's responsibility to have the aircraft correctly loaded. However, when approving an alteration, it is the IA's responsibility to see that weight and balance data have been revised. The aircraft record entries may refer to the FAA Form 337 for details such as: "Installed STOL kit in accordance with STC SA 940 CE drawing number 5084 dated April 24, 1996. See FAA Form 337, this date, for details."

5. Indicate approval in block 7 of FAA Form 337, and return both copies to the person who performed the work, for disposition in accordance with 14 CFR part 43, appendix B.

ANNUAL AND PROGRESSIVE INSPECTIONS

The procedures and scope for annual inspections are set forth in 14 CFR part 43, appendix D, and should be followed in detail. The scope and detail for a progressive inspection must be set by the owner or operator in accordance with 14 CFR section 91.409(d). There are additional requirements for annual and progressive inspections listed in 14 CFR section 43.15. The scope and detail of 100-hour and annual inspections are the same. Record entries are very important as they are the only evidence an aircraft owner has to show compliance with the inspection requirements of 14 CFR section 91.409 (Refer to appendix 1, figure 5).

The following reminders should help in determining that the aircraft complies with all airworthiness requirements (Refer to 14 CFR section 43.15(a)):

Configuration.
The aircraft should conform to the aircraft specification or type certificate data sheet, any changes by supplemental type certificates and/or it's properly altered condition. When the aircraft does not conform, use the procedures for "unairworthy" items listed in 14 CFR section 43.11(a)(5).

1. Alterations to the product may have changed some of the operating limitations.

2. Unrecorded alterations or repairs may have been made in the past and warrant one of the following:

   a. Contact owner for pertinent information

   b If approved data is available, conduct inspection and personally approve for return to service by completing FAA Form 337.

   c. Contact local FAA Inspector for assistance.

3. The aircraft specification or type certificate data sheet indicates when a flight manual is required. It also identifies limitations which must be displayed in the form of markings and placards.

4. Type certificate data sheets do not contain a list of equipment approved for a particular aircraft as did the specifications. The list of required and optional equipment can be found in the equipment list furnished by the manufacturer of the aircraft. Sometimes a later issue of the list is needed to cover recently approved items. Serial number eligibility should always be considered.

Condition.
The holder of an IA may use the checklist in 14 CFR part 43, appendix D, the manufacturer's inspection sheets, or a checklist designed by the holder of an IA, that includes the scope and detail of the items listed in appendix D, to check the condition of the entire aircraft. This includes checks of the various systems listed in 14 CFR section 43.15.

1. Routine servicing is NOT a part of the annual inspection. The inspection itself is essentially a visual evaluation of the condition of the aircraft and its components and certain operational checks. The manufacturer may recommend certain services to be performed at various operating intervals. These can often be done conveniently at this time, and in fact should be done, but are not considered to be a part of the inspection itself.

2. It is very important that the holder of an IA be familiar with the manufacturer's service manuals, bulletins, letters, etc., for the product being inspected. Use these publications to avoid overlooking problem areas.

3. AC 43-16, FAA General Aviation Airworthiness Alerts, is also an important source of service experience. The articles for the Alerts are taken from selected service difficulties reported to the FAA on FAA Form 8010-4, Malfunction or Defect Reports. Monthly copies of the Alerts are provided free of charge to persons who request that their name be placed on the mailing list. This may be accomplished by sending a letter, with name and address typed or legibly printed to FAA; ATTN: Safety Data Analysis Section (AFS -643); P.O. Box 25082; Oklahoma City, OK 73125-5029.

4. When the holder of an IA approves an aircraft for return to service, he or she will be held responsible for the condition of the aircraft AS OF THE TIME OF APPROVAL.

Minimum Equipment List (MEL).

The MEL is intended to permit operations with certain inoperative items of equipment for the minimum period of time necessary until repair can be accomplished. It is important that repairs be accomplished at the earliest opportunity in order to return the aircraft to its design level of safety and reliability.

1. When inspecting aircraft operating with an MEL, the holder of an IA shall review the document where inoperative items are recorded, (aircraft maintenance record, logbook, discrepancy record, etc.) to determine the state of airworthiness where recorded discrepancies are concerned. Inspections of aircraft with approved MEL's will be in accordance with 14 CFR under which the MEL was issued.

2. Those MEL's specifying repair intervals through the use of A, B, C, D codes must affect repairs of deferred items at or prior to the repair times established by the letter designated category. In such instances, some items previously deferred may not be eligible for continued deference at the inspection or may require additional maintenance. Where repair intervals are not specified by codes in the MEL, all MEL -authorized inoperative instruments and/or equipment should be repaired or inspected and deferred before approval for return to service.

3. Aircraft established on a progressive inspection program require that all MEL -authorized inoperative items be repaired or inspected and deferred at each inspection whether or not the item is encompassed in that particular segment.

4. When inspecting aircraft operating without an MEL, the rule “14 CFR section 91.213(d),” allows certain aircraft not having an approved MEL to be flown with inoperative instruments and/or equipment. These aircraft may be presented for annual or progressive inspection with such items previously deferred or may have inoperative instruments and equipment deferred during an inspection. In either case, the holder of an IA must make the determination that:

a. The deferrals are eligible within the guidelines of that rule.

b. All conditions for deferral are met, including proper recordation in accordance with 14 CFR sections 43.9 and 43.11.

c. Deferral of any item or combination of items will not affect the intended function of any other operable instruments and/or equipment, or in any manner constitute a hazard to the aircraft. When these requirements are met, such an aircraft is considered to be in properly altered condition where those deferred items are concerned.

Airworthiness Directives (AD's).
The holder of an IA must determine that all applicable AD's for aircraft, powerplants, propellers, instruments, and appliances have been accomplished.

1. If the maintenance records indicate compliance with an AD, the holder of an IA should make a reasonable attempt to verify the compliance. It is not uncommon for a component to have compliance with an AD accomplished and properly recorded then later be replaced by another component on which the AD has not been accomplished. The holder of an IA is not expected to disassemble major components such as cylinders or crankcases, etc., if adequate records of compliance exist.

2. When the maintenance records DO NOT contain indications of AD compliance, the holder of an IA must:

a. make the AD an item on a discrepancy list provided to the owner, in accordance with 14 CFR section 43.11(b);

b. with the owner's concurrence, do whatever disassembly is required to determine the status of compliance; or

c. obtain concurrence of the owner to comply with the AD.

3. Often an AD calls for an inspection at one time with a modification or inspection required at a later date. It is very important to identify, in the maintenance record entry, the portion of the AD complied with and the exact method of compliance.

4. 14 CFR section 91.417(a)(2)(v) requires each registered owner or operator to keep a record of the current status of applicable AD's. This status includes, for each, the method of compliance, AD number, and revision date. If the AD involves recurring action, the time and date should be recorded when the next action is required. As a vital part of the services performed, the holder of an IA may wish to provide the information an owner is expected to keep. (Refer to appendix 1, figure 6.)

5. The owner should also be informed if there are subsequent requirements of an AD or that reinspection is required at operating intervals other than at annual inspections. Often the subsequent requirements are at 100-hour intervals and will need to be done whether or not the aircraft is required to have 100-hour inspections. Where a progressive inspection is involved, the approved program should state how and when AD review will be accomplished. However, should you as a mechanic or IA be aware of a pending or due AD that is not in the area you are inspecting, it is a good customer relations to inform the owner or pilot of the situation.

Malfunction or Defect Reports.
All malfunctions or defects that come to the attention of the holder of an IA should be reported on FAA Form 8010-4. (Refer to appendix 1, figure 7.) Copies of the form are available at all FAA Flight Standards District Offices, are easy to fill out, and need no addressing or postage. Prompt reporting will contribute much toward improving air safety by helping correct unsafe conditions.

Paperwork Review.
The owner or operator is responsible for maintaining the equipment list, CG and weight distribution computations, and loading schedules, if necessary.

1. The holder of an IA must determine that the required placards and documents set forth in the aircraft specification or type certificate data sheet are available and current. The aircraft should be reported as being in an unairworthy condition if these placards and documents are not available. Missing, incorrect, or improperly located placards must be regarded as an unairworthy item and the owner or operator should be informed that under the requirements of 14 CFR section 91.9, the aircraft may not be operated until they are available.

2. The holder of an IA should refer to the registration and airworthiness certificates for the owner's name and address and for the aircraft make, model, registration, and serial numbers needed for recording purposes. Be sure not to use manufacturers' trade names as they do not always coincide with the actual model designation (Cessna Skylane is 182, Piper Seneca III is PA 34 220T, etc.). If registration and airworthiness certificates are not available, the aircraft need not be reported in an unairworthy condition; however, the owner or operator should be informed that the documents must be in the aircraft and the airworthiness certificate displayed as required by 14 CFR section 91.203 WHEN THE AIRCRAFT IS OPERATED.

3. Other documents which are often needed but not a part of the airworthiness requirement might be a state registration and if the aircraft is equipped with a transceiver, a Federal Communications Commission radio license. The owner or operator is responsible for maintaining these documents. However, the holder of an IA will be performing an appreciated service by informing the operator of any deficiencies in the display and carriage of these documents.

4. On aircraft for which no approved flight manual is required, the operating limitations prescribed during original certification, and as required by 14 CFR section 91.9, must be carried in or be affixed to the aircraft. Range markings on the instruments, placards, and listings must be worded and located as specified in the type certificate data sheet. (Refer to appendix 1, figure 8.)

Aircraft Markings.
Required aircraft identification markings are discussed in 14 CFR part 45. It is the owner or operator's responsibility to have the nationality and registration markings properly displayed on the aircraft (14 CFR section 91.9(c)). The holder of an IA can, and should, offer advisory service to owners and operators in regard to any deficiencies in markings; however, such deficiencies are not cause to report an aircraft in an " unairworthy" condition.

Aircraft with Discrepancies or Unairworthy Conditions.
If the aircraft is not approved for return to service after a required inspection, use the procedures specified in 14 CFR section 43.11. This will permit an owner to assume responsibility for having the discrepancies corrected prior to operating the aircraft.

1. The discrepancies can be cleared by a person who is authorized by 14 CFR part 43 to do the work. Preventive maintenance items could be cleared by a pilot who owns or operates the aircraft, provided the aircraft is not used under 14 CFR parts 121, 127, 129, or 135 (except that approval may be granted to allow a pilot operating a rotorcraft in a remote area under 14 CFR part 135 to perform preventive maintenance).

2. The owner may want the aircraft flown to another location to have repairs completed, in which case the owner should be advised that issuance of FAA Form 8130-7, Special Flight Permit, is required. This form is commonly called a ferry permit, and is detailed in 14 CFR Section 21.197. The certificate may be obtained in person or by fax at the local FAA Flight Standards District Office.

3. If the aircraft is found to be in an unairworthy condition, an entry will be made in the maintenance records that the inspection was completed and a list of unairworthy items was provided to the owner. When all unairworthy items are corrected by a person authorized to perform maintenance and that person makes an entry in the maintenance record for the correction of those items, the aircraft is approved for return to service. (Refer to appendix 1, figures 9 and 10.)

Incomplete Inspection.
If an annual inspection is not completed, the holder of an IA should:

1. Indicate in the aircraft records any discrepancies found.

2. NOT indicate that an annual inspection was conducted.

3. Indicate in the aircraft records the extent of the inspection and all work accomplished.

AIRCRAFT RECORDS

MAINTENANCE RECORDS

The holder of an IA and other maintenance personnel or agencies are required to record maintenance, inspections, or alterations performed or approved in accordance with the requirements of 14 CFR sections 43.9 and 43.11. The owner or operator is required by 14 CFR section 91.417 to keep maintenance records. The holder of an IA is also required to indicate the total aircraft time in service when a required inspection is done.

Significance of Maintenance Record Entries.
Responsibility for maintenance work performed rests with the person whose signature and certificate number is entered on the appropriate maintenance record and/or forms. The responsibility for annual and progressive inspections and approval for return to service of major repairs or major alterations is assumed by the holder of an IA whose signature and certificate number appears on the appropriate maintenance records.

COMPLETION OF FAA FORM 337, MAJOR REPAIR AND ALTERATION (AIRFRAME, POWERPLANT, PROPELLER, OR APPLIANCE)

FAA Form 337 serves two purposes. One is to provide owners and operators a record of major repairs and major alterations, indicating details and approval. The other purpose is to provide the FAA with a copy for the aircraft records. An example of a typical completed FAA Form 337 is provided in appendix 1, figures 3 and 4.

1. The person who performed or supervised the major repair or major alteration prepares the original FAA Form 337 (two copies). The holder of an IA then further processes the forms when they are presented for approval.

2. Instructions for the completion of FAA Form 337 appear in AC 43.9-1E, Instructions for Completion of FAA Form 337 (OMB No. 2120-0020), Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance).

3. Disposition of FAA Form 337.

a. The holder of an IA who has found a major alteration or a major repair to be in conformity with FAA-approved data, should review the FAA Form 337 for completeness and accuracy, and complete item 7.

b. The person performing a major repair or major alteration shall:

(1) Give a signed copy of FAA Form 337 to the aircraft owner.

(2) Make the proper entry in the maintenance records.

(3) Forward the duplicate copy to the local FAA Flight Standards District Office within 48 hours.

c. The holder of an IA should ensure that the duplicate copy is an exact and legible reproduction of the original. The signatures should not be carbon copies but original signatures written in ink.

d. If the FAA Form 337 is completed for extended-range fuel tanks installed within the passenger compartment or a baggage compartment, the person who performs the work and the person authorized to approve the work by 14 CFR section 43.7 shall execute an FAA Form 337 in at least triplicate. One (1) copy of the FAA Form 337 shall be placed on board the aircraft as specified in 14 CFR section 91.417 of the rules. The remaining forms shall be distributed as previously noted.

e. If the FAA Form 337 has been completed for engines, propellers, spare parts or components, both copies of the form, with the approval portion completed, should be attached to the part or component until it is installed on an aircraft.

(1) The mechanic who makes the installation will complete both copies of the FAA Form 337 by filling in blocks 1 and 2 and sign for the installation in the aircraft records, making reference to the FAA Form 337 in the record entry.

(2) Give a copy to the owner and forward a copy to the FAA Flight Standards District Office for the area where the installing mechanic is operating.

WEIGHT AND BALANCE

Weight and balance data are no longer required to be entered on the FAA Form 337. It is imperative that weight and balance checks and computations be made very carefully. Since practically every aircraft manufacturer uses a different method of weight and balance control, it would be impossible to provide a universally adaptable method. The example provided in appendix 1, figure 11, is general in nature and can be modified or revised as needed to fit the aircraft involved. When revising weight and balance data, these general guidelines should be followed:

1. The weight and balance data should be kept together in the aircraft records.

2. When making revisions, use a permanent, easily identified method, with full -size sheets of paper large enough to contain complete computations and minimize the possibility of becoming detached or lost.

3. Each page should be identified with the aircraft by make, model, serial number, and registration number.

4. The pages should be signed and dated by the person making the revision.

5. The nature of the weight change should be described.

6. The old weight and balance data should be marked “superseded” and dated.

7. A new page should show the date of the old figures it supersedes.

8. Appropriate fore and/or aft extreme loading conditions should be investigated and the computations shown.

9. Example loading computations may be helpful.

10. On large aircraft, be careful to distinguish between empty weight and operating weights that may include items such as commissary supplies, spare parts, lavatory water, etc.

11. On small aircraft, it is often convenient to post a placard in the aircraft indicating the empty weight, useful load, and empty CG, along with example loadings or general instructions, to cover the most likely loading conditions. Refer to 14 CFR section 91.9(b)(2). AC 120-27B, Aircraft Weight and Balance Control, and AC 91-23A, Pilot's Weight and Balance Handbook, contain useful information applicable to the functions performed by the holder of an IA on general aviation aircraft.

SUGGESTIONS FOR DEVELOPING GOOD OWNER/IA RELATIONS

GET IT STRAIGHT

Be sure to come to a mutual agreement with the aircraft owner concerning exactly what work is to be performed. Misunderstandings usually result from a lack of clear communication. Attention to the following details will usually avoid the ill will a later disagreement may generate:

1. Itemize the work to be done so the owner will have a clear understanding of the work order.

2. Establish a firm understanding about the cost, or range of cost, anticipated for the job.

3. If an annual inspection is involved, indicate that certain maintenance is required to perform the inspection, such as:

   a. Removing cowling and fairing, opening inspection plates, etc.

   b. Cleaning the aircraft and engine.

   c. Disassembling wheels and other components to determine their condition.

4. Advise the owner that an annual inspection involves determination of compliance with aircraft specifications and AD's.

5. Agree whether routine servicing is to be included as part of the inspection or is to be performed separately. Such servicing is not a part of the inspection, but may be conveniently done while conducting the inspection. Such items might be:

   a. Cleaning spark plugs.

   b. Servicing landing gear shock struts.

   c. Changing oil.

   d. Making minor adjustments.

   e. Servicing brakes.

   f. Dressing nicked propeller blades.

   g. Lubricating where necessary.

   h. Stop-drilling small cracks and minor patching of cowling and baffles.

6. The owner should be made aware that the annual or progressive inspection does not include correction of discrepancies or unairworthy items and that such maintenance will be additional to the inspection. Maintenance and repairs may be accomplished simultaneously with the inspection by a person authorized to perform maintenance if agreed on by the owner and holder of the IA. This method would result in an aircraft that is approved for return to service with the completion of the inspection. For those discrepancies and unairworthy items not repaired concurrently with the inspection, a written list of those items shall be made and given to the owner. Record uncorrected discrepancies and unairworthy items in the maintenance records. The owner must make arrangements for correction or deferral of items on the list of discrepancies and unairworthy items with a person authorized to perform maintenance prior to returning the aircraft to service. The holder of the IA shall

ensure that any item permitted to be inoperative by an MEL or under 14 CFR section 91.213(d)(2) is properly placarded and any maintenance for deferral has been carried out. Any deferred item must also be included on the list of discrepancies and unairworthy items. The owner should be informed that the aircraft should not be operated until the discrepancies and unairworthy items are corrected or are appropriately deferred.

7. Establish a reasonable time period to accomplish the inspection.

8. Request the owner to supply the complete aircraft records (airframe, engines, and propellers) for study, review, and entries. Point out that this is necessary to properly conduct an annual inspection.

9. Complete the inspection as soon as practicable. Often an aircraft will sit around the shops waiting for parts, etc., even though the inspection was actually finished. In these cases, it is advisable to officially report the aircraft unairworthy. (Refer to 14 CFR section 43.11(a)(5).) When the parts arrive, the repairs can be completed and the aircraft approved for return to service in the usual manner by the person who makes the repairs. The time lapse may represent several weeks, or even months, and things can deteriorate on the aircraft. Also, there is the chance that an AD involving some part of the aircraft may have been issued in the interim. In these cases, it might be unwise to complete the repairs originally intended and sign off the aircraft as " airworthy" without doing another complete inspection.

10. Complete the aircraft record entries as required by 14 CFR sections 43.9 and 43.11 and provide sufficient information for the owner to comply with 14 CFR section 91.417(a)(2)(i). Make adequate descriptions of repairs or alterations if accomplished along with the inspection.

11. Record compliance with all AD's actually accomplished. Provide sufficient information for the owner to comply with 14 CFR section 91.417(a)(2)(v). A general statement such as "All AD's complied with" is NOT an adequate entry and should be avoided. Many owners keep a separate record of AD compliance in the back of the logbook or a specially provided section. This is a good place to identify the AD's of a recurring nature and show when the next compliance is required. (Refer to appendix 1, figures 12 and 13, for typical entries.)

12. When approving repairs and alterations, the holder of an IA should be available as work progresses on major jobs. This way, affected areas and structures can be seen more readily than after completion of the entire job. In many cases, the workmanship can be inspected and improved more easily during the process of the job rather than having to redo it later.

13. Remind the owners or operators that they are responsible for operational requirements such as:

a. VOR equipment checked in accordance with 14 CFR section 91.171.

b. Altimeter and altitude reporting equipment test and inspections in accordance with 14 CFR section 91.411.

c. ATC transponder inspection in accordance with 14 CFR section 91.413. These tests and inspections are not part of the annual inspection.

SAMPLE TEST QUESTIONS AND ANSWERS

1. What ignition system is approved for a Lycoming engine model 0-540-A4A5?

A—Bendix magneto model D6LN-3031.
B—Slick magnetos models 662 and 663.
C—Bendix magnetos models S6LN-20 and S6LN-21.

Answer C—Subject Matter Code: Y70.3, Type Certificate Data Sheet No. 295, Note 8.

2. A lower horizontal stabilizer streamlined brace is to be repaired by welding. The brace size is 1 ¼ inch.

The repair should be accomplished using which of the following materials?

A—A round insert tube of the same material, one gauge thicker than the original streamlined tube and a minimum length of 5.01 inch.
B—An outside sleeve of at least the same gauge with a minimum length of 9.128 inches.
C—An inside sleeve of the same streamlined tubing as original with a maximum insert length of 6.43 inches.

Answer B—Subject Matter Code: K49, AC43.13-1A, Chapter 2, Paragraph 81, and figure 2.13.

3. Use Airworthiness Directive (AD) AD 80-10-02 to answer this question.

Known Information: Messerschmitt-Bolkow-Blohm Model BO-105 helicopter with tail rotor blade grips P/N 105-31722 installed.

While performing a progressive inspection on this helicopter, you note in the aircraft's records that the last compliance with AD 80-10-02 was at an aircraft time of 5402 hours. The records further indicate that the tail rotor blade grips were replaced at an aircraft time of 4902. What action is required at this inspection with a time of 5502?

A—Compliance is required for paragraph (c)(1)(2).
B—Compliance is required for paragraph (e).
C—Compliance is required for paragraphs (b)(d) and (e).

Answer C—Subject Matter Code: A14, AD80-10-02.

4. Where can the major items to be inspected be found that must be included in a checklist used while performing an annual inspection on a fixed-wing aircraft?

A—FAA Form 8130-10.
B—14 CFR part 43, Appendix D.
C—Advisory Circular 43.13-1A.

Answer B—Subject Matter Code K49, 14 CFR section 43.15(c) "Each person performing an annual or 100 - hour inspection shall use a checklist while performing the inspection. The check must include the scope and detail of the items contained in Appendix D to this part."

5. Airworthiness Approval Tags (FAA Form 8130-3) may be used by which maintenance entity for approving class II and III products for return to service after maintenance or alteration?

A—Inspection Authorizations.
B—14 CFR part 145, Certified Repair Stations.
C—Either A or B.

Answer B—Subject Matter Code K05, Order 8130.21A states "The work must be accomplished by a certificate holder under 14 CFR part 121 or 135, having a continuous airworthiness maintenance program or by a repair stationcertificated under part 145."

6. When installing additional equipment in an aircraft, if not otherwise specified, the ultimate load factor used in the static load test is

A—four times the weight of the equipment.
B—variable, depending on the direction of applied force.
C—the limit load factor multiplied by 1.5.

Answer C—Subject Matter Code K50, AC 43.13-2A, Chapter 1, Paragraph 3, states, "ultimate load factors are limit load factors multiplied by a 1.5 safety factor."

7. Which Federal Aviation Regulation provides for the fabrication of aircraft replacement and modification parts?

A—14 CFR part 21.303.
B—14 CFR part 23, Appendix B.
C—14 CFR part 45.21.

Answer A—Subject Matter Code A11.12, 14 CFR part 21, subpart K, section 21.303, defines who may produce modification and replacement parts for sale and those persons to which the part does not apply.

8. A proposed airframe alteration will require a section of Mil-H-8788-10 hydraulic hose to flex through 60° of travel. The system will operate at 210° centigrade and 1200 psi. What is the minimum bend radius for this installation?

A—3¼ inches.
B—5½ inches.
C—7¾ inches.

Answer B—Subject Matter Code K49, Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair, Chapter 10, Paragraph d and figure 10.5.

9. Where would you find the marking and placards required for Cessna Model 208, serial number 20800044?

A—Type Certificate Data Sheet No. A37CE.
B—Airplane Flight Manual Cessna P/N D1286-13PH.
C—Model 208 Series Maintenance Manual.

Answer B—Subject Matter Code A10.7, 14 CFR Part 23, Subpart G "Operating limitations and Information."

10. Which of the following aircraft, operating under 14 CFR part 91, could the holder of an inspection authorization approve for return-to-service after a major alteration made in accordance with technical data approved by the administrator?

A—A commuter category, multiengine, turbopeller airplane.
B—A transport category, multiengine, turbojet airplane.
C—Either A or B.

Answer C—Subject Matter Code A45, 14 CFR section 65.95(a). "The holder of a inspection authorization may inspect and approve for return to service any aircraft or related part or appliance (except any aircraft maintained in accordance with a continuous airworthiness program under 14 CFR part 121 or 127 of this chapter) after a major repair or major alteration to it in accordance with technical data approved by the Administrator;..."

SUGGESTIONS FOR STUDYING FOR THE IA TEST

1. STUDY all the regulations and technical data listed in appendix 2.

2. LEARN to use the indexes in the publications in order to find the required reference quickly.

3. MAKE SURE all the publications have the latest revision date.

4. STUDY 14 CFR PART 43, APPENDIXES A, B, AND D for detailed information regarding major repairs, major alterations, and annual inspections.

5. LEARN TO USE the graphs and tables in AC 43.13-1A, Acceptable Methods, Techniques and Practices - Aircraft Inspection and Repair; and AC 43.13-2A, Acceptable Methods, Techniques, and Practices - Aircraft Alterations.

6. PRACTICE RESEARCHING AD'S AND TYPE CERTIFICATE DATA OR SPECIFICATION SHEETS on different makes and models of aircraft, engines, and propellers.

7. PRACTICE FILLING OUT FAA FORM 337, MAJOR REPAIR AND ALTERATION (AIRFRAME, POWERPLANT, PROPELLER, OR APPLIANCE). Guidance in this area is provided in AC 43.9-1E, Instructions for Completion of FAA Form 337 (OMB No. 2120-0020), Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance).

8. PRACTICE FILLING OUT MAINTENANCE AND INSPECTION RECORD ENTRIES in accordance with 14 CFR section 43.11.

9. A NON-PROGRAMMABLE, HAND-HELD CALCULATOR is an excellent aid in solving weight and balance problems.

10. PRACTICE making changes to an aircraft weight and balance report by simulating installing or removing equipment and then computing the forward, aft, and empty weight center of gravity (CG).

APPENDIX 1

SAMPLE FORMS

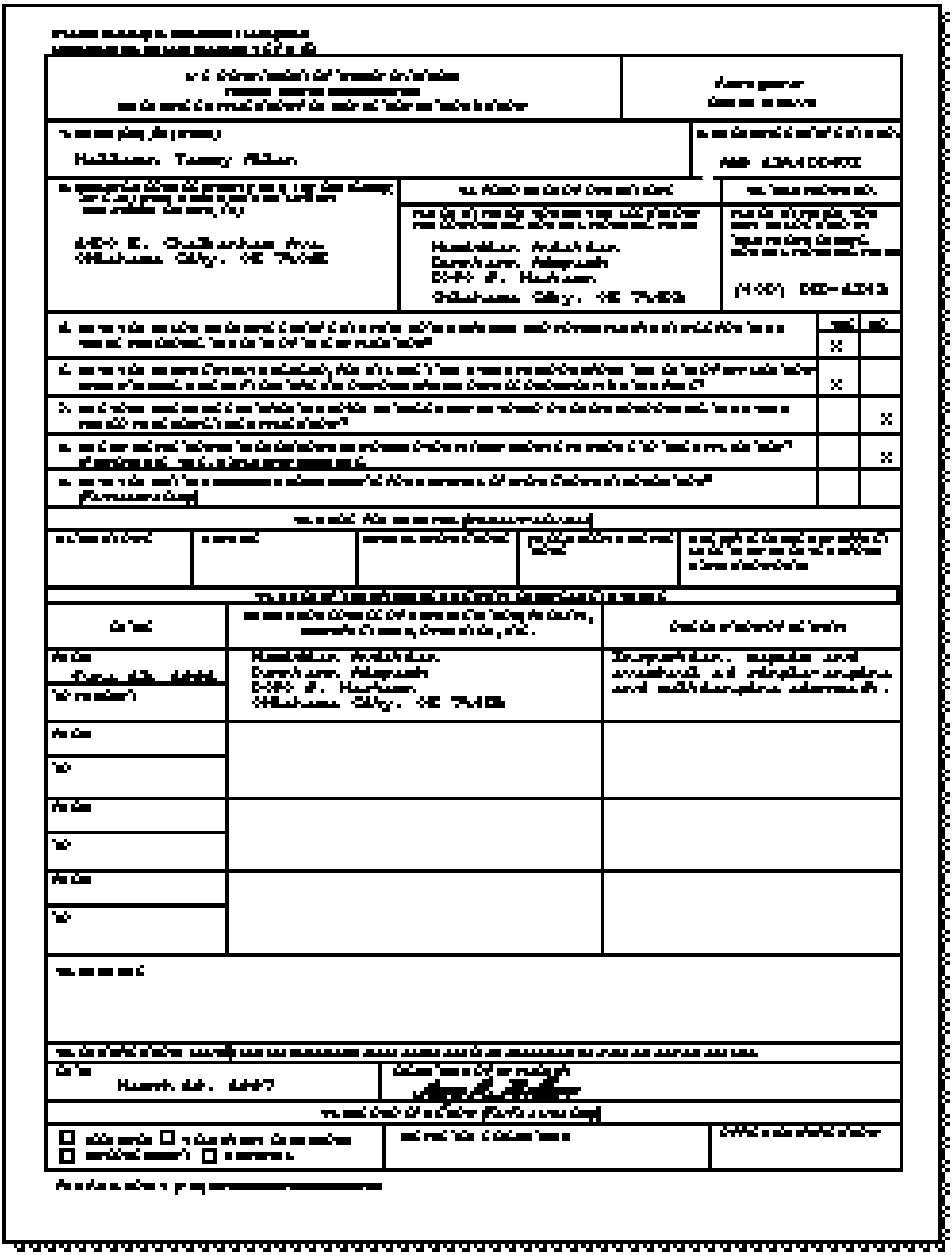
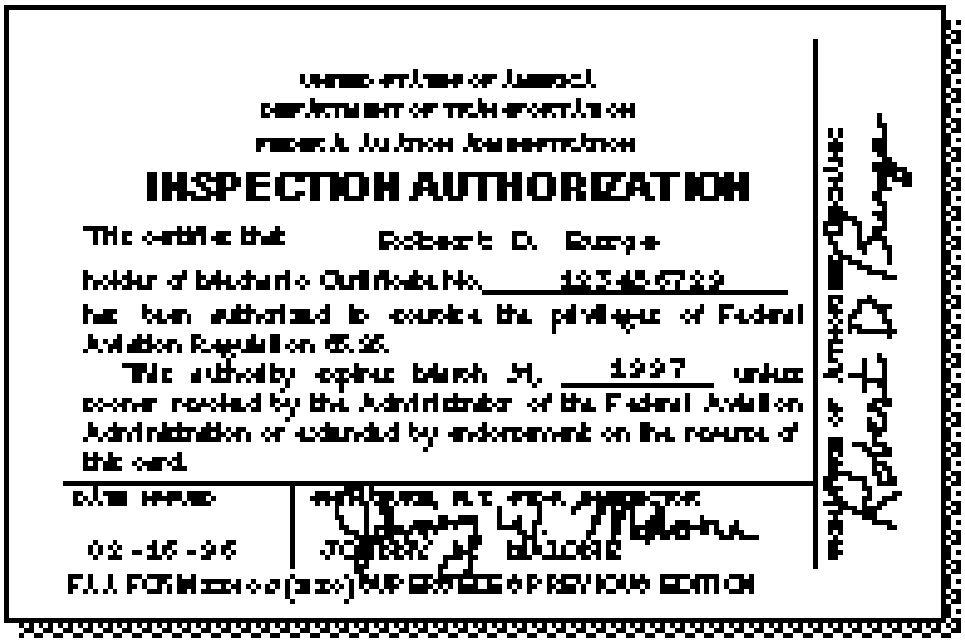


FIGURE 1. **FAA Form 8610-1, Mechanic's Application for Inspection Authorization.**



INSPECTION AUTHORIZATION

This certifies that Robert D. Murphy

holder of Mechanic's Certificate No. 123456789

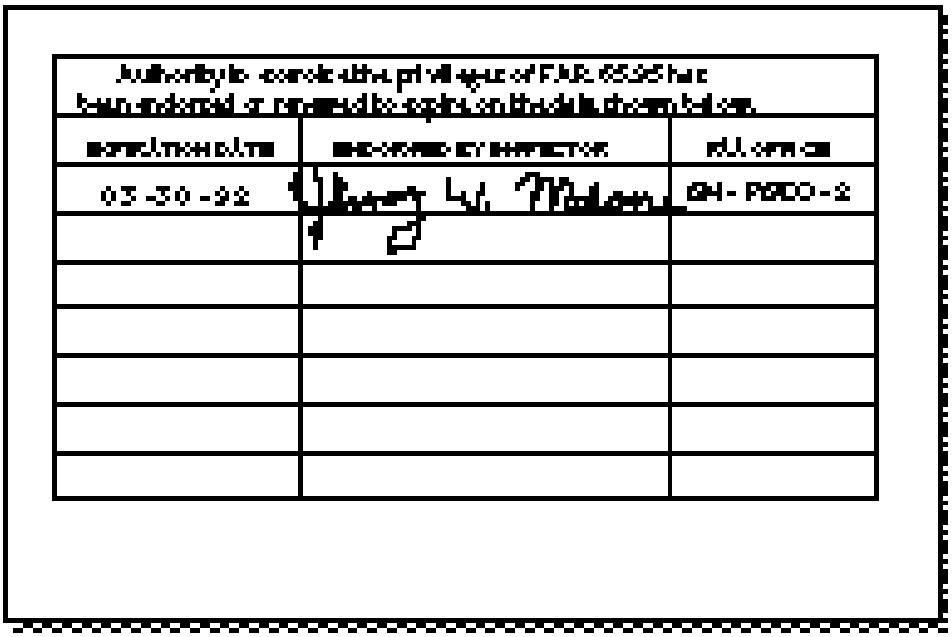
has been authorized to exercise the privileges of Federal Aviation Regulation 65.95.

This authority expires March 31, 1997 unless sooner revoked by the Administrator of the Federal Aviation Administration or extended by endorsement on the reverse of this card.

DATE ISSUED	AUTHORIZED REPRESENTATIVE OF THE ADMINISTRATOR
03-16-96	JOHNNY D. BRIDGES

F.A.A. FORM 8310-5 (10-92) SUPERSEDES PREVIOUS EDITION

Front view showing initial date of authorization.

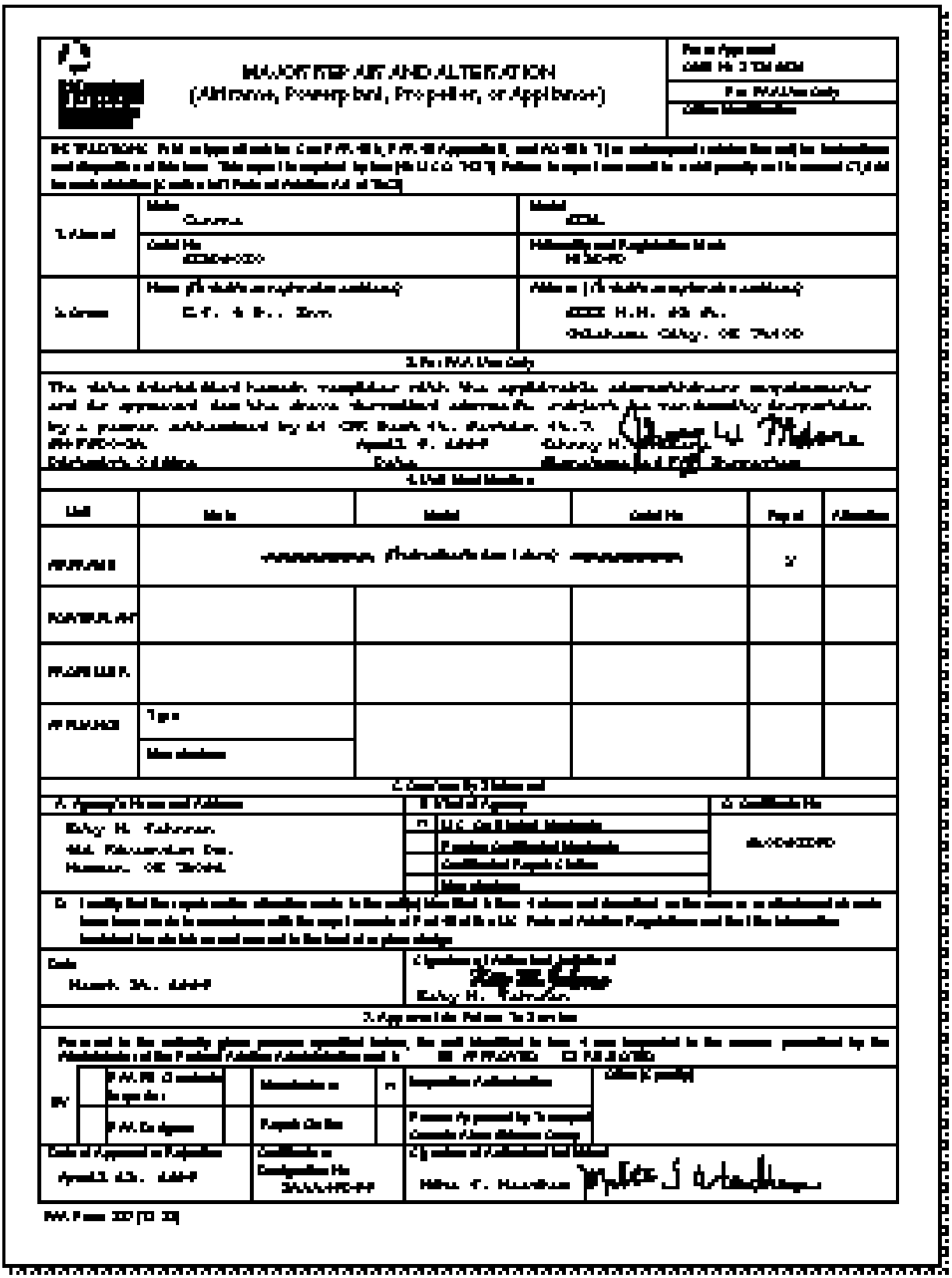


Authority to exercise the privileges of FAR 65.95 has been endorsed or renewed to expire on the date shown below.

INSPECTION DATE	SIGNATURE OF INSPECTOR	FAA OFFICE
03-30-98		GA-FSDO-2

Back view showing new expiration.

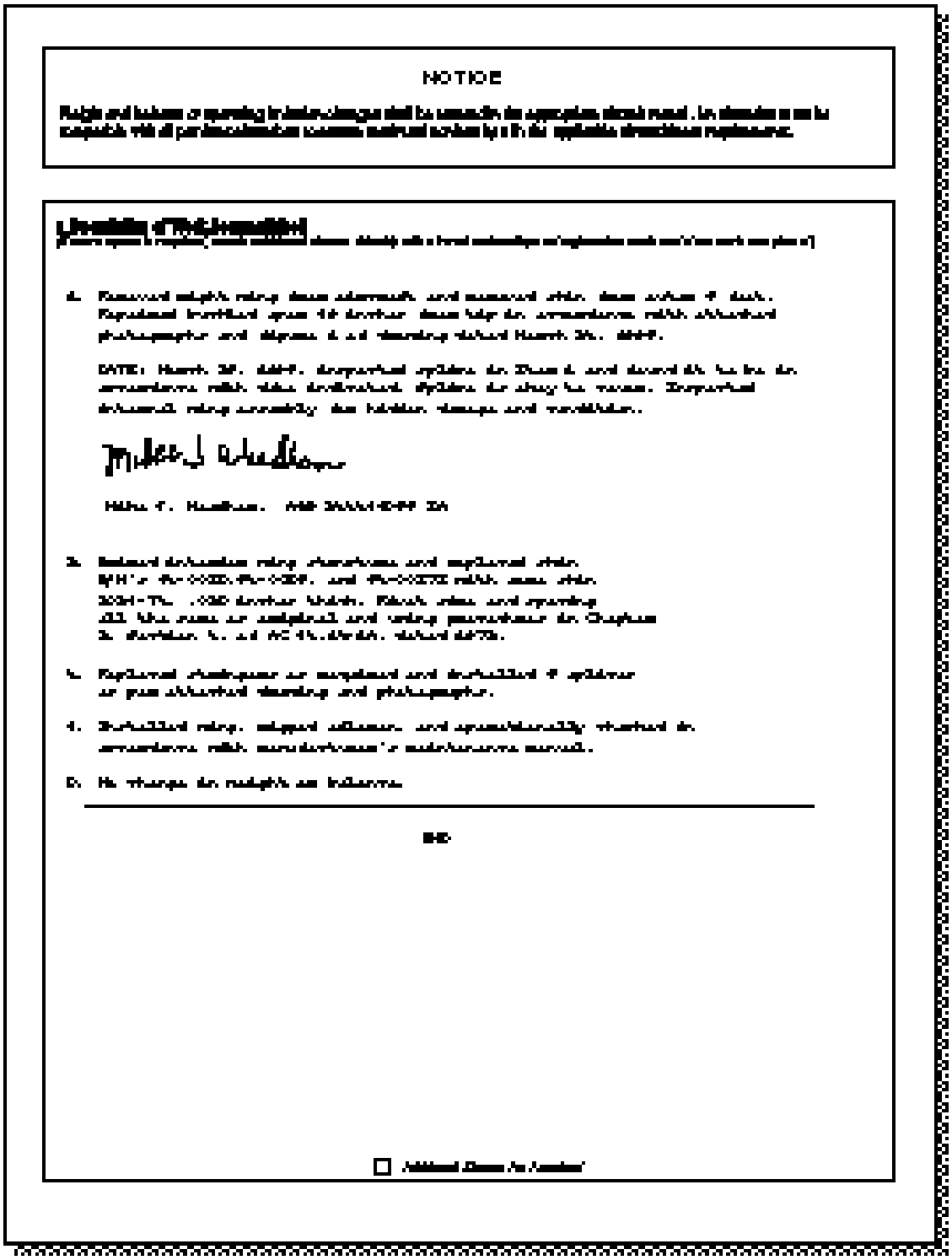
FIGURE 2. **FAA Form 8310-5, Inspection Authorization, (front and back view).**



MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

FIGURE 3. FAA Form 337, Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance), (front view).

NOTE: The FAA inspector's data approval for a major repair (block 3). Detailed instructions for the use of FAA Form 337 are in FAR Part 43, and AC 43.9-1E.



NOTICE

FIGURE 4. FAA Form 337, Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance), (back view).

NOTE: Please note the specific references in identifying FAA approved or acceptable data. Also note entry regarding inspection of the repair by the holder of an IA prior to the cover being applied and an inspection of the wing assembly for hidden damage and condition.

March 22, 1996

Total Aircraft Time 1502.0 Hours

Tach Time 972.4 Hours

I certify that this aircraft has been inspected in accordance with an annual inspection as per Air Tractor AT502 owner's manual and was determined to be in an airworthy condition.

Joseph P. Kline
A&P 123456789 IA

FIGURE **5. Example of a maintenance record entry.**

NOTE: This is an example of a record entry for an **annual inspection** determining the aircraft to be in "airworthy" condition. The date, aircraft total time, and tach or recorder reading are included. The tach or recorder readings should not be confused with the total time and should only be shown in **addition** to the total time entry. The mechanic's certificate number is suffixed by the letters "IA" indicating that the mechanic is the holder of an inspection authorization. Maintenance done in conjunction with the inspection should be entered as a separate entry.

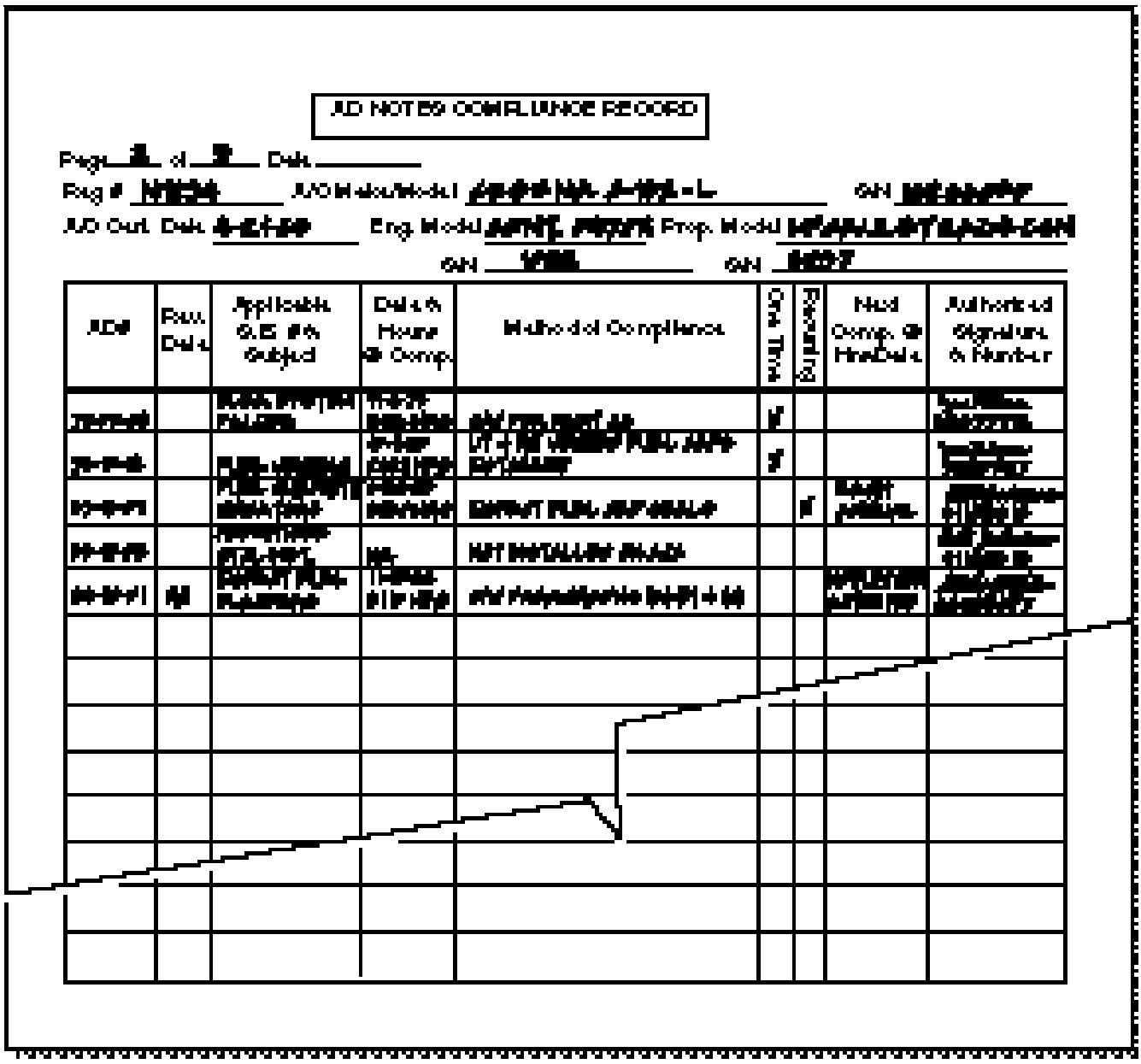


FIGURE 6. **Airworthiness Directive compliance record (suggested format).**

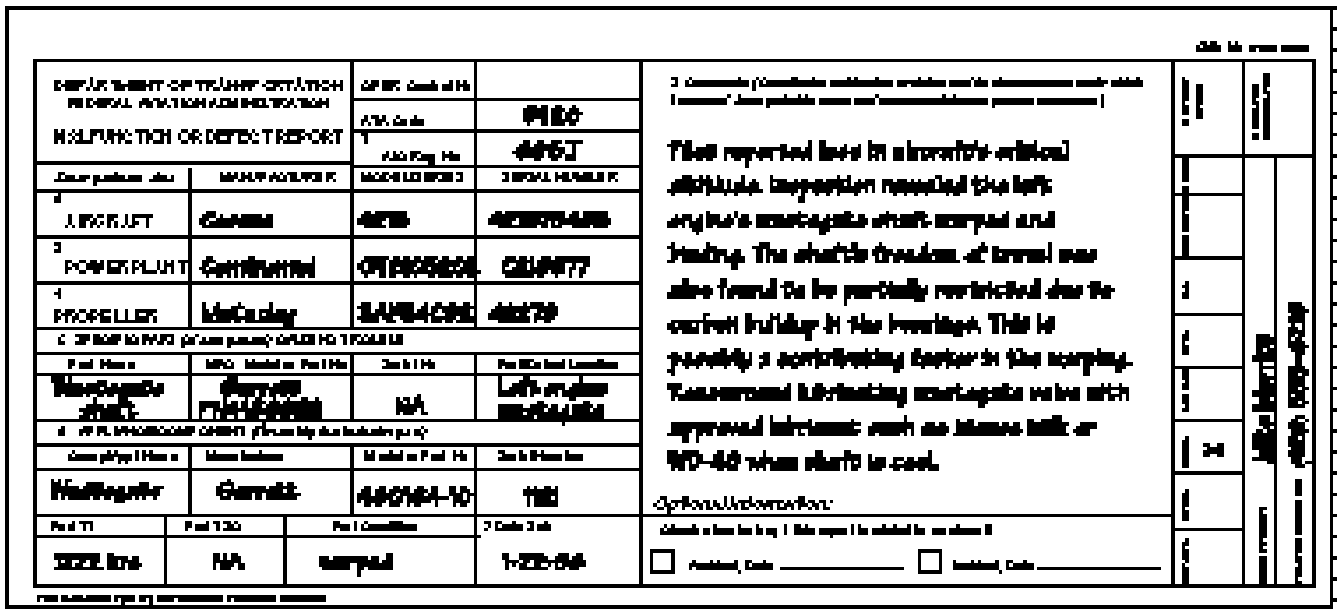


FIGURE 7. **FAA Form 8010-4, Malfunction or Defect Report, (revised 10-92).**

NOTE: This is a typical FAA Form 8010-4 (revised 10-92). The holder of an IA is urged to use this form for all malfunctions or defects that cannot be attributed to poor maintenance procedures. Provide the information requested on the form. Note that item 8 requests information concerning how the defect can be corrected.

Operating Limitations:	**Zeph-Air 63-1A N40023**
RPM	Do not exceed 2300
Oil temperature	212° max.
Airspeed limits do not exceed:	
Level flight or climb	95 MPH
Glide or dive	129 MPH
Gross weight	1,220 lbs
Empty CG	14.4″ aft of datum
Useful load	453 lb
Kinds of operation	VFR-Day
Maximum baggage:	40 lb solo front
	20 lb solo rear

FIGURE **8.** **Example of an operating limitations placard.**

NOTE: Example operating limitations placard for a typical light aircraft certificated under 14 CFR part 23.

March 30, 1996

Total Aircraft Time 1853.00 Hours

Tach Reading 975.80

I certify that this aircraft has been inspected in accordance with an annual inspection and a list of discrepancies and unairworthy items dated May 30, 1996, have been provided for the aircraft owner.

Joseph P. Kline
A&P 123456789 IA

FIGURE **9.** **Example of a record entry for an annual inspection in which the aircraft was found to be unairworthy.**

Academy Aviation
Hangar 4
North Philadelphia Airport
Philadelphia, PA 19114

Mr. Morris McCell
1450 W. Cheltenham Ave.
Philadelphia, PA 19125

Dear Mr. McCell:

This is to certify that on May 30, 1996, I completed an annual inspection on your aircraft, Condor 191B, S/N 3946, N1234, and found the following unairworthy items:

1. Compression in No. 3 cylinder read 30 over 80, which is below the manufacturer's recommended limits.

2. The muffler has a broken baffle plate which is blocking the engine exhaust outlet.

3. There is a 6-inch crack on bottom of left wing just aft of main landing gear attach point.

Joseph P. Kline
A&P 123456789 IA

FIGURE **10. Example of a discrepancy list to be provided to an aircraft owner when reporting an aircraft with unairworthy items after completing an annual inspection.**

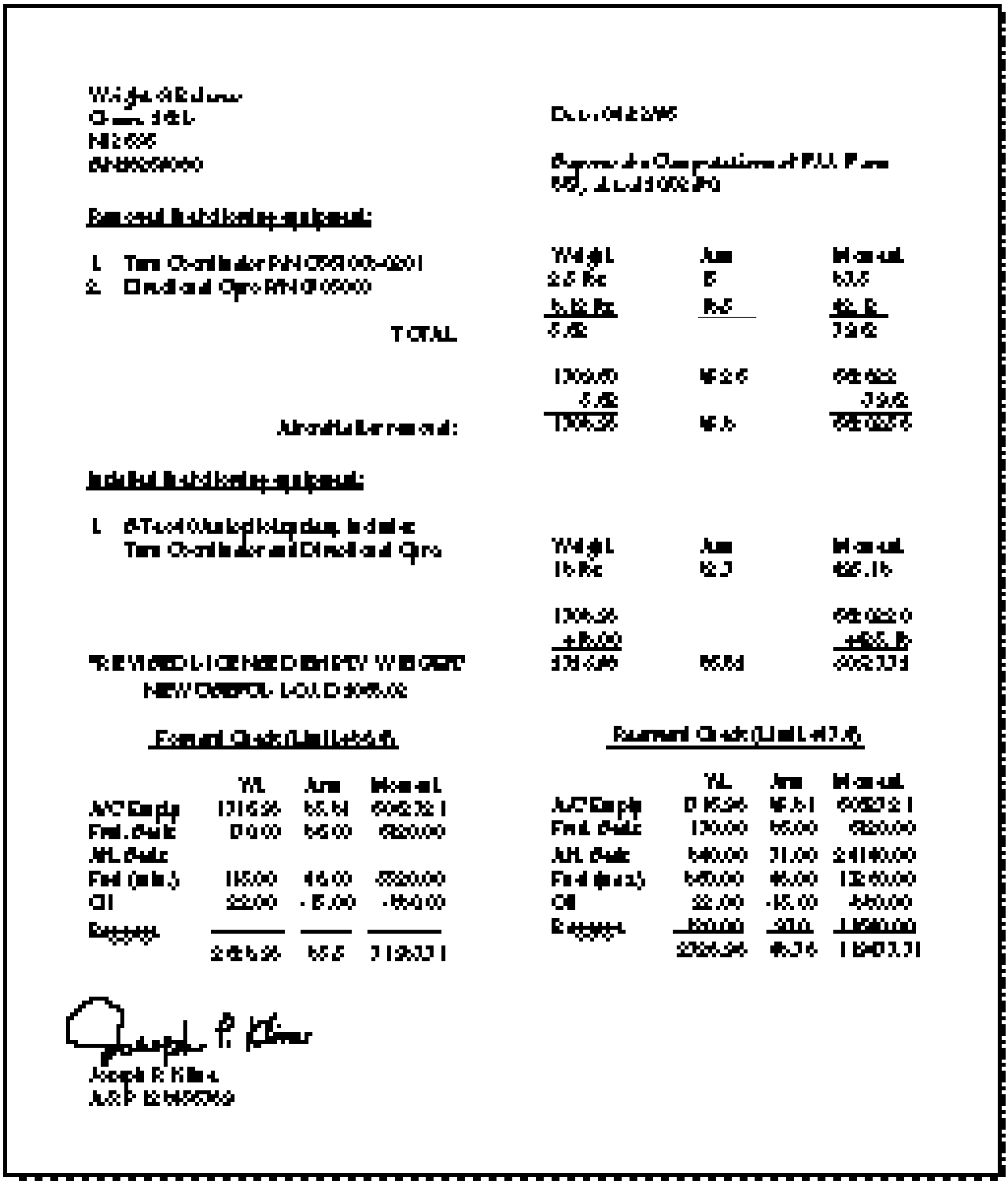


FIGURE 11. **Example of a weight and balance revision for a typical light, single-engine aircraft.**

NOTE: Computations are shown. Form is signed, dated, and identifies the computations or figures it supersedes. It is recommended that manufacturer's weight and balance data forms be used for specific aircraft.

March 30, 1996

Aircraft Total Time 1520 Hours

Complied with AD 90-06-03R1, effective date March 27, 1996. Modified the airplane by compliance with paragraph (b) of AD. Installed Cessna Service Kit SK 172-10A. No recurring action required.

Bill Quinlan
A&P 143298671

FIGURE 12. Example of a one-time Airworthiness Directive compliance entry.

April 1, 1996

Engine Total Time 720 Hours

Complied with AD 82-27-03, Roto-Masters Turbo Chargers by inspection as required by paragraph (b) through (g) of the AD. Turbine housing found satisfactory, next inspection due at 920 hours.

Joe Knight
A&P 279862423

FIGURE 13. Example of a recurrent Airworthiness Directive c ompliance entry.

APPENDIX 2

PUBLICATIONS AND TECHNICAL DATA

PUBLICATIONS AND TECHNICAL DATA

The following publications and technical data, items 1 through 5, shall be available when applying for or holding an Inspection Authorization.

1. AC 00-44, STATUS OF FEDERAL AVIATION REGULATIONS (FAR).

Information concerning changes to Parts of Title 14 of the Code of Federal Regulations will be listed in AC 00-44, Status of Federal Aviation Regulations.

Parts of Title 14 of the Code of Federal Regulations, which are most frequently amended, are sold on subscription-service basis (subscribers receive changes automatically as issued.) The less active parts are sold on a single-sale basis.

Changes to single-sale parts will be sold separately as issued. Refer to paragraph 6 of this appendix for information on how to order.

2. TITLE 14 OF THE CODE OF FEDERAL REGULATIONS (CFR).

CFR PART NUMBER	TITLE
1	Definitions and Abbreviations
21	Certification Procedures for Products and Parts
23	Airworthiness Standards: Normal, Utility, Acrobatic, and Commuter Category Airplanes
27	Airworthiness Standards: Normal Category Rotorcraft
33	Airworthiness Standards: Aircraft Engines
35	Airworthiness Standards: Propellers
39	Airworthiness Directives
43	Maintenance, Preventive Maintenance, Rebuilding, and Alterations
45	Identification and Registration Markings
47	Aircraft Registration
65	Certification: Airmen Other Than Flight Crewmembers
91	General Operating and Flight Rules
135	Air Taxi Operators and Commercial Operators
183	Representatives of the Administrator

3. AIRCRAFT TYPE CERTIFICATE DATA SHEETS AND SPECIFICATIONS.

NOTE: If purchasing the Aircraft Type Certificate Data Sheets and Specifications from the FAA, it is suggested that at least 8 weeks be allowed for delivery.

a. Aircraft Type Certificate Data Sheets and Specifications are separated into six volumes. Only five of the six volumes are required for the Inspection Authorization. The volume numbers, titles, and contents of the following volumes are required:

(1) Volume 1 (Single-Engine Airplanes) contains material for all single-engine, fixed-wing airplanes regardless of maximum certificated takeoff weight.

(2) Volume II (Small Multiengine Airplanes) contains material for multiengine, fixed-wing airplanes of 12,500 pounds or less maximum certificated takeoff weight.

(3) Volume IV (Rotorcraft, Gliders, Balloons, and Airships) contains material for all rotorcraft, gliders, manned balloons, and airships.

(4) Volume V (Aircraft Engines and Propellers) contains material for engines and propellers of all types and models.

(5) Volume VI (Aircraft Listing and Aircraft Engine and Propeller Listing) contains information pertaining to older aircraft, engines, and propellers which is not subject to frequent revision.

b. Volumes I through V are sold by the FAA on a subscription-basis in both paper and microfiche editions.

(1) Subscription service includes for the paper copy edition, the basic volume and monthly supplements for a 2-year period.

(2) Paper copies of Volume VI are sold on a single-sale basis, and are included in the microfiche edition. There are infrequent changes to this material.

(3) Microfiche edition is sold by subscription only. All six volumes are consolidated into one file that is prepared in January of each year. Subscription service includes the basic volumes and monthly supplements for 1 year from January through December.

(4) To determine the current cost of Type Certificate Data Sheets and Specifications and for additional information on ordering, refer to AC 21-15J, (or most current revision) Announcement of Availability: Aircraft, Aircraft Engines, and Propeller Type Certificate Data Sheets and Specifications.

4. SUMMARY OF AIRWORTHINESSDIRECTIVES FOR SMALL AIRCRAFT AND ROTORCRAFT (AD'S).

NOTE: If purchasing the Summary of Airworthiness Directives from the FAA, it is suggested that at least 8 weeks be allowed for delivery.

a. The airworthiness directives for small aircraft and rotorcraft are presented in three books containing all the airworthiness directives for aircraft of 12,500 pounds or less maximum certificated takeoff weight, and all rotorcraft, regardless of weight. Also included in the three books are the airworthiness directives applicable to engines, propellers, and all appliances.

b. The Summary of Airworthiness Directives is available in paper copy, microfiche, CD-ROM, and new AD's are available free on FedWorld via modem or through the Internet.

c. To determine the current cost of the Summary of Airworthiness Directives and for additional information on ordering, refer to AC 39-6P, (or most current revision) Announcement of Availability: Summary of Airworthiness Directives.

5. ADVISORY CIRCULARS.

AC 00-44, Status of Federal Aviation Regulations. (FREE)

AC 43-11, Reciprocating Engine Overhaul Terminology and Standards. (FREE)

AC 43.13-1A, Acceptable Methods, Techniques and Practices - Aircraft Inspection and Repair. (FOR SALE)

AC 43.13-2A, Acceptable Methods, Techniques, and Practices - Aircraft Alterations. (FOR SALE)

AC 39-7B, Airworthiness Directives. (FREE)

AC 43-9B, Maintenance Records. (FREE)

AC 43.9-1E, Instructions for Completion of FAA Form 337 (OMB No. 2120-0020), Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance). (FREE)

AC 65-19G, Inspection Authorization Knowledge Test Guide. (FOR SALE)

AC 91-67, Minimum Equipment Requirements for General Aviation Operations Under FAR Part 91. (FREE)

6. HOW TO ORDER PUBLICATIONS.

Refer to AC 00-2, Advisory Circular Checklist, for ordering instructions for both free and sale advisory circulars (AC's). AC 00-2 also gives stock numbers and prices for AC's sold by the Superintendent of Documents. A copy of AC 00-2 may be referred to in Flight Standards District Offices or a free copy may be ordered. To obtain free advisory circulars or to be placed on the mailing list to obtain future free advisory circulars, send your request to:

U.S. Department of Transportation
Subscription Distribution Office (SVC-121.23)
Ardmore East Business Center
3341 Q 75th Avenue
Landover, MD 20785

FAX (301) 386-5394
DOT publications help line (301) 322-4961

When requesting to be placed on the mailing list, the request must specify the subject matter areas in which you are interested as listed in appendix 6 of AC 00-2.

APPENDIX 3

LIST OF REFERENCE MATERIALS AND SUBJECT MATTER KNOWLEDGE CODES

LIST OF REFERENCE MATERIALS AND SUBJECT MATTER KNOWLEDGE CODES

The publications listed in the following pages contain study material you need to be familiar with when preparing for Inspection Authorization Knowledge Tests. All of these publications can be purchased through U.S. Government bookstores, commercial aviation supply houses, or industry organizations. The latest revision of the listed references should be requested. Additional study material is also available through these sources that may be helpful in preparing for knowledge tests.

The subject matter knowledge codes establish the specific reference for the knowledge standard. When reviewing results of your knowledge test, you should compare the subject matter knowledge code(s) on your airman test report to the ones found below.

Title 14, Code of Federal Regulations (14 CFR PART 1)—Definitions and Abbreviations

A01 General Definitions
A02 Abbreviations and Symbols

14 CFR PART 23—Airworthiness Standards: Normal, Utility, and Acrobatic Category Aircraft

A10 General
A10.1 Flight
A10.5 Equipment
A10.7 Operating Limitations and Information

14 CFR PART 21—Certification Procedures for Products and Parts

A11 General
A11.8 Airworthiness Certificates
A11.12 Export Airworthiness Approvals

14 CFR PART 39—Airworthiness Directives

A13 General
A14 Airworthiness Directives

14 CFR PART 43—Maintenance, Preventive Maintenance, Rebuilding, and Alteration

A15 General
A16 Appendixes

14 CFR PART 45—Identification and Registration Marking

A17 General
A17.1 Identification of Aircraft and Related Products
A17.2 Nationality and Registration Marks

14 CFR PART 65—Certification: Airmen Other Tha n Flight Crewmembers

A40 General
A45 Mechanics
A46 Repairmen

14 CFR PART 91—General Operating and Flight Rules

B07 General
B08 Flight Rules - General
B09 Visual Flight Rules
B10 Instrument Flight Rules
B11 Equipment, Instrument, and Certificate Requirements
B12 Special Flight Operations
B13 Maintenance, Preventive Maintenance, and Alterations
B14 Large and Turbine-powered Multiengine Airplanes
B15 Additional Equipment and Operating Requirements for Large and Transport Category Aircraft
B16 Appendix A - Category II Operations: Manual, Instruments, Equipment, and Maintenance
B17 Foreign Aircraft Operations and Operations of U.S.-Registered Civil Aircraft Outside of the U.S.

14 CFR PART 125—Certification and Operations: Airplanes Having a Seating Capacity of 20 or More Passengers or a Maximum Payload Capacity of 6,000 Pounds or More

D30 General
D31 Certification Rules and Miscellaneous Requirements
D32 Manual Requirements
D33 Airplane Requirements
D34 Special Airworthiness Requirements
D35 Instrument and Equipment Requirements
D36 Maintenance
D37 Airman and Crewmember Requirements
D38 Flight Crewmember Requirements
D39 Flight Operations
D40 Flight Release Rules
D41 Records and Reports

14 CFR PART 135—Air Taxi Operators and Commercial Operators

E01 General
E02 Flight Operations
E03 Aircraft and Equipment
E04 VFR/IFR Operating Limitations and Weather Requirements
E05 Flight Crewmember Requirements
E06 Flight Crewmember Flight Time Limitations and Rest Requirements
E07 Crewmember Testing Requirements
E08 Training
E09 Airplane Performance Operating Limitations
E10 Maintenance, Preventive Maintenance, and Alterations
E11 Appendix A: Additional Airworthiness Standards for 10 or More Passenger Airplanes
E12 Special Federal Aviation Regulations SFAR No. 36
E13 Special Federal Aviation Regulations SFAR No. 38

14 CFR PART 183—Representatives of the Administrator

E20 General
E20.1 Certification of Representatives
E20.2 Kinds of Designations: Privileges

AC 91-23—Pilot's Weight and Balance Handbook

H10 Weight and Balance Control
H11 Terms and Definitions
H12 Empty Weight Center of Gravity
H13 Index and Graphic Limits
H14 Change of Weight
H15 Control of Loading — General Aviation
H16 Control of Loading — Large Aircraft

ADDITIONAL ADVISORY CIRCULARS

K03 AC 00-34, Aircraft Ground Handling and Servicing
K05 AC 00-55, Announcement of Availability: FAA Order 8130.21A
K12 AC 20-32, Carbon Monoxide (CO) Contamination in Aircraft — Detection and Prevention
K13 AC 20-43, Aircraft Fuel Control
K20 AC 20-103, Aircraft Engine Crankshaft Failure
K45 AC 39-7, Airworthiness Directives
K46 AC 43-9, Maintenance Records
K47 AC 43.9-1, Instructions for Completion of FAA Form 337
K48 AC 43-11, Reciprocating Engine Overhaul Terminology and Standards
K49 AC 43.13-1, Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair
K50 AC 43.13-2, Acceptable Methods, Techniques, and Practices - Aircraft Alterations
L25 AC 65-19, Inspection Authorization Knowledge Test Guide
L70 AC 91-67, Minimum Equipment Requirements for General Aviation Operations Under FAR Part 91
M02 AC 120-27, Aircraft Weight and Balance Control
M52 AC 00-2, Advisory Circular Checklist

Technical Standard Orders

Y60 TSO-C23b, Parachute
Y61 TSO-C23c, Personnel Parachute Assemblies
Y62 TSO-C23d, Personnel Parachute Assemblies

Type Certificate Data Sheets and Specifications

Y70 Type Certificate Data Sheets and Specifications Alphabetical Index and Users Guide
Y70.1 Type Certificate Data Sheet No. 2A13 Piper
Y70.2 Type Certificate Data Sheet No. 3A19 Cessna
Y70.3 Type Certificate Data Sheet No. E-295 Lycoming
Y70.4 Type Certificate Data Sheet No. A7CE Cessna
Y70.5 Type Certificate Data Sheet No. 3A13 Cessna
Y70.6 Type Certificate Data Sheet No. A7S0 Piper
Y70.7 Type Certificate Data Sheet No. A11EA Gulfstream American
Y70.8 Type Certificate Data Sheet No. E-273 Continental
Y70.9 Aircraft Specification No. 1A6 Piper

NOTE: AC 00-2, Advisory Circular Checklist, transmits the status of all FAA advisory circulars (AC's), as well as FAA internal publications and miscellaneous flight information such as Aeronautical Information Manual, Airport/Facility Directory, knowledge test guides, practical test standards, and other material directly related to a certificate or rating. To obtain a free copy of AC 00-2, send your request to:

U.S. Department of Transportation
Subsequent Distribution Office
SVC-121.23
Ardmore East Business Center
3341 Q 75th Avenue
Landover, MD 20785