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AC 145-3

DATE 2/13/81

ADVISORY CIRCULAR

GUIDE FOR DEVELOPING AND EVALUATING REPAIR STATION

INSPECTION PROCEDURES MANUALS

140-57



DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Washington, D.C.

DATE 2/13/81

ADVISORY CIRCULAR



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Washington, D.C.

Subject: GUIDE FOR DEVELOPING AND EVALUATING REPAIR STATION
INSPECTION PROCEDURES MANUALS

1. PURPOSE. This advisory circular (AC) provides information for developing and evaluating a repair station inspection procedures manual. This information sets forth an acceptable means, but not the only means, of complying with referenced regulations.
2. RELATED FEDERAL AVIATION REGULATIONS (FAR). FAR Parts 43, 91, 121, 125, 127, 135 and 145.
3. BACKGROUND. The development of a repair station inspection procedures manual that adequately covers all pertinent FAR and the repair station's inspection system has proven to be a time-consuming task for the operator and the Federal Aviation Administration. This guide was developed to reduce that time and to provide a standardized format that may be used to develop a manual that contains a repair station's inspection procedures.
4. DISCUSSION. This document is intended for use as a guide for the development and evaluation of the repair station's inspection procedures manual required by FAR Section 145.11(a)(2) and Section 145.45(f).

d. This guide is not intended to provide a complete sample inspection procedures manual for all repair stations. "Examples" in Appendix 1 are intended to illustrate a requirement related to the FAR. Each inspection procedures manual should be developed within the ratings authorized and the size and complexity of the station. It is important to note that the inspection procedures in the manual are necessary for a satisfactory quality control system, and those procedures should be designed for use by the repair station to satisfactorily perform under its rating(s). In that regard, a repair station with a Limited Specialized Service Rating for Nondestructive Testing would have a different inspection system criteria than a repair station with a Class 3 Airframe Rating. Material is included in portions of this document which may not directly relate to or be required by a referenced

FAR. However, that material is considered to be valuable as a part of a system for repair station management and illustrates integration of the required inspection procedures and other FAR Part 145 requirements into such a system.


b. A complete inspection procedures manual should at least:

- (1) Satisfy the minimum requirements of the FAR.
- (2) Accurately describe the repair station operations as related to its ratings.

c. The repair station manual content requirements are outlined in FAR Section 145.45(f) and Section 145.51(d)(3). The following is a brief outline of those manual requirements:

- (1) Detailed explanation of the repair station's inspection system.
- (2) Details for the continuity of inspection responsibility.
- (3) Detailed system of inspecting incoming material.
- (4) Detailed system of preliminary inspection.
- (5) Detailed system for hidden damage inspection.
- (6) Reference to manufacturer's inspection standards for a particular article when applicable or necessary.
- (7) Sample of inspection forms and the method of their execution or reference to a document in the forms manual.
- (8) Methods and procedures for training inspection personnel.
- (9) Approved procedures governing work performed outside the repair station.
- (10) Procedures for acceptance of work performed by other facilities.
- (11) If applicable, procedures for work performed for air carriers (FAR Section 145.2).

d. An air carrier with an FAA approved repair station rating(s) may make its repair station's inspection procedures manual a part of its air carrier manual provided all of the manual requirements of FAR Part 145 are satisfied.


Joseph A. Pontecorvo
Acting Director of Airworthiness

2/13/81

AC 145-3
Appendix 1

APPENDIX 1. GUIDE FOR DEVELOPING AND EVALUATING REPAIR STATION INSPECTION
PROCEDURES MANUALS

FIGURE 1. MANUAL COVER PAGE

Reference: FAR Section 145.11(a)(2). This page should identify the
manual as an "Inspection Procedures Manual."

INSPECTION PROCEDURES MANUAL

FOR

FAA APPROVED REPAIR STATION NO. _____ (Insert repair station #)

d/b/a

(NAME OF COMPANY)

(ADDRESS)

(STREET, CITY, STATE AND ZIP CODE)

MANUAL: CONTROL NO. _____

ASSIGNMENT: _____

FIGURE 2. TABLE OF CONTENTS

| <u>(NAME OF COMPANY)</u> <u>REPAIR STATION - INSPECTION PROCEDURES MANUAL</u> <u>TABLE OF CONTENTS-PAGE 1 OF 3</u> | | <u>Page No.</u> |
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| Maintenance Manager | | 5-6 |
| Avionics Manager | | 7-8 |
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| APPROVED: <u>R. M. Bras</u> | | |
| General Manager | | |

FIGURE 2. TABLE OF CONTENTS (CONTINUED)

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURE MANUAL

TABLE OF CONTENTS - PAGE 2 OF 3

SECTION V INSPECTION SYSTEM (CONTINUED)

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|---|----------|
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| Continuity of Inspection Responsibility | 3 |
| Parts Receiving Policy | 4 |
| General Test Requirements | 4-5 |
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| Preliminary Inspection | 8 |
| Inspection for Hidden Damage | 9 |
| Progressive Inspection | 10 |
| Major Repair And Alteration, Aircraft And Components | 10 |
| Repair, Alteration and Overhaul Accessories and Appliances | 10 |
| Inspection Procedures | 11 |
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| Tagging and Identification of Parts | 13-14 |
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APPROVED: J. M. Bess
 General Manager

2/13/81

FIGURE 2. TABLE OF CONTENTS (CONTINUED)

| <u>(NAME OF COMPANY)</u> | |
|--|----------|
| <u>REPAIR STATION - INSPECTION PROCEDURE MANUAL</u> | |
| <u>TABLE OF CONTENTS PAGE 3 OF 3</u> | |
| SECTION V INSPECTION SYSTEM (CONTINUED) | |
| | Page No. |
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| Maintenance Release Statement For Air Carrier Work | 21A |
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| List of Subcontracted Maintenance | 23 |
| Performance of Maintenance, Preventive Maintenance, Alterations and Required Inspection Under the Continuous Airworthiness Requirements of FAR Parts 121, 125, 127, and 135 | 24 |
| Required Inspection Items (RII) | 24 |
| Performance of Work at a Location Other Than The Repair Station | 25 |
| SECTION VI FORMS | |
| List as Required for Repair Station Operation | |
| APPROVED: <i>J. M. Brac</i> General Manager | |

FIGURE 3. INTRODUCTION PAGE

Reference: FAR Section 145.11(a)(2) and Section 145.45(f). This page should reflect the company's philosophy and an explanation of the manual.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Title: Introduction
Page No: i
Issue Date: 7/1/78

This inspection procedures manual has been prepared in accordance with the current Federal Aviation Regulations (FAR) and the policies of (insert name of company).

This manual explains the internal inspection system in detail, including the continuity of inspection responsibility. It gives samples of inspection forms used and their method of execution. The manual gives a detailed explanation of the following portions of the inspection system: incoming materials, preliminary inspection, hidden damage, inspection continuity and final inspection of the article being maintained or altered at this facility.

The general repair, overhaul or alteration of products will be performed in accordance with the current Federal Aviation Regulations, manufacturer's data, drawings, specifications and bulletins, or other technical data approved by the Administrator for the particular (insert appropriate rating(s) or limited rating(s) airframe, engine, propeller or appliance). Limited rating specialized service for (insert appropriate rating) will be performed in accordance with the procedures outlined in the (insert name of company) Process Specification (insert number) approved by the Federal Aviation Administration (FAA) dated (insert date approved by FAA).

This repair station will not maintain or alter any item for which it is not rated, and will not maintain or alter any article for which it is rated if it requires technical data, equipment, materials, facilities or trained personnel that are not available. (FAR 145.53).

The technical library and this inspection procedures manual, required for operation of this repair station, will be maintained in a current status at all times.

Each supervisor and inspector working for this repair station will have a current copy of this manual and should thoroughly understand its contents. It will also be available to other repair station personnel.

Note: (If applicable) include the following: The performance of any maintenance, preventive maintenance, alteration or required inspections for an air carrier or commercial operator having a continuous airworthiness program under FAR Part 121, 125, 127, or 135, will be performed in accordance with the requirements of FAR Part 145, Section 145.2

APPROVED: J. M. Boes
General Manager

2/13/81

FIGURE 4. MANUAL CONTROL PAGE

Reference: FAR Section 145.45(f). This page should explain how the manual is to be maintained and kept current.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Title: Manual Control
Page No: 11
Issue Date 7/1/78

Each manual will have a control number and an assignment entry on the manual cover page. A master list containing the manual number, location and revision status will be kept in the general manager's office.

The general manager will obtain from the chief inspector and each shop supervisor once each month a manual status report. This report will either confirm that the manual is still current and valid for that department's use, or will identify needed changes.

A follow-up file will be maintained in the general manager's office showing, on a continuous basis, the disposition of each needed change which is identified.

The general manager will have those revisions he finds necessary produced in a final form for coordination with the FAA General Aviation District Office at (insert location). Each page of the manual and revision thereto will be approved by the general manager. Upon acceptance by FAA, sufficient copies will be made and distributed to provide revision pages for each manual holder.

Upon receipt of a revision, each manual holder will be responsible for inserting the revised pages in its manual, record the revision on the manual's record of revision page and return the acknowledgment form (provided with the revision) to the general manager showing the holder has revised its manual.

A list of effective pages will be issued with each revision so each manual can be checked and kept current.

APPROVED: J. M. Arco
General Manager

FIGURE 5. RECORD OF REVISION PAGE

Reference: FAR Section 145.45(f). This page should contain a record of all revisions.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Title: Record Of Revision
Page No: iii
Issue Date: 7/1/78

Manual No. _____ Manual Holder _____

Retain this record in the manual. Upon receipt of revisions, insert revised pages in the manual and enter the revision number, revision date, insertion date and initials of person incorporating the revision, in the appropriate block on the record of revisions. Return acknowledgment form to general manager. All personnel are expected to suggest revision requirements, when the need is apparent, to the general manager.

| Rev. No. | Rev. Date | Insertion Date | By |
|----------------|--------------|-------------------|-----|
| Original Issue | 7/1/78 | 7/1/78 | HDQ |
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APPROVED: J. M. Boas
General Manager

2/13/81

FIGURE 6. LIST OF EFFECTIVE PAGES

Reference: FAR Section 145.45(f). This page should list each page in the manual and show the current effective date of that page. A new list of effective pages would be required with each revision in order to provide a means for the manual holder to check that its manual is current.

| (NAME OF COMPANY) | | | | | | | | |
|---|--|--------|---------|---|------|---------|----------|------|
| REPAIR STATION - INSPECTION PROCEDURES MANUAL | | | | | | | | |
| Revision No: _____ | | | | Title: List of Effective Pages Page No: iv Issue Date: 7/1/78 | | | | |
| Section | Page No. | Date | Section | Page No. | Date | Section | Page No. | Date |
| Table of Contents | 1 Thru 3 | 7/1/78 | | | | | | |
| Introduction | 1 | 7/1/78 | | | | | | |
| Manual Control | 11 | 7/1/78 | | | | | | |
| Record of Revisions | 111 | 7/1/78 | | | | | | |
| List of Effective Pages | iv | 7/1/78 | | | | | | |
| I | 1 Thru 2 | 7/1/78 | | | | | | |
| II | 1 Thru 3 | 7/1/78 | | | | | | |
| III | 1 Thru 2 | 7/1/78 | | | | | | |
| IV | 1 Thru 9 | 7/1/78 | | | | | | |
| V | 1 Thru 25 | 7/1/78 | | | | | | |
| VI | List as necessary for repair station operation | | | | | | | |

APPROVED: *J. M. Bono*
General Manager

2/13/81

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Appendix 1

FIGURE 7. SECTION I - HOUSING AND FACILITIES COVER PAGE

NOTE: This information is not required by FAR to be included in the manual. If inclusion is desirable examples are provided.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

SECTION I
HOUSING AND FACILITIES

2/13/81

FIGURE 8. HOUSING AND FACILITIES DESCRIPTION PAGE.

Reference: FAR Section 145.35(a) through (h) and FAR Section 145.37(a) through (f). This page should contain a description of the type of buildings, facilities and type of construction. Include type of floors, heating, lighting, natural light, electrical and compressed air outlets. Other special requirements applicable to spray painting, airframe or engine ratings, instrument, radio and propeller ratings, should be covered on this page. Total area (in square feet) should be given.

NOTE: (Ref. FAR Section 145.21). Any changes to the location or in its housing and facility must be approved in writing by the local Flight Standards District Office.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: I
Page No: 1
Title: Housing and Facilities
Issue Date: 7/1/78

The (insert name of company) FAA Certificated Repair Station No. (insert) is completely housed in an all steel semicantilever two bay hangar with attached offices, stockroom, and shops with the following:

69,000 Square feet of hangar floor space
1,183 Square feet of office space
2,662 Square feet of stockroom floor space
2,581 Square feet of shop space

All floors are constructed of reinforced concrete with asphalt tile overlay in the offices and shops.

All office and shop spaces are lighted with fluorescent light fixtures. All hangar bays are lighted with approximately 50 explosion proof 750 watt lamp assemblies. 220 Volt-30 amp and 110 Volt-20 amp circuits are available in hangar and shop areas.

Hangar has four doors, each 50' wide, two to each of the hangar's two bays. The doors, when open have all overhead clearance of 38'6" and leave a 100' opening the full length of each hangar bay. Doors can be operated manually or electrically.

Traveling hoists are located on the beams of the hangar, servicing the entire floor space. The entire hangar, offices, stockroom and shops are protected with a fire alarm and sprinkler system. The ramp in front of the hangar is concrete and is lighted by floodlights at night.

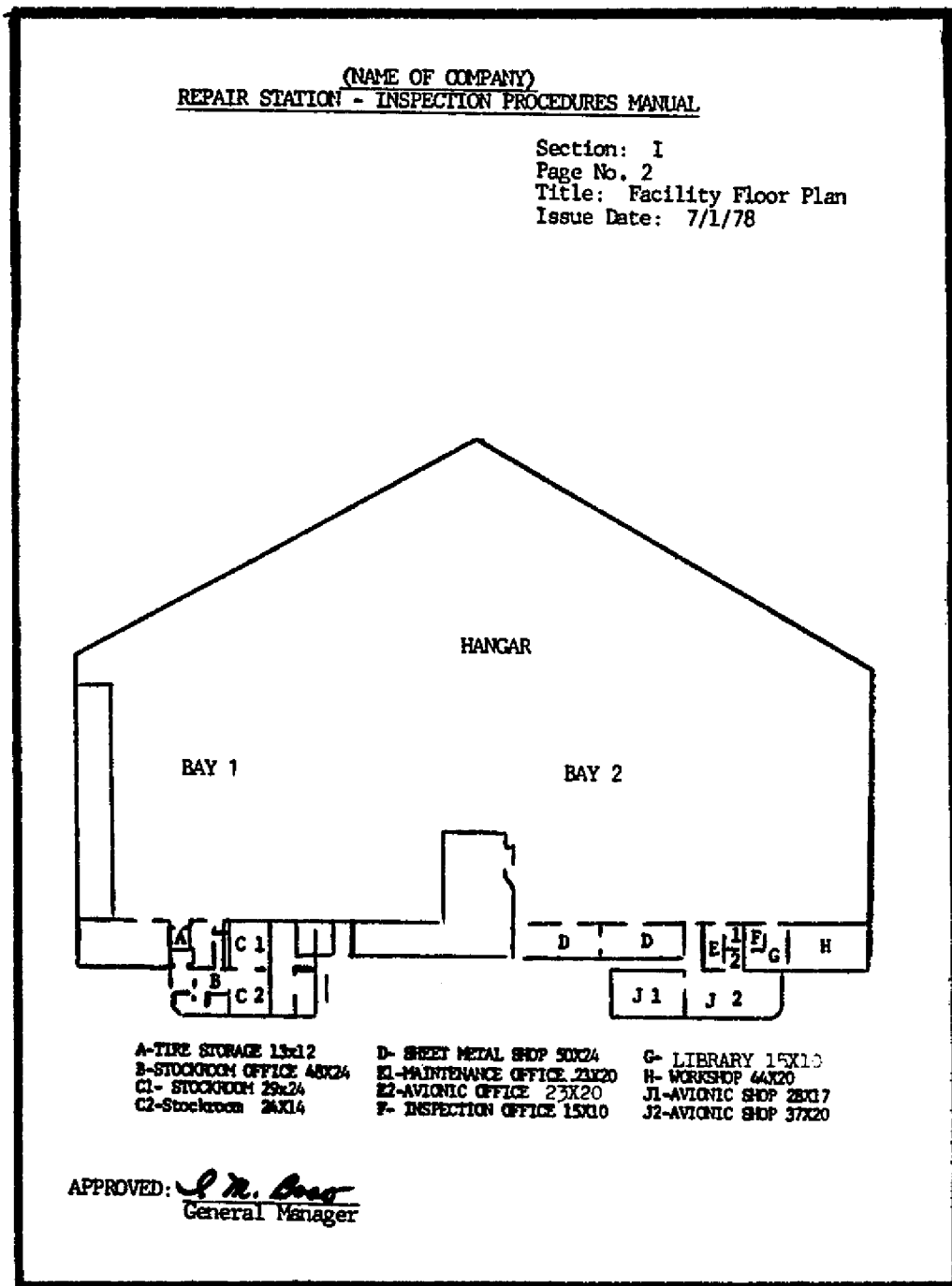
A 90 PSI/60 CFM electric driven air compressor supplies filtered compressed air to wall outlets equipped with moisture traps at convenient locations in hangar and shop areas.

Hangar is heated by a central boiler room blowing hot air through ducts and overhead blowers. The offices, stockroom, and shops are heated through hot air ducts.

APPROVED: *J. M. B...*
General Manager

FIGURE 9. FACILITY FLOOR PLAN

Reference: FAR Section 145.37. This page would contain a floor plan of shops, hangar, stock area, offices, etc. External dimensions of the individual areas should be given.



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FIGURE 10. SECTION II - COMPANY ORGANIZATION COVER PAGE

NOTE: Only information relating to the inspection responsibility continuity is required to be included in the manual.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

SECTION II

COMPANY ORGANIZATION

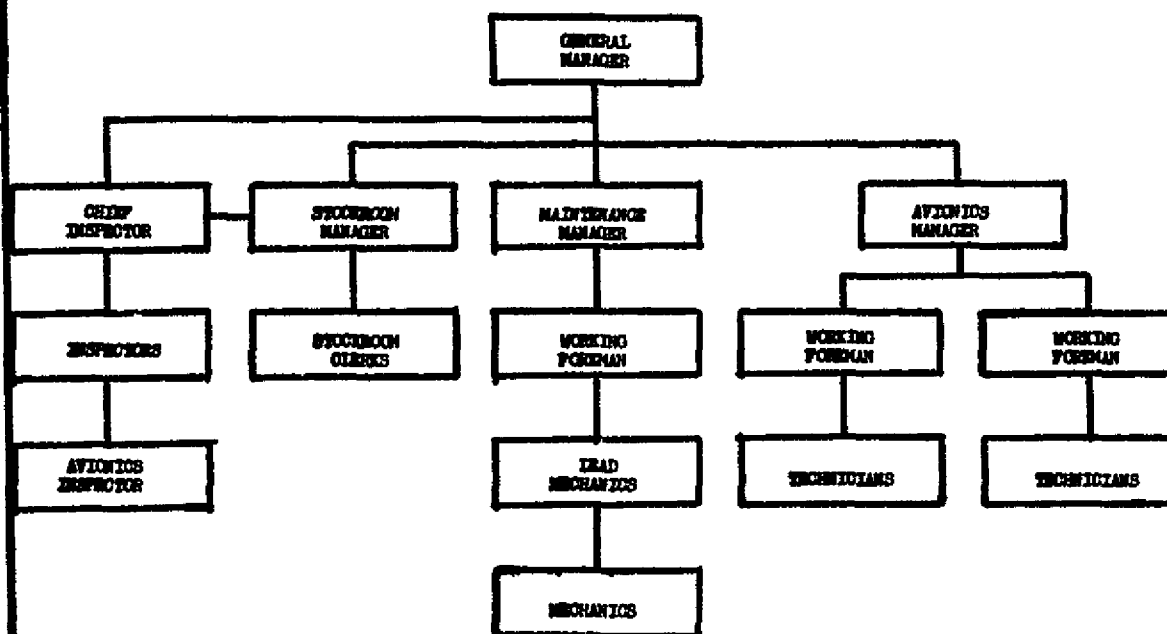
FIGURE 11. ORGANIZATIONAL CHART

Reference: FAR Section 145.43(a) through (e). This page should contain the company organization flow chart indicating authority by title only. It should reflect separation between supervision of the maintenance and inspection departments.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: II
Page No: 1
Title: Organization Chart
Issue Date: 7/1/78

ORGANIZATIONAL CHART



APPROVED: J. M. Braso
General Manager

2/13/81

FIGURE 12. AUTHORITY AND ROSTER OF AUTHORIZED INSPECTION PERSONNEL.

Reference: FAR Section 145.43(a)(2). This information is not required by regulation to be kept in this manual but is required to be available in the repair station. It is recommended that this information be kept in the repair station only, so a revision to the list would not require a revision of the manual. If a repair station finds it advantageous, the information may be included in this part of the manual. In either case, it should include the name of the chief inspector, all inspection personnel and identify those inspectors who make final quality determination before approval for return to service. It should include all authorized signatures for "Return to Service" and indicate the area of responsibility of each person.

NOTE 1: A space should be provided opposite each name for their signature. If work is performed in accordance with FAR Section 145.2, required inspection personnel should be designated as required by Subpart L of FAR Part 121, Subpart G of FAR Part 125, Subpart I of FAR Part 127 and Subpart J of FAR Part 135. Training records are required to be maintained on each individual to show compliance with FAR Section 145.39(e).

NOTE 2: No person may perform a required inspection on work covered by Section 145.2 if that person performed the item of work to be inspected.

| (NAME OF COMPANY) | | | | |
|---|--|----------------------------|---------|-------|
| REPAIR STATION - INSPECTION PERSONNEL ROSTER | | | | |
| Section: II | | | | |
| Page No: 2 | | | | |
| Title: Authority and Roster of Authorized Inspection Personnel | | | | |
| Issue Date: 7/1/78 | | | | |
| Name and Title | Certificate Type and Number | Inspector's Identification | | |
| | | Signature | Initial | Stamp |
| (***) Harry Jones Chief, Inspector | AIP 15602 Repairman O 36891 Instruments Propellers | | | |
| (***) Joseph Camp Inspector Line & Receiving | AIP 21625 | | | |
| (***) Michael Jabe Inspector Repair and Receiving | AIP R1392 | | | |
| (*) Anthony Rickalo Maintenance Manager | AIP T1496 | | | |
| (*) John Baker Avionics Manager | Repairman 1420 Avionics | | | |
| ** Ray Kuree Inspector Avionics | Repairman 132F Avionics | | | |
| ** John Jones Inspector Specialized Service | Repairman 1691 X-ray Ultrasonic Magnetic particle Body current | | | |
| Authority Delegation. | | | | |
| (*) Authorized to sign for lead mechanic work only. | | | | |
| (**) Authorized to return air carrier aircraft to service, in accordance with FAR Parts 121, 125, 127, and 135 within the scope of the repair station. | | | | |
| (***) Authorized to return air carrier aircraft to service, in accordance with FAR Parts 121, 125, 127, and 135 regarding avionics equipment, within the scope of the repair station ratings. | | | | |
| APPROVED: <u>D. M. Broo</u> General Manager | | | | |

FIGURE 12. AUTHORITY AND ROSTER OF AUTHORIZED INSPECTION
PERSONNEL (CONTINUED)

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: II
Page No. 3
Title: Authority and Roster of
Authorized Inspection
Personnel
Issue Date: 7/1/78

AUTHORITY DELEGATION (CONTINUED)

For a complete list of duties, see Chief Inspector's duties.

The inspector will signify acceptance of work performed by stamping the appropriate box on the work order or inspection form along with the date the work is accepted.

Log book entries, inspection forms, and FAA forms must be signed using full name and in ink by the inspector completing the inspection.

A master list shall be maintained with each inspector's full name, initials and stamp in this section of the repair station manual (or in the repair station as applicable). A stamp issued to an inspector will be destroyed when an inspector no longer acts as a member of the inspection department, and that number will not be reissued.

All inspectors are authorized to return to service aircraft and/or component for which the repair station is rated after actual inspection, major alteration or major repairs have been completed.

APPROVED: J. M. Bree
General Manager

2/13/81

FIGURE 13. SECTION III - PERSONNEL & TRAINING COVER PAGE

NOTE: This information is not required by FAR to be included in this manual, except the procedures for training inspection personnel. Companies who desire, may include this information in its manual for all personnel.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

SECTION III

PERSONNEL & TRAINING

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Appendix 1

FIGURE 14. TRAINING INFORMATION

Reference: FAR Section 145.39(e) and Section 145.45. This page should identify what methods are to be used. The records should reflect the methods, type, length of training, where and when it was received. The records should be kept current.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: III
Page No. 1
Title: Training
Issue Date: 7/1/78

Training of repair station inspectors and other personnel will be accomplished by classroom instruction plus factory and on the job training as necessary.

Classroom training will be accomplished by the maintenance manager, chief inspector or factory field service representatives.

Factory training will be scheduled as necessary for personnel to become familiar with new aircraft and aviation products or product improvements.

Current records will be maintained for each employee by the general manager on Form 123, Record of Employee's Training. The record will indicate the type of training (detailed), method, duration, date of completion, location and include the name of the instructor that conducted the classroom and on the job training. Copies of the certificates issued for factory training will be kept in employee's file.

APPROVED: S. M. Broo
General Manager

2/13/81

FIGURE 15. EMPLOYMENT SUMMARY

Reference: FAR Section 145.43(b) (1) through (5). This information is not required by regulation to be kept in this manual, but is required to be available in the repair station, it is suggested that this information not be made part of this manual so that a revision to the list would not require a revision to the manual. A company who desires, may include it in it manual. In either case, a separate summary is required for each person that is listed in Section II, Pages 1 & 2. It should contain the information as shown on the sample for each person to show compliance with the regulations.

NOTE 1: It should be in the format of the referenced regulation.

NOTE 2: It is recommended that space be provided at the end of each summary for the individual's signature.

NOTE 3: This summary is required to be maintained in accordance with Section 145.43(c) through (e).

| <u>(NAME OF COMPANY)</u> <u>REPAIR STATION - INSPECTION PROCEDURES MANUAL</u> | | | |
|---|-----------|---|-----------------|
| | | Section: III Page No: 2 Title: Employment Summary Issue Date: 7/1/78 | |
| Name: <u>Harry Jones</u> | | Title: <u>Chief Inspector</u> | |
| Scope of present employment: <u>Has complete repair station inspection responsibility. Type certificate(s) rating(s) & number(s) A&P 15602, Repairman Q36891 Instruments & Propellers. Total years experience: 30yrs.</u> | | | |
| <u>Work Record</u> | | | |
| <u>From</u> | <u>To</u> | <u>Employer and address</u> | <u>Position</u> |
| 1. 1-48 | 2-58 | A.B.C. Aviation - Newton, New York | A&P Mechanic |
| 2. 2-58 | 5-65 | A.B.C. Aviation - Newton, New York | Lead Mechanic |
| 3. 5-65 | 7-69 | A.B.C. Aviation - Newton, New York | Shop Foreman |
| 4. 7-69 | Present | Elmo Aviation - Fresno, California | Chief Inspector |
| Signed: <u>Harry Jones</u> HARRY JONES | | | |
| APPROVED: <u>J. M. Bass</u> General Manager | | | |

FIGURE 16. SECTION IV - DUTIES AND RESPONSIBILITIES COVER PAGE

NOTE: This section should contain the duties and responsibilities of key positions by title (use separate page(s), one page for each position shown on the organizational chart in Section II). No names should appear in this section, only titles. Title should be the same as on the organizational charts and elsewhere in the manual. The information contained on the following pages are examples. Place the applicable titles, duties, and responsibilities in the appropriate positions as they exist at your facility. Only the information relating to the continuity of inspection responsibility is required to be included in the manual.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURE MANUAL

SECTION IV
DUTIES AND RESPONSIBILITIES

2/13/81

FIGURE 17. DUTIES AND RESPONSIBILITIES - GENERAL MANAGER

Reference: FAR Sections 145.35, 145.37, 145.39, 145.41, 145.43, 145.47, 145.49, and 145.55.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: IV
Page No: 1
Title: Duties and Responsibilities
Issue Date: 7/1/78

GENERAL MANAGER

The general manager is responsible to the vice president of technical services for the complete overall operations of the repair station, including the adequate housing and facilities and the continued maintenance thereof. In addition the general manager is also responsible:

For providing adequate training, equipment, materials and competent personnel pertinent to the operations of the repair station in order that it may comply with all applicable Federal Aviation Regulations (FAR) and manufacturer's recommendations.

To ascertain that adequate fire fighting equipment is available at the repair station.

To establish standards to ascertain that adequate safety precautions are observed.

To establish procedures to determine the need for original and recurrent training of personnel consistent with the work to be performed. Establish liaison with air carriers respecting applicable FAR requirements, when work for air carriers is to be performed.

In the absence of a maintenance manager or chief inspector the general manager assumes the responsibilities and delegates authority to qualified personnel as dictated by FAR Part 145 and FAR Part 43, to release aircraft for service after repair or inspections.

The general manager may delegate all duties assigned to any qualified assistant as necessary however, such delegation does not relieve the general manager of the overall responsibilities.

APPROVED: J. M. Bono
General Manager

FIGURE 18. DUTIES AND RESPONSIBILITIES - CHIEF INSPECTOR**Reference: FAR Sections 145.35, 145.45, 145.47, 145.55, 145.57, and 145.59**

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURE MANUAL

Section: IV
Page No: 2
Title: Duties and Responsibilities
Issue Date: 7/1/78

CHIEF INSPECTOR

The chief inspector is responsible to the general manager for the overall operation of the inspection department and, as such, will have the final authority in the releasing to service of airframes, engines, propellers, appliances and the component parts thereof. In addition, the inspector is responsible for directing, planning and laying out the details of inspection standards, methods and procedures used by the repair station in complying with all applicable Federal Aviation Regulations, manufacturer's specifications and recommendations.

It is the chief inspector's duty to:

1. Assist, supervise and direct all personnel assigned to the inspection department.
2. Ascertain that all inspections are properly performed on all completed work and that the proper inspection records, reports and forms used by the repair station are properly executed prior to releasing the product for return to service.
3. Maintain and keep current a file of pertinent Federal Aviation Regulations, specifications, type certification data sheets, and airworthiness directives.
4. Determine that all technical data on all articles overhauled or repaired by the repair station are secured and kept current with latest revisions by the respective department inspectors. This data will include repair station's process specification for limited rating specialized services, manufacturer's overhaul manuals, service bulletins, part specifications, related Federal Aviation Administration approved data and other technical data used by the repair station. In addition, assure that all military technical orders used in the overhaul and repair of components have been evaluated and approved by the FAA.

APPROVED: D. M. Gross
General Manager

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FIGURE 18. DUTIES AND RESPONSIBILITIES - CHIEF INSPECTOR (CONTINUED)

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CHIEF INSPECTOR (CONTINUED)

5. Assure that periodic checks are made on all inspection tools and the calibration of precision test equipment used by the repair station and mechanics who have their own precision equipment. Further assure that a current record of those inspections and test is maintained.
6. Determine that no defective, unserviceable, or unairworthy parts are installed in any component or articles released by the repair station.
7. Submit reports of defects of unairworthy condition in accordance with FAR 145.63.
8. Assure the proper execution of FAA Form 337 when required, and/or a maintenance release.
9. Accomplish the final acceptance of all incoming material, including new parts, supplies and the airworthiness of articles on which work has been performed outside the repair station by contract.
10. Conduct the preliminary, hidden damage, in-progress, and final inspection of all articles processed by the repair station and record results as outlined in this manual.
11. Oversee the proper tagging and identification of all parts and components as outlined in this manual.
12. Provide for continuity of inspection responsibility, assuring completion of required inspection when personnel shift or assignment changes occur.

APPROVED: J. M. Bono
General Manager

FIGURE 18. DUTIES AND RESPONSIBILITIES - CHIEF INSPECTOR (CONTINUED)

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CHIEF INSPECTOR (CONTINUED)

13. See that rejected and unserviceable parts are handled in such a way as to prevent their reuse as serviceable parts.

14. Ascertain that all inspections are properly performed on all completed work before it is approved for return to service, and that the proper inspection and maintenance records, reports, and forms required for such release are properly executed.

15. Maintain files of completed work orders and inspection forms in such a manner that the file pertaining to a specific item repaired can be readily located for review.

16. Inspect all radio work that requires the qualification of an A&P mechanic, such as airframe structures, airframe electrical wiring, and weight and balance.

Note: The chief inspector may delegate all duties assigned to any qualified assistant as necessary, however, such delegation does not relieve the chief inspector of the overall responsibilities.

APPROVED: J. M. Brea
General manager

FIGURE 19. DUTIES AND RESPONSIBILITIES - MAINTENANCE MANAGER

Reference: FAR Sections 145.35, 145.37, 145.39, 145.45, 145.47, 145.55, 145.57, 145.59, and 145.61.

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MAINTENANCE MANAGER

The maintenance manager is responsible to the general manager for the operation of the repair station.

In addition, the maintenance manager is responsible for:

1. Training and assisting subordinates in the proper work procedures and practices to be followed.
2. Maintaining all hangar and shop equipment and tools in a serviceable working condition, assuring that periodic checks and calibrations are made on special tools and test equipment, and that current records are maintained of those tests and calibrations.
3. Ascertaining that all necessary maintenance entries on maintenance forms and work orders used by the repair station are properly executed by the responsible mechanics.
4. Maintaining the premises of the repair station in a clean and orderly manner.
5. Initiating purchase requisitions for stock as required.
6. Assuring that the personnel in the maintenance department do quality work.
7. Conducting periodic drills for the purpose of indoctrinating personnel in the proper use and location of fire fighting equipment, and checking the equipment periodically for serviceability and adequacy.

APPROVED: J. M. Bono
General Manager

FIGURE 19. DUTIES AND RESPONSIBILITIES - MAINTENANCE MANAGER (CONTINUED)

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MAINTENANCE MANAGER (CONTINUED)

8. Indoctrinating the personnel in observing the safety precautions relevant to the functions for which they may be utilized.
9. Making available to the departments under the maintenance manager's control the required technical data on all aircraft, engines, and appliance, for the maintenance accomplished and keeping the data current with latest revision. The data will include manufacturers' maintenance and overhaul manuals, service bulletins, parts specifications, related Federal Aviation Administration approved data, and any other technical data used by the repair station.
10. Assuring the proper handling of all parts while in repair process and when work is completed.
11. Maintaining the preservation of all units or parts during the work process, installation and storage.

Note: The maintenance manager may delegate all duties to any qualified assistant as necessary, however, such delegation does not relieve the maintenance manager of the overall responsibilities.

APPROVED: J. M. Bono
General Manager

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FIGURE 20. DUTIES AND RESPONSIBILITIES - AVIONICS MANAGER

Reference: FAR Sections 145.35, 145.37, 145.39, 145.45, 145.47, 145.57, 145.59 and 145.61.

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AVIONICS MANAGER

The avionics manager is responsible to the general manager for the overall operation of the avionics department.

In addition, the avionics manager is responsible for:

1. The planning, direction and coordination of activities within the department, and the planning of its activities in conjunction with other departments, as required.
2. Assuring that the repair and overhaul of all articles and components within the avionics manager jurisdiction is accomplished within the authority of the repair station and that the work is inspected by the inspection department.
3. Training and assisting subordinates in the proper work procedures and practices to be followed.
4. Making available to the avionics department the required technical data on all articles overhauled or repaired by the avionics department and keeping the data current with latest revisions. The data will include manufacturers' overhaul manuals, service bulletins, parts specifications, related Federal Aviation Administration approved data and any other technical data used.
5. The maintenance of all avionics department equipment and tools in a serviceable working condition, assuring that periodic checks and calibration are made on test equipment and that current records are maintained of those tests and calibrations.
6. Ascertaining that all necessary maintenance entries on maintenance forms and work orders used by the repair station are properly executed by the responsible technicians.
7. The quality of work performed by the personnel in the department.

APPROVED: J. M. Brea
General Manager

FIGURE 20. DUTIES AND RESPONSIBILITIES - AVIONICS MANAGER (CONTINUED)

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AVIONICS MANAGER (CONTINUED)

8. The proper handling of all parts while in repair process through the avionics shop and when work is completed.
9. The preservation of all units or parts during process through the avionics shop and when work is completed.
10. To insure that the maintenance of the avionics department premises are kept in a clear and orderly manner.
11. Initiating purchase orders for stock as required.
12. The maintenance of all avionics department records.

Note: The avionics manager may delegate all duties to any qualified assistant as necessary, however, such delegation does not relieve the avionics manager of the overall responsibilities.

APPROVED: J. M. Brea
General Manager

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FIGURE 21. DUTIES AND RESPONSIBILITIES - STOCKROOM MANAGER
Reference: FAR Sections 145.35 and 145.37

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STOCKROOM MANAGER

The stockroom manager is responsible to the general manager for the operation of the stockroom.

In addition, the stockroom manager is responsible:

For identifying, controlling, segregating, and maintaining all stock and tools to a serviceable or unserviceable category as designated by the chief inspector.

For the preservation of all articles or parts, while carried in inventory, including parts that are subject to deterioration and shelf-life specifications.

For controlling the inventory.

For distributing to all pertinent departments any miscellaneous technical information, etc., which is received by the stockroom.

For ascertaining that a sufficient supply of fire fighting and safety equipment is provided for use at fire stations in hangars, shops, ramps, and vehicles and for their replacement after use.

The stockroom manager may delegate to any qualified assistant as necessary, however, such delegation does not relieve the stockroom manager of the overall responsibilities.

APPROVED: *J. M. Boro*
General Manager

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Appendix 1

FIGURE 22. SECTION V - INSPECTION SYSTEM COVER PAGE.

NOTE: This section contains some areas that may be considered in excess of minimum FAR requirements. In order to produce satisfactory quality control those additional procedures were required.

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FIGURE 23. INSPECTION SYSTEM AND INSPECTION PERSONNEL.

Reference: FAR Sections 145.45, 145.45(a), (b), (1), (2), (3) and 145.59(b). All inspectors should be certificated in accordance with FAR Part 65.

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INSPECTION SYSTEM

GENERAL

The chief inspector is responsible to the general manager for full compliance with all procedures outlined in this system as appropriate to any item being inspected, repaired, overhauled or altered by the repair station. The airworthiness of those items and compliance with record requirements of the operators of those items and of the repair station, depends upon conformity to the procedures of this system.

INSPECTION PERSONNEL

Inspection personnel are required to be thoroughly familiar with all inspection methods, techniques and equipment used in their area of responsibility to determine the quality of airworthiness of an article undergoing maintenance, repair or alterations. All personnel must also maintain proficiency in the use of the various types of inspection aids to be used for inspection of the particular items undergoing inspection. Available to all inspection personnel are current specifications involving inspection tolerances, limits, and procedures as set forth by manufacturer of the product undergoing inspection and other forms of inspection information such as FAA airworthiness directives, manufacturers bulletins, etc. A file of maintenance manuals, engineering letters, service letters, FAA regulations, etc., are maintained in the inspection office.

Inspection personnel assigned to repair station operations are required to familiarize themselves with FAA regulations applicable to such operations with particular emphasis on the following:

FAR Part 21 - Certification Procedures For Products And Parts

FAR Part 23 - Airworthiness Standards: Normal, Utility And Acrobatic Category Airplanes

FAR Part 25 - Airworthiness Standards: Transport Category Airplanes

FAR Part 39 - Airworthiness Directives

APPROVED: J. M. Bone
General Manager

FIGURE 23. INSPECTION AND INSPECTION PERSONNEL (CONTINUED)

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INSPECTION PERSONNEL (CONTINUED)

FAR Part 43 - Maintenance, Preventive Maintenance, Rebuilding and Alteration

FAR Part 45 - Identification And Registration Marking

FAR Part 65 - Certification: Airmen Other Than Flight Crewmembers

FAR Part 91 - General Operating And Flight Rules

FAR Part 145 - Repair Stations

FAR Part 121 - Certification and Operations: Domestic, Flag, and Supplemental Air Carriers and Commercial Operators of Large Aircraft

FAR Part 125 Certification and Operation Rules for Certain Large Airplanes

FAR Part 135 - Air Taxi Operators And Commercial Operators

INSPECTORS, MECHANICS AND SUPERVISORS

All supervisors, inspectors and mechanics are required to be thoroughly familiar with the requirements of this manual, FAA regulations, airworthiness directives and advisory circulars, manufacturers service letters and bulletins and engineering orders. The basic inspection system requires mechanics to sign their last name for work performed by them prior to submitting the item to inspectors for final acceptance. Inspectors will indicate their acceptance of work performed with the application of the inspector's acceptance stamp next to the item on the work forms. See Section VI of this manual for sample forms and instructions for their use.

APPROVED: D. M. Brno
General Manager

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FIGURE 24. INSPECTION CONTINUITY

Reference: FAR Sections 145.45(f) and 145.61. This section should show by title, who performs the inspection, the forms to be used, and disposition of the records. The inspection continuity should encompass incoming materials, preliminary hidden damage and final inspection where applicable. It should include items as they progress through various stages of repair, overhaul or modification, including other inspections, test and calibrations (Rockwell Hardness Test, Magnflux, Ultrasonic X-ray, etc.), adjusting or calibrating VOR, DME or ILS equipment. It should establish a system for passing along the continuity of inspection and other maintenance from one shift or person to another. It should reference manufacturer's inspection standards for the maintenance of the particular items.

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CONTINUITY OF INSPECTION RESPONSIBILITY

Through a "Line of Succession" list maintained by the chief inspector, his duties are assured of performance as "Acting Chief Inspector."

A status book will be provided in the hangar and each shop in which a status report will be left by each of the inspectors leaving the job before completion of a project, for information to the succeeding inspector. Its purpose is to assure a continuing inspection responsibility for in-progress work inspections.

All forms upon which work performed is listed have been designed to show the name of the mechanic, or repairman who performs the work (or supervises it) and the name of the inspector inspecting that work.

A project involving work other than inspection only, may not be approved for return to service unless it has been cleared by the chief inspector as satisfying the requirements of FAR 145.61, and 145.59(a).

Samples of work forms, inspection forms, and instructions for completing them, are contained in Section VI of this manual.

APPROVED: J. M. Ross
General Manager

FIGURE 25. INCOMING MATERIALS

Reference: FAR Section 145.45(c). This section should explain how compliance is shown, how the inspections are recorded, classification of incoming materials, including checks for damage, preservation and shelf-life, identification of parts by part number, and the person responsible to perform the inspection (by title). In addition, it should describe the action to be taken when materials received do not meet specifications.

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| <u>PARTS RECEIVING POLICY</u> | |
| <p>The chief inspector of the repair station (or designee) is responsible to see that all incoming materials, AN or MS and other hardware, parts, component, equipment and other products procured for use by the repair station are subject to receiving inspection to assure conformance to part number, purchase order and/or other applicable specifications. A record of such inspections will be recorded on repair station Form No. 214, Receiving Inspection. Any products that fail to meet applicable specifications will be red tagged as unserviceable, listing the discrepancy and be returned to the stockroom manager for return to vendor. To preclude those parts from being used, the stockroom manager will place such items in the locked holding area until they are repacked for shipping back to the vendor.</p> | |
| <u>GENERAL TEST REQUIREMENTS:</u> | |
| <ol style="list-style-type: none"> 1. New components manufactured under a type or production certificate, or in accordance with a Technical Standard Order (or similar FAA approved technical data), or components which have been rebuilt by the manufacturer to production specifications, require a visual receiving inspection. 2. Any repaired or overhauled components received from an FAA certificated repair station do not normally require more than a visual receiving inspection before being returned to service. Repaired or overhauled components that are received from other than an FAA certified repair station, in addition to the normal receiving inspection, will be functionally checked before being returned to service. 3. All components requiring a functional check are routed to the proper repair station shop for the accomplishment of this check. | |
| <p><u>NOTE:</u> Functional checks are performed in accordance with instructions contained in the appropriate manufacturer's publications. However, if such specific instructions are not available, functional check requirements will be determined by the chief inspector, and issued on a form to provide a means of recording compliance therewith.</p> | |
| <p>APPROVED: <u>J. M. Bros</u> GENERAL MANAGER</p> | |

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FIGURE 25. INCOMING MATERIALS (CONTINUED)

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PARTS RECEIVING POLICY (CONTINUED)

NOTE: Functional checks are performed in accordance with instructions contained in the appropriate manufacturer's publications. However, if such specific instructions are not available, functional check requirements will be determined by the chief inspector, and issued on a form to provide a means of recording compliance therewith. If suitable test facilities are not available in repair station, components may be functionally checked in the aircraft. In any case, all functional checks must be monitored and recorded by the chief inspector or designee.

4. The Supervisor - Quality Control may request a functional check of any component overhauled or repaired by any agency, when of the opinion that such a check is required in order to return the component to service.

5. All adhesives, sealers, primers, finishing and other materials having limited shelf-life are identified by material control labels showing the expiration date of the shelf-life as established by applicable specifications. Inspectors and mechanics will dispose of any materials found in the shop or store rooms without such identification or with expired shelf-life.

6. The detailed functions of material inspection are covered by the manufacturer's quality assurance directive and inspection bulletins which will be used to implement the operation of the repair station with respect to the control and identification of materials, parts and equipment received for direct use in the repair station. All parts new or overhauled purchased from vendors will be checked for proper approval documentation prior to release for installation by the repair station.

APPROVED: J. M. Arco
General Manager

FIGURE 26. WORK ORDER

Reference: FAR Section 145.61. The work order should have an identification number, show the name of the repair station, address and the FAA assigned repair station number. It should show the customers name and address, complete identification of the items worked on, detailed instructions for work to be accomplished and space or reference instructions for work to be accomplished. For the work accomplished sign off space for mechanics and inspector. And instructions for sign off of work as acceptable to the company.

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WORK ORDER

Upon receipt of a work request for maintenance or alteration on an airframe, engine, accessory, propeller, instrument, radio or a product requiring a specialized service covered by the repair station certificate, the maintenance department will issue a (name of company) Repair Station Work Order Form 1234 to authorize that work to be accomplished. The form is prenumbered and that number will be the basic reference for the product's maintenance record. The work order will specify the work to be accomplished. The work order will be supplemented as necessary with detailed inspection instructions along with applicable forms, to assure proper inspection and repair of the unit involved. The number of additional forms used will be identified on the work order. The original of the printed and numbered work order form will be retained in the maintenance manager's office.

A logbook will be maintained in the maintenance manager's office for recording each work order in numerical order, identifying the customer, the product for which it was issued along with the manufacturer serial number, special instructions and the work accomplished.

It will be the responsibility of the respective shop manager and chief inspector to assure that proper supplemental instructions are furnished to assure proper progressive servicing, inspection and testing of the product involved.

Mechanics will enter work accomplished and use last names to sign off that work on the form. Inspectors will use their inspection stamp to sign off inspections. A list of inspectors and stamp numbers are contained in this manual under Section II, Page 2.

See copy of work order and supplemental forms in Section VI of this manual.

APPROVED: J. M. Brad
 General Manager

2/13/81

FIGURE 27. RECORD OF WORK

Reference: FAR Section 145.61. A copy of the work order with all attachments should be on file as a permanent record of all work accomplished. The record should reflect the signature of each mechanic and inspector that performed maintenance on each unit. It should reflect exactly what work was accomplished. It should show all of the parts used. The records should be maintained for a period of not less than two years.

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RECORD OF WORK

A detailed record shall be kept of all work performed by the repair station. A copy of each Work Order Form 1234 with all attached supplementary form(s) will be maintained in the repair station records section. A separate file area is provided for all paper work associated with the repair station's work activities. Each work record is checked by an inspector for work accomplished, parts used, signature of mechanic and inspectors who performed maintenance. Records are maintained in active file for two (2) years then transferred to dead storage for 5 additional years.

APPROVED: S. M. Bess
General Manager

FIGURE 28. PRELIMINARY INSPECTION.

Reference: FAR Sections 145.2 and 145.45(d). This information should indicate who is to perform the inspection, the method of inspection and any special testing requirements. Instructions should include the type of form to be used, how defects noted are recorded and the requirement to make them part of the work order.

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PRELIMINARY INSPECTION

The Chief Inspector of the repair station is responsible for the performance of appropriate inspections including functional and nondestructive tests to assure that all units delivered to the repair station for maintenance, alteration or repair under the privileges of the repair station certificate are subjected to a preliminary inspection to determine the state of preservation and any defects on the items involved. This inspection will be recorded on the Preliminary Inspection Form 567 with any discrepancies noted and the form must be attached to the work order identified with the unit involved. It will remain with the applicable inspection records until the unit is released for service. Appropriate supplemental forms will be used to record the results of functional and nondestructive tests. Those forms will show the work order number and will be routed attached to the work order.

Before any work is begun, the Chief Inspector will, in the case of work to be performed for an air carrier under the continuous airworthiness requirements of FAR Parts 121, 125, 127, or 135, make sure that all necessary current information and specifications are included or referred to in the work instructions that are to accompany the article through the repair station, and that the work is done in accordance with the air carrier's manual.

APPROVED: D. M. Boer
General Manager

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FIGURE 29. HIDDEN DAMAGE INSPECTION

Reference: FAR Section 145.45(e). This section should describe who is to perform the inspection (by title), the depth (should include areas adjacent to obviously damaged members or components), how the inspection will be recorded, the recording and handling of any defects noted and the requirement to make the inspection a part of the work order.

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| <u>INSPECTION FOR HIDDEN DAMAGE</u> | |
| <p>The preliminary inspection is not limited to the area of obvious damage or deterioration but includes a thorough and searching inspection for hidden damage in areas adjacent to the damaged area and/or in the case of deterioration, a thorough review of all similar materials or equipment in a given system or structural area. The scope of this inspection will be governed by the type of unit involved with special consideration accorded previous operating history, Malfunction or Defect Reports, service bulletins and AD notes applicable to the unit involved. The inspector is responsible for listing all discrepancies noted during inspection on the work order prior to release for return to service. See Section VI of this manual for proper forms and instructions for using them.</p> | |
| APPROVED | <u>J. M. Rose</u> General Manager |

FIGURE 30. RECORD OF INSPECTION

Reference: FAR Sections 145.59(a), 145.59(d) through (f) and 145.61.
This section should explain how the results of required inspections are recorded and made part of the applicable work order.

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PROGRESSIVE INSPECTION

Authorized inspectors will be assigned to make inspections at various stages of teardown, overhaul, and repair of all units or components received by the repair station for service. Progressive inspections are accomplished with a frequency determined by applicable manual recommendations and/or repair station originated work forms.

MAJOR REPAIR AND ALTERATION AIRCRAFT AND COMPONENTS

Following the preliminary inspection, additional records may be prepared by the inspection department to provide a comprehensive historical record of the work performed. These records will contain work orders, service bulletins, AD notes, service letters, type of inspection, detailed figures related to functional tests and special nondestructive tests to be accomplished. The approved engineering or other approved technical data authorizing the repair or alteration will be clearly indicated. Where special drawings are made to cover specific repair conditions, a copy of the drawing will be included in the aircraft records.

Units removed from the aircraft will be tagged with the appropriate inspection identification tag listing the aircraft serial number, unit serial number and reason for removal.

No item removed and tagged as above described will be reinstalled unless the unit is cleared as "serviceable" by inspection.

REPAIR, ALTERATION AND OVERHAUL ACCESSORIES AND APPLIANCES

Self-contained accessory and appliance units such as actuators, pumps, valves, generators, etc., which, after preliminary inspection, have been established as eligible for overhaul or repair, will be identified with a green repairable part tag with appropriate repair instructions entered on the face of the tag, as authorized by the work order. No such unit shall be approved for returned to service without a maintenance release tag authorizing its return to service.

APPROVED: J. M. Arco
General Manager

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FIGURE 30. RECORD OF INSPECTION (CONTINUED)

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INSPECTION PROCEDURES

The Chief Inspector is responsible for the complete and efficient performance of inspections assigned to the repair station to assure inspection acceptance in accordance with manual specifications or other approved technical data.

Shop supervisors are responsible for the accomplishment of all work in accordance with manual specifications or other approved technical data. The work done under the repair station's Limited Rating- Specialized Service Nondestructive Inspection by X-ray, magnetic particle, eddy current or ultrasonic must be accomplished in accordance with the (name of company) FAA approved process specification NDI-1 dated 7/1/78.

Alterations and repair will be subject to progressive inspection by the inspection department. Discrepancies generated during the process of accomplishing the work involved will be recorded on the appropriate work forms. Discrepancies so recorded will be corrected before the unit is submitted for final inspection. Upon completion of this progressive inspection, the area affected is given a shakedown inspection and after all rework is accomplished and accepted, the inspection will clear the unit for final acceptance.

Upon completion of a specific operation, the mechanic will sign off the records using his signature indicating that the item is complete and ready for inspection. The action accomplished to correct a specific discrepancy will be noted under each item on the work order. The inspector will then inspect the item to assure conformance to specifications and established workmanship standards. Functional checks of any system affected by the work involved will be accomplished before final acceptance. Inspection acceptance will be indicated by the inspector's stamp.

APPROVED: J. M. Bono
General Manager

FIGURE 30. RECORD OF INSPECTION (CONTINUED)

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MAINTENANCE INSPECTION

One-hundred hour and progressive inspections, inspections of amateur built aircraft and aircraft on FAR Section 91.217 programs will be accomplished in accordance with the inspection cards or inspection schedule provided for each specific model aircraft. The inspection paperwork will be supplemented as necessary to cover items to be replaced for time, special inspection items, discrepancies and airworthiness directives. All 100-hour and annual inspection paperwork will comply with FAR Part 43 Appendix D.

No aircraft will be returned to service following an inspection as outlined above until all discrepancies affecting airworthiness have been corrected.

Maintenance supervisors are responsible for screening completed work orders covering work performed in their assigned area to assure that all items on the work order have been cleared, that there are no open discrepancies and that all major work accomplished is covered by approved data. Inspector will recheck to assure compliance with this section.

After work orders have been screened for completeness and accuracy, they are routed to the maintenance manager's office. Such inspection and work records will be retained in active file for a period of not less than two years (as required by FAR Part 145) and then transferred to dead storage for 5 additional years.

CONTINUITY OF MAINTENANCE RESPONSIBILITY

A status book will be provided in the hangar and each shop in which a status report will be entered by each of the lead mechanics informing the next shift of the status of each job not completed. Its purpose is to assure a continuing maintenance responsibility for work in progress.

APPROVED: J. M. Ames
General Manager

FIGURE 31. HANDLING OF PARTS

Reference: FAR Sections 145.35, 145.35(a)(3), 145.35(d) 145.35(a)(4) and 145.35(e). This section should explain compliance with the rule. Processing of parts, identification, tag, segregation, protection from damage and/or contamination, parts finishing, preservation, stock control and shelf-life.

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HANDLING OF PARTS

All items or components undergoing maintenance, repairs and/or alterations in the repair station shall have the component parts segregated and in containers in order to assure that all parts of the same unit(s) are kept together. Suitable trays, racks, stands and protective coverings (as required) are to be provided in shop areas to ensure maximum protection of all parts. Rejected parts will be identified by the use of a red reject tag and final disposition will be the responsibility of the Supervisor - Quality Control.

TAGGING AND IDENTIFICATION OF PARTS

The following is our four (4) tag system:

White tag - Used for identification of unit and customer only. To be completed by shop supervisor or a designated employee.

Green tag - Will be attached to units or parts requiring repairs or test and will include work to be performed. To be executed and signed by inspector only.

Yellow tag - To be attached to completed units which have received final inspection and are approved for return to service. The maintenance release is printed or stamped on the reverse side of this tag. (See Maintenance Release Statement, Section V, Page 21). This release will be signed by a designated person only.

Red tag - Will be attached to rejected parts, pending final disposition. If rejected parts are in large quantities, they can be placed in a special container marked "rejected parts." This tag to be completed by an inspector.

APPROVED: J. M. Bone
General Manager

FIGURE 31. HANDLING OF PARTS (CONTINUED)

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HANDLING OF PARTS (CONTINUED)

All tags contain the following information:

Manufacturer - model - part number - serial number - name of part - owner.

The yellow tag will remain attached to the parts returned to the customer.

The red, white and green tags will be made a part of the work order file. If the rejected part is returned to the customer, the red tag will remain attached and a record will be made on the work order showing the part was returned to the customer.

PART FINISHING

Painting and spraying is accomplished in an area segregated from the assembly areas.

PRESERVATION OF PARTS

Components are preserved in accordance with manufacturer's recommendations or other acceptable industry standards. To afford protection against humidity, extreme temperatures, dust, rough handling or other damage, the component will be preserved by wrapping in suitable containers, plastic bags, and/or rigid boxes containing suitable shock absorption material.

Storage of "Repair Station" preserved components will be accomplished by storing in a separate "Repair Station" location maintained by the "Stores" department. The location should provide maximum protection from physical damage. (Expand as necessary the preservation and storage requirements to suit the products worked on under the repair station ratings.)

SHELF LIFE

For those items having a specific shelf life, Repair Station Form 2468 is completed by the receiving inspector during the first ten (10) calendar days of each month.

Components or parts that have exceeded allowable shelf life limits will be red tagged (Condemned) and will be forwarded to the Supervisor, Quality Control for final disposition.

APPROVED: J. M. Bono
General Manager

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FIGURE 31. HANDLING OF PARTS (CONTINUED)

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INCOMING MATERIAL

All incoming material shall be inspected for quantity, quality, conformity to dimensions or specifications and state of preservation. At this time the cure date of material having shelf life shall be noted, and the older stock shall be used first provided it is not beyond manufacturer's specifications.

HARDWARE AND EQUIPMENT STORAGE

The Stockroom Manager is responsible to the General Manager for the operation of the stockroom and is responsible for controlling, segregating and maintaining all stock and tools as to a serviceable or unserviceable category approved by the Chief Inspector.

In addition the Stockroom manager is required to:

Properly store, segregate and protect materials, parts and supplies.

Provide suitable storage facilities for storing standard parts, spare parts and assure that raw materials are separated from shop and working space.

Provide for the preservation of all articles or parts, while in inventory, that are subject to deterioration and shelf-life specifications.

Only acceptable parts and supplies will be issued for any job. Acceptable industry practices shall be followed for the proper protection and storage of materials. (The standards for use by the repair station should be detailed here.)

APPROVED: J. M. Boas
General Manager

FIGURE 32. RECORD OF TEST AND/OR CALIBRATION. This section should include in-house tests applicable to the repair station ratings and those contracted to outside agencies. It should include a requirement for the signature of the mechanic and/or inspector as appropriate. The record should identify the article by serial number or company assigned number.

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RECORD OF SPECIALIZED INSPECTION, TEST AND/OR CALIBRATION

Specific notations, attesting accomplishment, will be made on either Form 468 and/or appropriate printed work forms for recording specialized inspection, testing and/or calibration of a component or aircraft. (See Section VI of this manual.)

RECORD OF INSPECTIONS

Where a record of the inspection by dimensions, tests or calibration is required by the manufacturer's technical data such record shall be made on an appropriate form properly identified with the Work Order; it must also be dated and signed by the mechanic performing the inspection, tests or calibration and/or the inspector as appropriate.

RECORD OF TESTS AND CALIBRATION OF PRECISION EQUIPMENT

A system is maintained on all precision test equipment that will properly identify each piece of equipment. A file system is maintained to properly identify the equipment and record the date and person testing or calibrating each individual piece of precision equipment. (Give details of system here, or state where it can be obtained.)

WORK BY OUTSIDE CONTRACTORS

When test and/or calibrations are performed by the following outside contractors they will be required to provide the records as outlined above. (List here the outside agencies and the work for which they are contracted to do for the repair station.)

APPROVED: D. M. Gino
General Manager

2/13/81

FIGURE 33. RECORD OF PRECISION TEST EQUIPMENT CALIBRATION.

Reference: FAR Sections 145.47(b) and 145.57(b). Identify the person (by title) responsible for the calibration and the test records. The records should include the manufacturer, model and serial or company assigned number, date of check, the method used to calibrate and the frequency, the person or company who performs checks, and the results and/or corrections made, when the next inspection is due, and requirements to tag equipment as appropriate.

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CONTROL OF PRECISION TOOLS AND TEST EQUIPMENT

Precision tools, gauges, scales, pressure gauges, ammeters, ohmmeters, voltmeters, radio, electronic, X-ray, eddy current and ultrasonic test equipment used in the repair station operations are subject to periodic checks and calibration in accordance with appropriate repair station procedures. (List equipment here and outline procedures as appropriate.)

All repair station personnel, before using test equipment, are responsible to check that the testing unit has a current calibration label attached. Any piece of test equipment found in the repair station without a current calibration label attached shall be given to the inspection department for recalibration.

TEST EQUIPMENT CALIBRATION REQUIREMENTS

Test equipment shall be calibrated at periodic intervals established on the basis of stability, purpose and degree of usage. One year shall be the maximum calibration interval. (List calibration periods on equipment list.)

Each piece of test equipment will be labeled. The label will identify the unit by manufacturer, model and serial number. The attached label must indicate the last calibration date and next calibration due date.

During the first week of each month the chief inspector will review the test equipment calibration history card file and give cards for test equipment requiring calibration to the maintenance manager and each shop foreman as appropriate. It will be the responsibility of those persons to issue work orders to repair station shops or outside contractors as necessary for the calibration of the units and attachment of updated calibration labels. After calibration, the test unit will be checked for proper labeling and the equipment calibration history card will be updated and returned to the inspection department active file.

APPROVED: J. M. Bono
General Manager

FIGURE 33. RECORD OF PRECISION TEST EQUIPMENT CALIBRATION (CONTINUED)(NAME OF COMPANY)REPAIR STATION - INSPECTION PROCEDURES MANUALSection: V
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At no time will any person be permitted to perform work on aircraft or components using test equipment which is out of calibration. The test equipment labels will be checked by supervisors at random to assure that equipment in use is in calibration. If at any time a piece of test equipment inadvertently exceeds its calibration due date, it will immediately be removed from service until a calibration check has been performed.

Standards used to calibrate test equipment must be traceable to U.S. Bureau of Standards or an approved foreign country's standards by certificate from the testing facility. Frequency for calibration standards may vary for different units but must never exceed a 12-month interval.

APPROVED: J. M. Rose
General Manager

2/13/81

FIGURE 34. FINAL INSPECTION AND RELEASE TO SERVICE

Reference: FAR Sections 43.9 and 145.59(a). This should explain compliance with the rules, who performs the inspection (by title), how it is recorded, and require a check of maintenance work package for completion.

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FINAL INSPECTION AND RELEASE TO SERVICE

Prior to approval for return to service, irrespective of the method to be used to indicate such approval, the Chief Inspector will audit the records "package" as identified by the work order, to determine that all work has been inspected as required for compliance with this inspection system and FAR Section 145.59(a). He will indicate affirmative findings approving the form per Section VI of this manual.

When approval has been given to the above audit, either the Chief Inspector or the individual authorized in the official roster and individual summary of employment, will approve the article for return to service.

This approval will be accomplished as appropriate to the work done, the article involved, the records available with the article, and the instructions of the customer. Care will be exercised to comply with FAR Part 43 in every case.

Whenever the aircraft records (log) are available, record of work accomplished is expected to be made therein. This does not waive any FAR Part 145 records requirements. Neither will FAR Part 43 or FAR Part 91 be considered waived by FAR Part 145 records requirements.

Articles such as appliances, accessories, and individual parts or components will not have an individual record to which an entry may be added. However, the installation of these items on an aircraft constitutes an aircraft maintenance or alteration, and records must be made accordingly.

Routinely, major repair approvals will be handled in accordance with Section 43.9 and paragraph (b) of FAR Part 43, Appendix B. A maintenance release is completed as a part of the work order form at the time of approval for return to service. A separate maintenance release card will be completed and shipped on an article that is shipped to a customer. At the request of the customer (to be indicated on the work order when originated), FAA Form 337 will be completed instead of the maintenance release approval for return to service in accordance with the procedure in paragraph (a) of FAR Part 43, Appendix B.

In all cases where major alteration is involved, FAA Form 337 will be completed per FAR Part 43.9 and FAR Part 43, Appendix B.

APPROVED: *L. McBrat*
General Manager

FIGURE 34. FINAL INSPECTION AND RELEASE TO SERVICE (CONTINUED)

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FINAL INSPECTION AND RELEASE TO SERVICE (CONTINUED)

The authorized supervisor in whose area the repair or alteration is accomplished will be responsible for establishing that the repair or alteration was made in accordance with the requirements of FAR Part 43 and will sign the conformity statement (Item 6) on FAA Form 337.

Authorized personnel responsible for the approval for return to service of aircraft will indicate such approval by signing the approval for return to service (Item 7) on FAA Form 337. Appropriate entries will be made in the aircraft record pertinent to the repairs and alterations accomplished by the repair station. Specific reference will be made by calendar date to the applicable FAA Form 337. The original FAA Form 337 will be inserted in the aircraft record with a copy forwarded to the local FAA district office and one copy retained with the copy of the aircraft work order.

It is the responsibility of the person authorizing return to service to assure that the aircraft flight manual is properly revised following any alteration or modification to the aircraft and that the weight and balance record has been amended as necessary.

Aircraft components, appliances, and other items, other than completed aircraft repaired or overhauled as authorized by the repair station specifications, will be returned to service through the use of a maintenance release preprinted on the serviceable parts tag described in this section of this manual. The authorized supervisor under whose jurisdiction the work is accomplished will be responsible for the release of units in the category.

No aircraft or unit may be released for return to service until the work order and other records have been reviewed for completeness and final acceptance cleared by inspection. Particular attention shall be accorded the status of applicable airworthiness directives.

APPROVED: J. M. Arco
General Manager

FIGURE 35. SAMPLE OF MAINTENANCE RELEASE

| (NAME OF COMPANY) | |
|---|--|
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| <u>MAINTENANCE RELEASE STATEMENT</u> | |
| <p>A maintenance release statement stamp and/or preprinted tag, prepared in accordance with FAR Part 43, Appendix B, will be used to release to service major repairs which have been accomplished by this station in accordance with FAR Part 43. Other records required by FAR Part 43.9 will be executed, as required, regardless of whether an FAA Form 337 or maintenance release has been used to return the article to service. In any event, the station will indicate on their copy of the work order whether or not a maintenance release was used, including the signature of the authorized representative.</p> | |
| "Example" | |
| MAINTENANCE RELEASE (title) | |
| <p><u>The (use only applicable rating or ratings) aircraft, airframe, aircraft engine, propeller or appliance identified above was repaired and inspected in accordance with current instructions contained in (name operator and manual or program), the maintenance rules of the Federal Aviation Regulation under which the operator is certificated and is approved for return to service as per those requirements.</u></p> | |
| <p>"Pertinent details of the repair are on file at this repair station under Work Order No. ____ Date _____"</p> | |
| <p>Signed _____ (Signature of authorized representative)</p> | |
| <p>for _____ (Repair station name & certificate number)</p> | |
| <p>_____ (Address)</p> | |
| <p>NOTE 1: Inspection stamp/symbol will <u>not</u> be used on the maintenance release.</p> | |
| <p>APPROVED: <u>J. M. Bras</u> General Manager</p> | |

FIGURE 35A. SAMPLE OF MAINTENANCE RELEASE FOR AIR CARRIER WORK

Reference: FAR Section 43.13(c)(d), FAR Section 145.2, Subpart L of FAR Part 121, Subpart G of FAR Part 125, Subpart I of FAR Part 127, and Subpart J of FAR Part 135.

| | |
|---|--|
| (NAME OF COMPANY) | |
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| <u>MAINTENANCE RELEASE STATEMENT</u> | |
| <p>A maintenance release statement stamp and/or preprinted tag, prepared in accordance with FAR Part 43, Appendix B, will be used to release to service major repairs which have been accomplished by this station in accordance with FAR Part 43. Other records required by FAR Part 43.9 will be executed, as required, regardless of whether an FAA Form 337 or maintenance release has been used to return the article to service. In any event, the station will indicate on their copy of the work order whether or not a maintenance release was used, including the signature of the authorized representative.</p> | |
| "Example" | |
| MAINTENANCE RELEASE (title) | |
| <p><u>The (use only applicable rating or ratings) aircraft, airframe, aircraft engine, propeller or appliance identified above was repaired and inspected in accordance with current instructions contained in (name operator and manual or program), the maintenance rules of the Federal Aviation Regulation under which the operator is certificated and is approved for return to service as per those requirements.</u></p> | |
| <p>"Pertinent details of the repair are on file at this repair station under Work Order No. ____ Date ____"</p> | |
| <p>Signed _____ (Signature of authorized representative)</p> | |
| <p>for _____ (Repair station name & certificate number)</p> | |
| <p>_____ (Address)</p> | |
| <p>NOTE 1: Inspection stamp/symbol will <u>not</u> be used on the maintenance release.</p> | |
| <p>APPROVED: <u>S. M. Broo</u> General Manager</p> | |

FIGURE 36. MALFUNCTION OR DEFECT AND MECHANICAL RELIABILITY REPORT

Reference: FAR Section 145.63(a) and (b). This section should explain in detail how compliance with rules and reporting requirements are to be met, and prescribe the responsibility (by title) of person(s) who prepare and submit reports.

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MALFUNCTION OR DEFECT REPORT

This repair station will report to the FAA within 72 hours after it discovers any serious defect in, or other recurring unairworthy condition of, an aircraft, powerplant, or propeller, or any component of any of them. The report will be made on an FAA Form 8010-4, Malfunction or Defect Report, describing the defect or malfunction completely without withholding any pertinent information. (See Forms Section VI for copy of form.)

In any case, where the filing of a report under the preceding paragraph might prejudice the repair station, it will be referred to the Administrator for a determination as to whether it must be reported. If the defect or malfunction could result in an imminent hazard to flight, the repair station will use the most expeditious method it can to inform the Administrator.

MECHANICAL RELIABILITY REPORTS

When work is being accomplished for an air carrier and a defect as described under the Malfunction or Defect Report is found, the air carrier will be notified in order that a Mechanical Reliability Report may be issued by the air carrier.

RESPONSIBILITY FOR SUBMITTING REPORTS

The General Manager and Chief Inspector are responsible for preparing and submitting a Malfunction or Defect Report to the FAA General Aviation District Office. (Show location of office.)

APPROVED: J. M. Bree
General Manager

FIGURE 37. SUBCONTRACTED MAINTENANCE PROCEDURES

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SUBCONTRACTED MAINTENANCE

Any work performed by another agency for this repair station will be inspected by the Chief Inspector or an inspector delegated for such inspection. This inspection will be to verify that the work was performed in an airworthy manner, that parts and materials used were of such a quality to be airworthy, and that the paperwork received with the material verifies the authenticity of the part and work performed. At no time shall the stockroom manager release any parts made by, or parts having had work performed on them by a subcontractor until the Chief Inspector or an inspector delegated has approved the materials as being airworthy.

All subcontracted work shall be kept separate from regular stock until this inspection has been performed and the material accepted for use.

If for any reason subcontracted material is rejected as being unairworthy, it will immediately be identified as unairworthy and the proper disposition made, such as scrap or return to vendor.

LIST OF SUBCONTRACTED MAINTENANCE

1. Metal plating or anodizing.
2. Complex machine operations involving the use of planers, shapers, milling machines, etc.
3. Abrasive air blasting and chemical cleaning operations.
4. Heat treatment.
5. Magnetic inspection.
6. Fabricate wood spars.
7. Overhaul and repair hydraulic-pneumatic shock absorber units.
8. Overhaul and repair hydraulic system components.
9. Fluorescent inspection of alloy parts.
10. Recovering and refinishing of components and entire aircraft.

APPROVED: J. M. Bras
General Manager

FIGURE 38. PERFORMANCE OF MAINTENANCE, PREVENTIVE MAINTENANCE, ALTERATIONS AND REQUIRED INSPECTION UNDER THE CONTINUOUS AIRWORTHINESS REQUIREMENTS OF FAR PARTS 121, 125, 127, AND 135

NOTE: This section should show how the rule is to be complied with, that the work is to be accomplished in accordance with the operator's manual and a current copy of the manual is available.

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PERFORMANCE OF MAINTENANCE, PREVENTIVE MAINTENANCE, ALTERATIONS AND REQUIRED INSPECTION UNDER THE CONTINUOUS AIRWORTHINESS REQUIREMENTS OF FAR PARTS 121, 125, 127, AND 135.

This repair station will perform this work in accordance with the operator's manual. The repair station will have a current copy of the applicable section of each operator's manual which contracts with the repair station for the performance of that operator's maintenance. The chief inspector will be responsible for keeping each operator's manual revised and determining that the operator's manual is current before a work order is issued.

REQUIRED INSPECTION ITEMS (RII)

Any maintenance operations which, if improperly performed, could be critical to the safe flight of an aircraft will be given a required inspection. A qualified inspector, familiar with all inspection methods, techniques, and equipment will be assigned to determine the quality of airworthiness of the article involved. When work is performed for an operator under the continuous airworthiness requirements of FAR Parts 121, 125, 127, and 135, the RII items specified by the operator will be maintained as RII items.

APPROVED: J. M. Brea
General Manager

FIGURE 39. PERFORMANCE OF WORK AT A LOCATION OTHER THAN THE REPAIR STATION.
Reference: FAR Section 145.51(d). In accordance with FAR Section 145.51(d), a repair station may maintain or alter any article for which it is rated at a place other than the repair station providing certain preparations are made and certain conditions are met as required by FAR Section 145.51(d)(1) and (2). Performance standards are required to remain acceptable at such places of work. FAR Section 145.51(d)(3) requires the inspection procedures manual to contain the approved procedures governing the work to be performed at a place other than the repair station. This is a frequently overlooked manual requirement. In order for a procedure to be valid for approval it should:

1. Be described in terms understandable to those persons who are governed by it in the performance of the work.

2. Be monitored regularly so as to ensure it covers the nature of the work that may be needed outside the repair station. This is necessary as it is difficult to predict the nature of work to be done outside the station.

3. Be tailored for the particular station, the nature of work and the frequency expected. The following are items recommended for consideration:

- a. Who will authorize the work, organize the project, direct it, and who will perform the work?

- b. What type of work tasks will be required (supply, repairs, inspections, communications)?

- c. Where some of the work is to be done. It may be advantageous to perform support work on components or parts at the base repair station as a standard procedure.

- d. How will the work projects be monitored and reviewed to assure procedures are adequate and that records identify the projects for accountability?

- e. Occasional explanations within the system description of why certain requirements, controls or reports are necessary will help employees to understand and accept the system.

4. The privilege to perform work at a location other than the repair station is to be done on a temporary basis. If a permanent station is established at the location, it will be necessary for the repair station to make application for a satellite to the main repair station, or make an original application for a repair station at the location.

FIGURE 39. PERFORMANCE OF WORK AT A LOCATION OTHER THAN THE REPAIR STATION (CONTINUED)

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PERFORMANCE OF MAINTENANCE AT A LOCATION OTHER THAN THE REPAIR STATION

(Name of Company) will provide maintenance service for its customers on an emergency on-call basis at a place away from the repair station. (Name of Company) can only provide this service for work for which the repair station is rated. Only the general manager or the chief inspector are authorized to initiate a work order for such work.

The maintenance manager will be responsible for assigning the personnel necessary to perform the work and appoint a person to be in charge of the work force. The chief inspector will assign the inspector(s) responsible to inspect the work and assure that all required forms and work are completed as necessary. The chief inspector will assign one inspector with the responsibility for returning the article to service.

The maintenance manager will ensure that the article to undergo maintenance and the work force will be in an area safe for the work to be performed and that they will be protected from the elements. The maintenance manager will be responsible for providing all the necessary manpower, work forms, technical data, tools, and equipment necessary for the accomplishment of the maintenance. The maintenance manager will establish a system of communications between the field force and the repair station.

The stockroom manager will be responsible for assigning a stockperson who will provide parts and supply support between the repair station and the field force. All articles removed by the field force from a product undergoing maintenance at a location away from the repair station will be routed through the stockroom parts receiving department. The article(s) will be inspected in accordance with the repair station inspection procedures and either routed to the repair station shops or to contract repair agencies as appropriate.

All personnel assigned to accomplish work away from the repair station shall accomplish the specific function of work in the same manner as when performed at the repair station and in accordance with FAR Sections 145.57 through 145.61.

APPROVED: J. M. Boes
General Manager

FIGURE 40. SECTION VI - FORMS SAMPLE COVER PAGE.

Reference: FAR Section 145.45(f). This section is required to contain samples of each of the forms used by the repair station in the performance of maintenance and the method of executing them. The instruction for executing a form may be contained on the form if it is found practical. However, if it is necessary to change any of the procedures for handling the form it would require a reprint of the form. Unless a form is judged stable, it may be more economical to provide separate instructions on a manual page. It would then be a simple task to revise the manual page to show the change.

1. When planning a form system, important functions to be considered are the control of operational procedures and recordation of all work performed on each article processed.
2. The number and content of the forms would be influenced by the size of the repair station, the complexity and variety of the articles for which the repair station is rated, and the needs of its customers.
3. Some factors to consider during the development of instructions for completing a form are:
 - a. How the form is to be introduced, (at what point in the maintenance process) and when it is to be completed.
 - b. The person or section responsible to start the form, who will contribute to its completion, and who will finish it.
 - c. How the form will be executed (what kind of information, in what form, etc.).
 - d. The purpose of the form, and how it fits into the system.
 - e. How the form will travel and what its final destination in the records system will be.
 - f. A system to locate and check the progress of products enroute thru the repair station.
4. Detailed inspection forms and checklists which may be used in the performance of annual or other approved inspection programs, or engine overhaul inspection sheets, need not be included in this manual. These forms should be referenced in the forms section by form number, revision date and title. The manual should contain instructions for use and a copy of the detailed forms should be available for inspection upon request of the FAA and other authorized persons.

FIGURE 40. SECTION VI - FORMS SAMPLE COVER PAGE (CONTINUED)

5. It is possible at times to develop forms that can be used for multiple operations or work. The form should have adequate space and appropriate instructions, including specific assignment of responsibility, to assure that it can be properly identified with the operation for which it was used and for recordation of work performance.

6. Forms used to record an inspection should be executed by indicating the inspection was completed, or that inspection was not required. Results of the inspection should be entered on the form or, if applicable, indicate that no discrepancies were noted.

NOTE: No examples of forms are offered since forms must be developed in accordance with the need of each repair station.

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SECTION VI

FORMS

AC 145-3

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ADVISORY CIRCULAR

GUIDE FOR DEVELOPING AND EVALUATING REPAIR STATION
INSPECTION PROCEDURES MANUALS



DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Washington, D.C.

DATE 2/13/81

ADVISORY CIRCULAR



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Washington, D.C.

Subject: GUIDE FOR DEVELOPING AND EVALUATING REPAIR STATION
INSPECTION PROCEDURES MANUALS

1. PURPOSE. This advisory circular (AC) provides information for developing and evaluating a repair station inspection procedures manual. This information sets forth an acceptable means, but not the only means, of complying with referenced regulations.
2. RELATED FEDERAL AVIATION REGULATIONS (FAR). FAR Parts 43, 91, 121, 125, 127, 135 and 145.
3. BACKGROUND. The development of a repair station inspection procedures manual that adequately covers all pertinent FAR and the repair station's inspection system has proven to be a time-consuming task for the operator and the Federal Aviation Administration. This guide was developed to reduce that time and to provide a standardized format that may be used to develop a manual that contains a repair station's inspection procedures.
4. DISCUSSION. This document is intended for use as a guide for the development and evaluation of the repair station's inspection procedures manual required by FAR Section 145.11(a)(2) and Section 145.45(f).

a. This guide is not intended to provide a complete sample inspection procedures manual for all repair stations. "Examples" in Appendix 1 are intended to illustrate a requirement related to the FAR. Each inspection procedures manual should be developed within the ratings authorized and the size and complexity of the station. It is important to note that the inspection procedures in the manual are necessary for a satisfactory quality control system, and those procedures should be designed for use by the repair station to satisfactorily perform under its rating(s). In that regard, a repair station with a Limited Specialized Service Rating for Nondestructive Testing would have a different inspection system criteria than a repair station with a Class 3 Airframe Rating. Material is included in portions of this document which may not directly relate to or be required by a referenced

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FAR. However, that material is considered to be valuable as a part of a system for repair station management and illustrates integration of the required inspection procedures and other FAR Part 145 requirements into such a system.

b. A complete inspection procedures manual should at least:

(1) Satisfy the minimum requirements of the FAR.

(2) Accurately describe the repair station operations as related to its ratings.

c. The repair station manual content requirements are outlined in FAR Section 145.45(f) and Section 145.51(d)(3). The following is a brief outline of those manual requirements:

(1) Detailed explanation of the repair station's inspection system.

(2) Details for the continuity of inspection responsibility.

(3) Detailed system of inspecting incoming material.

(4) Detailed system of preliminary inspection.

(5) Detailed system for hidden damage inspection.

(6) Reference to manufacturer's inspection standards for a particular article when applicable or necessary.

(7) Sample of inspection forms and the method of their execution or reference to a document in the forms manual.

(8) Methods and procedures for training inspection personnel.

(9) Approved procedures governing work performed outside the repair station.

(10) Procedures for acceptance of work performed by other facilities.

(11) If applicable, procedures for work performed for air carriers (FAR Section 145.2).

d. An air carrier with an FAA approved repair station rating(s) may make its repair station's inspection procedures manual a part of its air carrier manual provided all of the manual requirements of FAR Part 145 are satisfied.



Joseph A. Pontecorvo
Acting Director of Airworthiness

2/13/81

AC 145-3
Appendix 1

APPENDIX 1. GUIDE FOR DEVELOPING AND EVALUATING REPAIR STATION INSPECTION
PROCEDURES MANUALS

FIGURE 1. MANUAL COVER PAGE

Reference: FAR Section 145.11(a)(2). This page should identify the
manual as an "Inspection Procedures Manual."

INSPECTION PROCEDURES MANUAL

FOR

FAA APPROVED REPAIR STATION NO. _____ (Insert repair station #)

d/b/a

(NAME OF COMPANY)

(ADDRESS)

(STREET, CITY, STATE AND ZIP CODE)

MANUAL: CONTROL NO. _____

ASSIGNMENT: _____

2/13/81

FIGURE 2. TABLE OF CONTENTS

| <u>(NAME OF COMPANY)</u> <u>REPAIR STATION - INSPECTION PROCEDURES MANUAL</u> <u>TABLE OF CONTENTS-PAGE 1 OF 3</u> | | <u>Page No.</u> |
|--|--|-----------------|
| INTRODUCTION | | i |
| MANUAL CONTROL | | ii |
| RECORD OF REVISION | | iii |
| LIST OF EFFECTIVE PAGES | | iv |
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| Facility Floor Plan | | 2 |
| SECTION II COMPANY ORGANIZATION | | |
| Organization Chart | | 1 |
| Authority and Roster of Authorized Inspection Personnel | | 2-3 |
| SECTION III PERSONNEL & TRAINING | | |
| Training | | 1 |
| Employment Summary | | 2 |
| SECTION IV DUTIES & RESPONSIBILITIES | | |
| General Manager | | 1 |
| Chief Inspector | | 2-3-4 |
| Maintenance Manager | | 5-6 |
| Avionics Manager | | 7-8 |
| Stockroom Manager | | 9 |
| SECTION V INSPECTION SYSTEM | | |
| General | | 1 |
| Inspection Personnel | | 1-2 |
| APPROVED: <u>L. M. Bras</u> | | |
| General Manager | | |

FIGURE 2. TABLE OF CONTENTS (CONTINUED)

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURE MANUAL

TABLE OF CONTENTS - PAGE 2 OF 3

SECTION V INSPECTION SYSTEM (CONTINUED)

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| Inspectors, Mechanics and Supervisors | 2 |
| Continuity of Inspection Responsibility | 3 |
| Parts Receiving Policy | 4 |
| General Test Requirements | 4-5 |
| Work Order | 6 |
| Record of Work | 7 |
| Preliminary Inspection | 8 |
| Inspection for Hidden Damage | 9 |
| Progressive Inspection | 10 |
| Major Repair And Alteration, Aircraft And Components | 10 |
| Repair, Alteration and Overhaul Accessories and Appliances | 10 |
| Inspection Procedures | 11 |
| Maintenance Inspection | 12 |
| Continuity of Maintenance Responsibility | 12 |
| Handling of Parts | 13 |
| Tagging and Identification of Parts | 13-14 |
| Part Finishing | 14 |
| Preservation of Parts | 14 |
| Shelf Life | 14 |
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| Test and/or Calibration | 16 |
| Record of Inspections | 16 |
| Record of Test and Calibration of Precision Equipment | 16 |
| Work by Outside Contractors | 16 |
| Control of Precision Tools and Test Equipment | 17 |
| Test Equipment Calibration Requirements | 17-18 |
| Final Inspection and Release to Service | 19-20 |

APPROVED: R. M. Boes
 General Manager

FIGURE 2. TABLE OF CONTENTS (CONTINUED)

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURE MANUAL

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SECTION V INSPECTION SYSTEM (CONTINUED)

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| Maintenance Release Statement | 21 |
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| Mechanical Reliability Reports | 22 |
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| Subcontracted Maintenance | 23 |
| List of Subcontracted Maintenance | 23 |
| Performance of Maintenance, Preventive Maintenance, Alterations and Required Inspection Under the Continuous Airworthiness Requirements of FAR Parts 121, 125, 127, and 135 | 24 |
| Required Inspection Items (RII) | 24 |
| Performance of Work at a Location Other Than The Repair Station | 25 |

SECTION VI FORMS

List as Required for Repair Station Operation

APPROVED: *J. M. Bros*
General Manager

FIGURE 3. INTRODUCTION PAGE

Reference: FAR Section 145.11(a)(2) and Section 145.45(f). This page should reflect the company's philosophy and an explanation of the manual.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Title: Introduction
Page No: i
Issue Date: 7/1/78

This inspection procedures manual has been prepared in accordance with the current Federal Aviation Regulations (FAR) and the policies of (insert name of company).

This manual explains the internal inspection system in detail, including the continuity of inspection responsibility. It gives samples of inspection forms used and their method of execution. The manual gives a detailed explanation of the following portions of the inspection system: incoming materials, preliminary inspection, hidden damage, inspection continuity and final inspection of the article being maintained or altered at this facility.

The general repair, overhaul or alteration of products will be performed in accordance with the current Federal Aviation Regulations, manufacturer's data, drawings, specifications and bulletins, or other technical data approved by the Administrator for the particular (insert appropriate rating(s) or limited rating(s) airframe, engine, propeller or appliance). Limited rating specialized service for (insert appropriate rating) will be performed in accordance with the procedures outlined in the (insert name of company) Process Specification (insert number) approved by the Federal Aviation Administration (FAA) dated (insert date approved by FAA).

This repair station will not maintain or alter any item for which it is not rated, and will not maintain or alter any article for which it is rated if it requires technical data, equipment, materials, facilities or trained personnel that are not available. (FAR 145.53).

The technical library and this inspection procedures manual, required for operation of this repair station, will be maintained in a current status at all times.

Each supervisor and inspector working for this repair station will have a current copy of this manual and should thoroughly understand its contents. It will also be available to other repair station personnel.

Note: (If applicable) include the following: The performance of any maintenance, preventive maintenance, alteration or required inspections for an air carrier or commercial operator having a continuous airworthiness program under FAR Part 121, 125, 127, or 135, will be performed in accordance with the requirements of FAR Part 145, Section 145.2

APPROVED: J. M. Bero
General Manager

2/13/81

FIGURE 4. MANUAL CONTROL PAGE

Reference: FAR Section 145.45(f). This page should explain how the manual is to be maintained and kept current.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Title: Manual Control
Page No: ii
Issue Date 7/1/78

Each manual will have a control number and an assignment entry on the manual cover page. A master list containing the manual number, location and revision status will be kept in the general manager's office.

The general manager will obtain from the chief inspector and each shop supervisor once each month a manual status report. This report will either confirm that the manual is still current and valid for that department's use, or will identify needed changes.

A follow-up file will be maintained in the general manager's office showing, on a continuous basis, the disposition of each needed change which is identified.

The general manager will have those revisions he finds necessary produced in a final form for coordination with the FAA General Aviation District Office at (insert location). Each page of the manual and revision thereto will be approved by the general manager. Upon acceptance by FAA, sufficient copies will be made and distributed to provide revision pages for each manual holder.

Upon receipt of a revision, each manual holder will be responsible for inserting the revised pages in its manual, record the revision on the manual's record of revision page and return the acknowledgment form (provided with the revision) to the general manager showing the holder has revised its manual.

A list of effective pages will be issued with each revision so each manual can be checked and kept current.

APPROVED: J. M. Braco
General Manager

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Appendix 1

Reference: FAR Section 145.45(f). This page should contain a record of all revisions.

[illegible]

FIGURE 6. LIST OF EFFECTIVE PAGES

Reference: FAR Section 145.45(f). This page should list each page in the manual and show the current effective date of that page. A new list of effective pages would be required with each revision in order to provide a means for the manual holder to check that its manual is current.

| (NAME OF COMPANY) REPAIR STATION - INSPECTION PROCEDURES MANUAL | | | | | | | | |
|---|--|--------|---------|----------|------|---------|----------|------|
| Title: List of Effective Pages Page No: iv Issue Date: 7/1/78 | | | | | | | | |
| Revision No: _____ | | | | | | | | |
| Section | Page No. | Date | Section | Page No. | Date | Section | Page No. | Date |
| Table of Contents | 1 Thru 3 | 7/1/78 | | | | | | |
| Introduction | i | 7/1/78 | | | | | | |
| Manual Control | ii | 7/1/78 | | | | | | |
| Record of Revisions | iii | 7/1/78 | | | | | | |
| List of Effective Pages | iv | 7/1/78 | | | | | | |
| I | 1 Thru 2 | 7/1/78 | | | | | | |
| II | 1 Thru 3 | 7/1/78 | | | | | | |
| III | 1 Thru 2 | 7/1/78 | | | | | | |
| IV | 1 Thru 9 | 7/1/78 | | | | | | |
| V | 1 Thru 25 | 7/1/78 | | | | | | |
| VI | List as necessary for repair station operation | | | | | | | |

APPROVED: *J. M. Boer*
General Manager

2/13/81

AC 145-3
Appendix 1

FIGURE 7. SECTION I - HOUSING AND FACILITIES COVER PAGE

NOTE: This information is not required by FAR to be included in the manual. If inclusion is desirable examples are provided.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

SECTION I
HOUSING AND FACILITIES

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FIGURE 8. HOUSING AND FACILITIES DESCRIPTION PAGE.

Reference: FAR Section 145.35(a) through (h) and FAR Section 145.37(a) through (f). This page should contain a description of the type of buildings, facilities and type of construction. Include type of floors, heating, lighting, natural light, electrical and compressed air outlets. Other special requirements applicable to spray painting, airframe or engine ratings, instrument, radio and propeller ratings, should be covered on this page. Total area (in square feet) should be given.

NOTE: (Ref. FAR Section 145.21). Any changes to the location or in its housing and facility must be approved in writing by the local Flight Standards District Office.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: I
Page No: 1
Title: Housing and Facilities
Issue Date: 7/1/78

The (insert name of company) FAA Certificated Repair Station No. (insert) is completely housed in an all steel semicantilever two bay hangar with attached offices, stockroom, and shops with the following:

69,000 Square feet of hangar floor space
1,183 Square feet of office space
2,662 Square feet of stockroom floor space
2,581 Square feet of shop space

All floors are constructed of reinforced concrete with asphalt tile overlay in the offices and shops.

All office and shop spaces are lighted with fluorescent light fixtures. All hangar bays are lighted with approximately 50 explosion proof 750 watt lamp assemblies. 220 Volt-30 amp and 110 Volt-20 amp circuits are available in hangar and shop areas.

Hangar has four doors, each 50' wide, two to each of the hangar's two bays. The doors, when open have all overhead clearance of 38'6" and leave a 100' opening the full length of each hangar bay. Doors can be operated manually or electrically.

Traveling hoists are located on the beams of the hangar, servicing the entire floor space. The entire hangar, offices, stockroom and shops are protected with a fire alarm and sprinkler system. The ramp in front of the hangar is concrete and is lighted by floodlights at night.

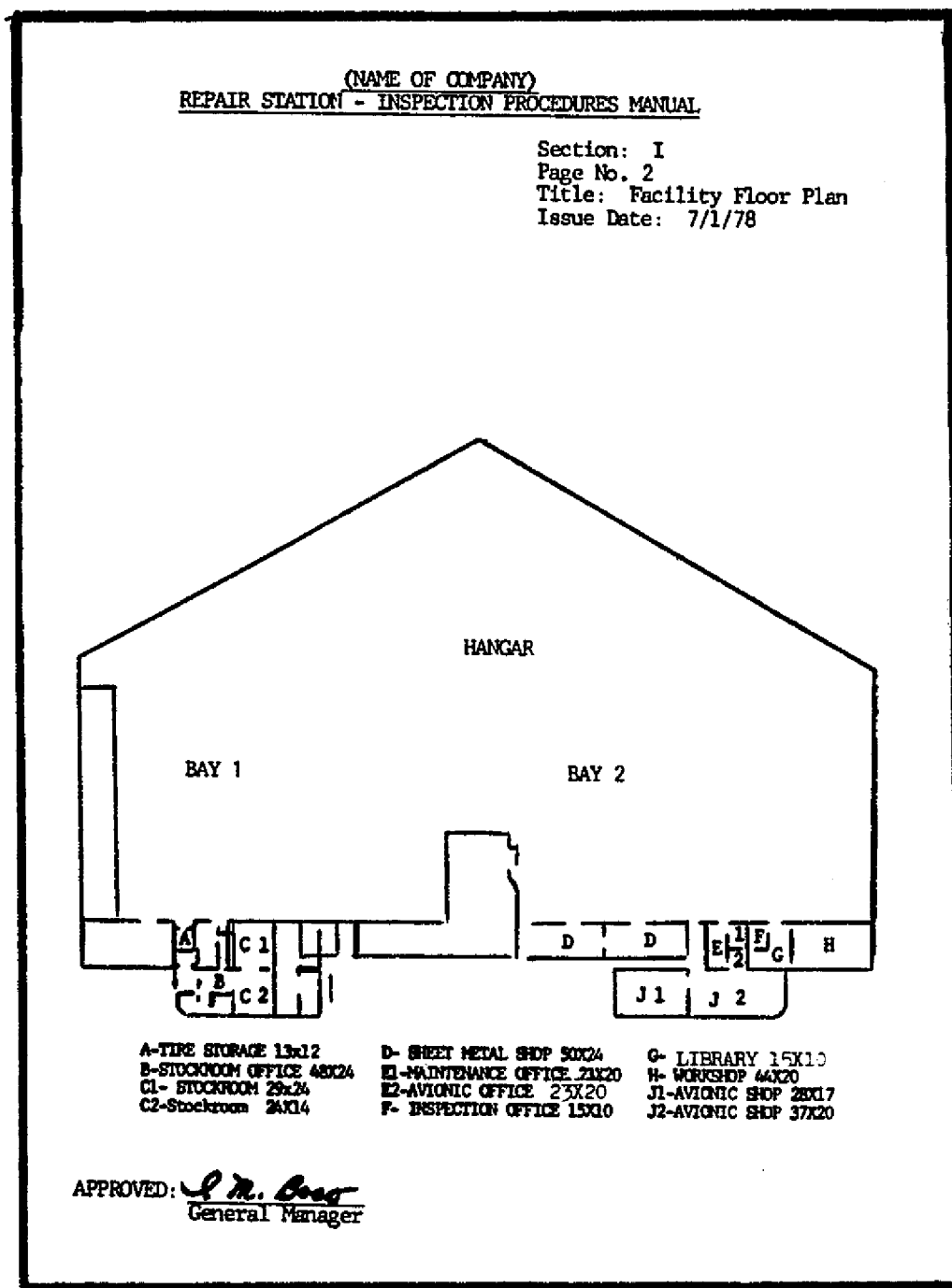
A 90 PSI/60 CFM electric driven air compressor supplies filtered compressed air to wall outlets equipped with moisture traps at convenient locations in hangar and shop areas.

Hangar is heated by a central boiler room blowing hot air through ducts and overhead blowers. The offices, stockroom, and shops are heated through hot air ducts.

APPROVED: *J. M. B...*
General Manager

FIGURE 9. FACILITY FLOOR PLAN

Reference: FAR Section 145.37. This page would contain a floor plan of shops, hangar, stock area, offices, etc. External dimensions of the individual areas should be given.



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FIGURE 10. SECTION II - COMPANY ORGANIZATION COVER PAGE

NOTE: Only information relating to the inspection responsibility continuity is required to be included in the manual.

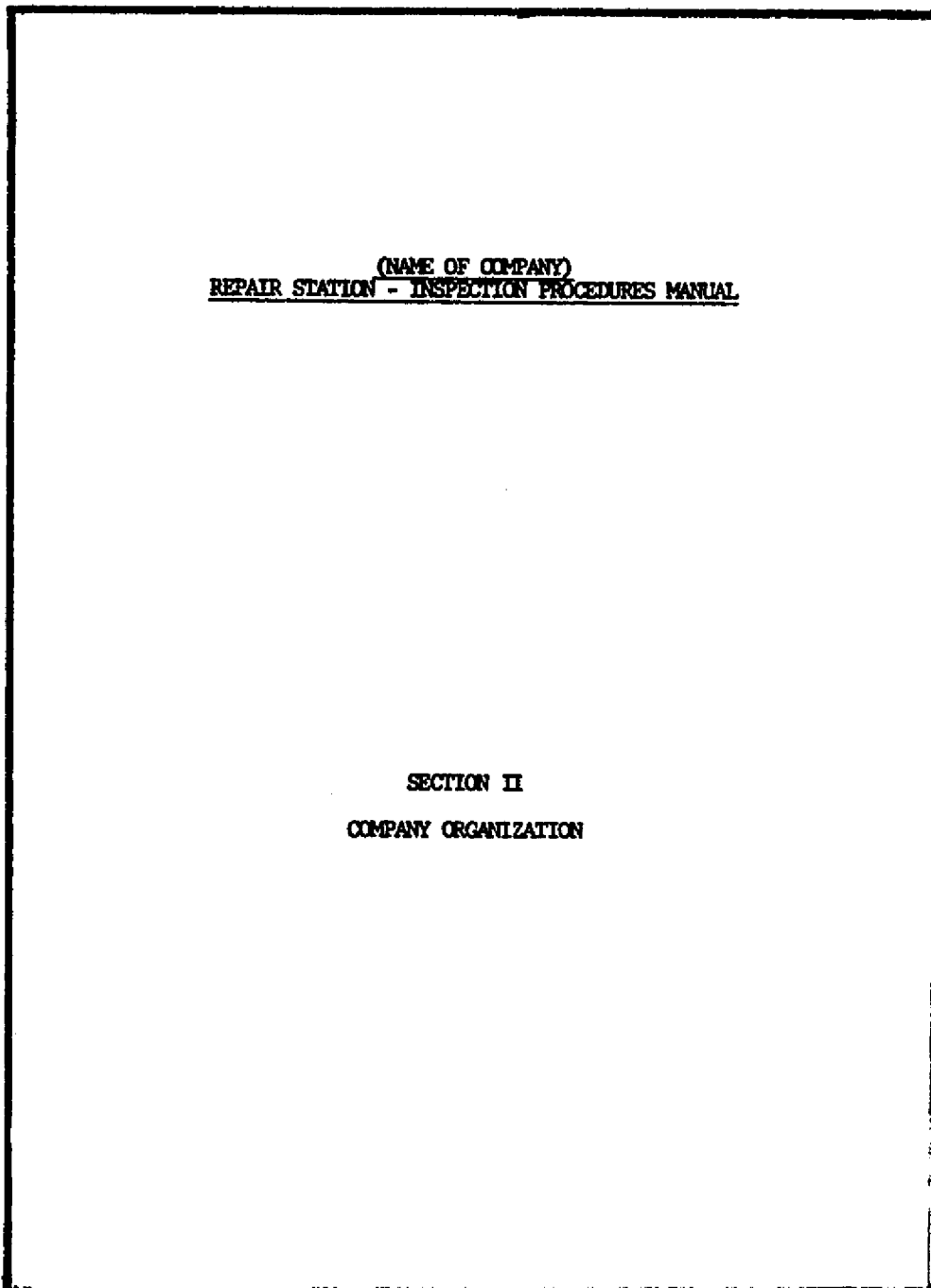


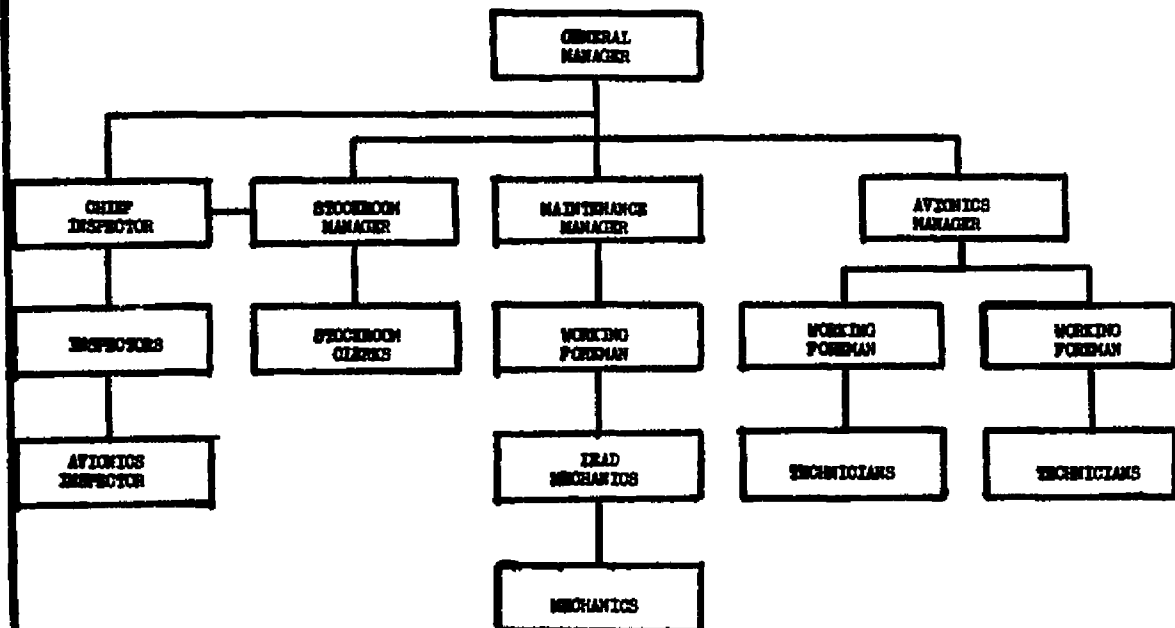
FIGURE 11. ORGANIZATIONAL CHART

Reference: FAR Section 145.43(a) through (e). This page should contain the company organization flow chart indicating authority by title only. It should reflect separation between supervision of the maintenance and inspection departments.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: II
 Page No: 1
 Title: Organization Chart
 Issue Date: 7/1/78

ORGANIZATIONAL CHART



APPROVED: J. M. Bras
 General Manager

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FIGURE 12. AUTHORITY AND ROSTER OF AUTHORIZED INSPECTION PERSONNEL.

Reference: FAR Section 145.43(a)(2). This information is not required by regulation to be kept in this manual but is required to be available in the repair station. It is recommended that this information be kept in the repair station only, so a revision to the list would not require a revision of the manual. If a repair station finds it advantageous, the information may be included in this part of the manual. In either case, it should include the name of the chief inspector, all inspection personnel and identify those inspectors who make final quality determination before approval for return to service. It should include all authorized signatures for "Return to Service" and indicate the area of responsibility of each person.

NOTE 1: A space should be provided opposite each name for their signature. If work is performed in accordance with FAR Section 145.2, required inspection personnel should be designated as required by Subpart L of FAR Part 121, Subpart G of FAR Part 125, Subpart I of FAR Part 127 and Subpart J of FAR Part 135. Training records are required to be maintained on each individual to show compliance with FAR Section 145.39(e).

NOTE 2: No person may perform a required inspection on work covered by Section 145.2 if that person performed the item of work to be inspected.

| (NAME OF COMPANY) | | | |
|---|--|----------------------------|---------------|
| REPAIR STATION - INSPECTION PROCEDURES MANUAL | | | |
| Section: II | | | |
| Page No: 2 | | | |
| Title: Authority and Roster of Authorized Inspection Personnel | | | |
| Issue Date: 7/1/78 | | | |
| Name and Title | Certificate Type and Number | Inspector's Identification | |
| (***) Barry Jones Chief, Inspector | AAP 15602 Repairman O 36891 Instruments Propellers | Signature | Initial Stamp |
| (***) Joseph Camp Inspector Line & Receiving | AAP 21625 | | |
| (***) Michael Jabe Inspector Ranger and Receiving | AAP R1392 | | |
| (*) Anthony Nickalo Maintenance Manager | AAP T1496 | | |
| (***) John Baker Avionics Manager | Repairman 1420 Avionics | | |
| (***) Ray Kuree Inspector Avionics | Repairman 1328 Avionics | | |
| (***) John Jones Inspector Specialized Service | Repairman 1692 X-ray Ultrasonic Magnetic particle Eddy current | | |
| Authority Delegation. | | | |
| (*) Authorized to sign for lead mechanic work only. | | | |
| (**) Authorized to return air carrier aircraft to service, in accordance with FAR Parts 121, 125, 127, and 135 within the scope of the repair station. | | | |
| (***) Authorized to return air carrier aircraft to service, in accordance with FAR Parts 121, 125, 127, and 135 regarding avionics equipment, within the scope of the repair station ratings. | | | |
| APPROVED: <i>D. W. Bono</i> General Manager | | | |

FIGURE 12. AUTHORITY AND ROSTER OF AUTHORIZED INSPECTION
PERSONNEL (CONTINUED)

| | |
|--|--------------------------------------|
| <u>(NAME OF COMPANY)</u> | |
| <u>REPAIR STATION - INSPECTION PROCEDURES MANUAL</u> | |
| Section: II | |
| Page No. 3 | |
| Title: Authority and Roster of Authorized Inspection Personnel | |
| Issue Date: 7/1/78 | |
| <u>AUTHORITY DELEGATION (CONTINUED)</u> | |
| For a complete list of duties, see Chief Inspector's duties. | |
| The inspector will signify acceptance of work performed by stamping the appropriate box on the work order or inspection form along with the date the work is accepted. | |
| Log book entries, inspection forms, and FAA forms must be signed using full name and in ink by the inspector completing the inspection. | |
| A master list shall be maintained with each inspector's full name, initials and stamp in this section of the repair station manual (or in the repair station as applicable). A stamp issued to an inspector will be destroyed when an inspector no longer acts as a member of the inspection department, and that number will not be reissued. | |
| All inspectors are authorized to return to service aircraft and/or component for which the repair station is rated after annual inspection, major alteration or major repairs have been completed. | |
| APPROVED: | <u>J. M. Bues</u> General Manager |

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FIGURE 13. SECTION III - PERSONNEL & TRAINING COVER PAGE

NOTE: This information is not required by FAR to be included in this manual, except the procedures for training inspection personnel. Companies who desire, may include this information in its manual for all personnel.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

SECTION III

PERSONNEL & TRAINING

FIGURE 14. TRAINING INFORMATION

Reference: FAR Section 145.39(e) and Section 145.45. This page should identify what methods are to be used. The records should reflect the methods, type, length of training, where and when it was received. The records should be kept current.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: III
Page No. 1
Title: Training
Issue Date: 7/1/78

Training of repair station inspectors and other personnel will be accomplished by classroom instruction plus factory and on the job training as necessary.

Classroom training will be accomplished by the maintenance manager, chief inspector or factory field service representatives.

Factory training will be scheduled as necessary for personnel to become familiar with new aircraft and aviation products or product improvements.

Current records will be maintained for each employee by the general manager on Form 123, Record of Employee's Training. The record will indicate the type of training (detailed), method, duration, date of completion, location and include the name of the instructor that conducted the classroom and on the job training. Copies of the certificates issued for factory training will be kept in employee's file.

APPROVED: S. M. Broo
General Manager

2/13/81

FIGURE 15. EMPLOYMENT SUMMARY

Reference: FAR Section 145.43(b) (1) through (5). This information is not required by regulation to be kept in this manual, but is required to be available in the repair station, it is suggested that this information not be made part of this manual so that a revision to the list would not require a revision to the manual. A company who desires, may include it in its manual. In either case, a separate summary is required for each person that is listed in Section II, Pages 1 & 2. It should contain the information as shown on the sample for each person to show compliance with the regulations.

NOTE 1: It should be in the format of the referenced regulation.

NOTE 2: It is recommended that space be provided at the end of each summary for the individual's signature.

NOTE 3: This summary is required to be maintained in accordance with Section 145.43(c) through (e).

| (NAME OF COMPANY) REPAIR STATION - INSPECTION PROCEDURES MANUAL | | | |
|---|-----------|---|-----------------|
| | | Section: III Page No: 2 Title: Employment Summary Issue Date: 7/1/78 | |
| Name: <u>Harry Jones</u> | | Title: <u>Chief Inspector</u> | |
| Scope of present employment: <u>Has complete repair station inspection responsibility. Type certificate(s) rating(s) & number(s) A&P 15602, Repairman Q36891 Instruments & Propellers. Total years experience: 30yrs.</u> | | | |
| <u>Work Record</u> | | | |
| <u>From</u> | <u>To</u> | <u>Employer and address</u> | <u>Position</u> |
| 1. 1-48 | 2-58 | A.B.C. Aviation - Newton, New York | A&P Mechanic |
| 2. 2-58 | 5-65 | A.B.C. Aviation - Newton, New York | Lead Mechanic |
| 3. 5-65 | 7-69 | A.B.C. Aviation - Newton, New York | Shop Foreman |
| 4. 7-69 | Present | Elmo Aviation - Fresno, California | Chief Inspector |
| Signed: <u>Harry Jones</u> HARRY JONES | | | |
| APPROVED: <u>J. M. Bess</u> General Manager | | | |

FIGURE 16. SECTION IV - DUTIES AND RESPONSIBILITIES COVER PAGE

NOTE: This section should contain the duties and responsibilities of key positions by title (use separate page(s), one page for each position shown on the organizational chart in Section II). No names should appear in this section, only titles. Title should be the same as on the organizational charts and elsewhere in the manual. The information contained on the following pages are examples. Place the applicable titles, duties, and responsibilities in the appropriate positions as they exist at your facility. Only the information relating to the continuity of inspection responsibility is required to be included in the manual.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURE MANUAL

SECTION IV
DUTIES AND RESPONSIBILITIES

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FIGURE 17. DUTIES AND RESPONSIBILITIES - GENERAL MANAGER

Reference: FAR Sections 145.35, 145.37, 145.39, 145.41, 145.43, 145.47, 145.49, and 145.55.

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: IV
Page No: 1
Title: Duties and Responsibilities
Issue Date: 7/1/78

GENERAL MANAGER

The general manager is responsible to the vice president of technical services for the complete overall operations of the repair station, including the adequate housing and facilities and the continued maintenance thereof. In addition the general manager is also responsible:

For providing adequate training, equipment, materials and competent personnel pertinent to the operations of the repair station in order that it may comply with all applicable Federal Aviation Regulations (FAR) and manufacturer's recommendations.

To ascertain that adequate fire fighting equipment is available at the repair station.

To establish standards to ascertain that adequate safety precautions are observed.

To establish procedures to determine the need for original and recurrent training of personnel consistent with the work to be performed. Establish liaison with air carriers respecting applicable FAR requirements, when work for air carriers is to be performed.

In the absence of a maintenance manager or chief inspector the general manager assumes the responsibilities and delegates authority to qualified personnel as dictated by FAR Part 145 and FAR Part 43, to release aircraft for service after repair or inspections.

The general manager may delegate all duties assigned to any qualified assistant as necessary however, such delegation does not relieve the general manager of the overall responsibilities.

APPROVED: *J. M. Bono*
General Manager

FIGURE 18. DUTIES AND RESPONSIBILITIES - CHIEF INSPECTOR**Reference: FAR Sections 145.35, 145.45, 145.47, 145.55, 145.57, and 145.59**

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURE MANUAL

Section: IV
Page No: 2
Title: Duties and Responsibilities
Issue Date: 7/1/78

CHIEF INSPECTOR

The chief inspector is responsible to the general manager for the overall operation of the inspection department and, as such, will have the final authority in the releasing to service of airframes, engines, propellers, appliances and the component parts thereof. In addition, the inspector is responsible for directing, planning and laying out the details of inspection standards, methods and procedures used by the repair station in complying with all applicable Federal Aviation Regulations, manufacturer's specifications and recommendations.

It is the chief inspector's duty to:

1. Assist, supervise and direct all personnel assigned to the inspection department.
2. Ascertain that all inspections are properly performed on all completed work and that the proper inspection records, reports and forms used by the repair station are properly executed prior to releasing the product for return to service.
3. Maintain and keep current a file of pertinent Federal Aviation Regulations, specifications, type certification data sheets, and airworthiness directives.
4. Determine that all technical data on all articles overhauled or repaired by the repair station are secured and kept current with latest revisions by the respective department inspectors. This data will include repair station's process specification for limited rating specialized services, manufacturer's overhaul manuals, service bulletins, part specifications, related Federal Aviation Administration approved data and other technical data used by the repair station. In addition, assure that all military technical orders used in the overhaul and repair of components have been evaluated and approved by the FAA.

APPROVED: J. M. Boco
General Manager

2/13/81

FIGURE 18. DUTIES AND RESPONSIBILITIES - CHIEF INSPECTOR (CONTINUED)

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: IV
Page No: 3
Title: Duties and Responsibilities
Issue Date: 7/1/78

CHIEF INSPECTOR (CONTINUED)

5. Assure that periodic checks are made on all inspection tools and the calibration of precision test equipment used by the repair station and mechanics who have their own precision equipment. Further assure that a current record of those inspections and test is maintained.
6. Determine that no defective, unserviceable, or unairworthy parts are installed in any component or articles released by the repair station.
7. Submit reports of defects of unairworthy condition in accordance with FAR 145.63.
8. Assure the proper execution of FAA Form 337 when required, and/or a maintenance release.
9. Accomplish the final acceptance of all incoming material, including new parts, supplies and the airworthiness of articles on which work has been performed outside the repair station by contract.
10. Conduct the preliminary, hidden damage, in-progress, and final inspection of all articles processed by the repair station and record results as outlined in this manual.
11. Oversee the proper tagging and identification of all parts and components as outlined in this manual
12. Provide for continuity of inspection responsibility, assuring completion of required inspection when personnel shift or assignment changes occur.

APPROVED: J. M. Bono
General Manager

FIGURE 18. DUTIES AND RESPONSIBILITIES - CHIEF INSPECTOR (CONTINUED)

(NAME OF COMPANY)
REPAIR STATION - INSPECTION PROCEDURES MANUAL

Section: IV
Page No: 4
Title: Duties and Responsibilities
Issue Date: 7/1/78

CHIEF INSPECTOR (CONTINUED)

13. See that rejected and unserviceable parts are handled in such a way as to prevent their reuse as serviceable parts.
14. Ascertain that all inspections are properly performed on all completed work before it is approved for return to service, and that the proper inspection and maintenance records, reports, and forms required for such release are properly executed.
15. Maintain files of completed work orders and inspection forms in such a manner that the file pertaining to a specific item repaired can be readily located for review.
16. Inspect all radio work that requires the qualification of an ASP mechanic, such as airframe structures, airframe electrical wiring, and weight and balance.

Note: The chief inspector may delegate all duties assigned to any qualified assistant as necessary, however, such delegation does not relieve the chief inspector of the overall responsibilities.

APPROVED: J. M. Bono
General manager

FIGURE 19. DUTIES AND RESPONSIBILITIES - MAINTENANCE MANAGER
Reference: FAR Sections 145.35, 145.37, 145.39, 145.45, 145.47, 145.55, 145.57, 145.59, and 145.61.

| | |
|---|---|
| <p>(NAME OF COMPANY) <u>REPAIR STATION - INSPECTION PROCEDURES MANUAL</u></p> | |
| | <p>Section: IV Page No: 5 Title: Duties and Responsibilities Issue Date: 7/1/78</p> |
| <p><u>MAINTENANCE MANAGER</u></p> <p>The maintenance manager is responsible to the general manager for the operation of the repair station.</p> <p>In addition, the maintenance manager is responsible for:</p> <ol style="list-style-type: none">1. Training and assisting subordinates in the proper work procedures and practices to be followed.2. Maintaining all hangar and shop equipment and tools in a serviceable working condition, assuring that periodic checks and calibrations are made on special tools and test equipment, and that current records are maintained of those tests and calibrations.3. Ascertaining that all necessary maintenance entries on maintenance forms and work orders used by the repair station are properly executed by the responsible mechanics.4. Maintaining the premises of the repair station in a clean and orderly manner.5. Initiating purchase requisitions for stock as required.6. Assuring that the personnel in the maintenance department do quality work.7. Conducting periodic drills for the purpose of indoctrinating personnel in the proper use and location of fire fighting equipment, and checking the equipment periodically for serviceability and adequacy. <p>APPROVED: <u>J. M. Bono</u> General Manager</p> | |

FIGURE 19. DUTIES AND RESPONSIBILITIES - MAINTENANCE MANAGER (CONTINUED)

(NAME OF COMPANY)

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MAINTENANCE MANAGER (CONTINUED)

8. Indoctrinating the personnel in observing the safety precautions relevant to the functions for which they may be utilized.
9. Making available to the departments under the maintenance manager's control the required technical data on all aircraft, engines, and appliance, for the maintenance accomplished and keeping the data current with latest revision. The data will include manufacturers' maintenance and overhaul manuals, service bulletins, parts specifications, related Federal Aviation Administration approved data, and any other technical data used by the repair station.
10. Assuring the proper handling of all parts while in repair process and when work is completed.
11. Maintaining the preservation of all units or parts during the work process, installation and storage.

Note: The maintenance manager may delegate all duties to any qualified assistant as necessary, however, such delegation does not relieve the maintenance manager of the overall responsibilities.

APPROVED: J. M. Bono
General Manager

2/13/81

FIGURE 20. DUTIES AND RESPONSIBILITIES - AVIONICS MANAGER

Reference: FAR Sections 145.35, 145.37, 145.39, 145.45, 145.47, 145.57, 145.59 and 145.61.

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AVIONICS MANAGER

The avionics manager is responsible to the general manager for the overall operation of the avionics department.

In addition, the avionics manager is responsible for:

1. The planning, direction and coordination of activities within the department, and the planning of its activities in conjunction with other departments, as required.
2. Assuring that the repair and overhaul of all articles and components within the avionics manager jurisdiction is accomplished within the authority of the repair station and that the work is inspected by the inspection department.
3. Training and assisting subordinates in the proper work procedures and practices to be followed.
4. Making available to the avionics department the required technical data on all articles overhauled or repaired by the avionics department and keeping the data current with latest revisions. The data will include manufacturers' overhaul manuals, service bulletins, parts specifications, related Federal Aviation Administration approved data and any other technical data used.
5. The maintenance of all avionics department equipment and tools in a serviceable working condition, assuring that periodic checks and calibration are made on test equipment and that current records are maintained of those tests and calibrations.
6. Ascertaining that all necessary maintenance entries on maintenance forms and work orders used by the repair station are properly executed by the responsible technicians.
7. The quality of work performed by the personnel in the department.

APPROVED: J. M. Boco
General Manager

FIGURE 20. DUTIES AND RESPONSIBILITIES - AVIONICS MANAGER (CONTINUED)

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AVIONICS MANAGER (CONTINUED)

8. The proper handling of all parts while in repair process through the avionics shop and when work is completed.
9. The preservation of all units or parts during process through the avionics shop and when work is completed.
10. To insure that the maintenance of the avionics department premises are kept in a clean and orderly manner.
11. Initiating purchase orders for stock as required.
12. The maintenance of all avionics department records.

Note: The avionics manager may delegate all duties to any qualified assistant as necessary, however, such delegation does not relieve the avionics manager of the overall responsibilities.

APPROVED: J. M. Bree
General Manager

2/13/81

FIGURE 21. DUTIES AND RESPONSIBILITIES - STOCKROOM MANAGER
Reference: FAR Sections 145.35 and 145.37

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STOCKROOM MANAGER

The stockroom manager is responsible to the general manager for the operation of the stockroom.

In addition, the stockroom manager is responsible:

For identifying, controlling, segregating, and maintaining all stock and tools to a serviceable or unserviceable category as designated by the chief inspector.

For the preservation of all articles or parts, while carried in inventory, including parts that are subject to deterioration and shelf-life specifications.

For controlling the inventory.

For distributing to all pertinent departments any miscellaneous technical information, etc., which is received by the stockroom.

For ascertaining that a sufficient supply of fire fighting and safety equipment is provided for use at fire stations in hangars, shops, ramps, and vehicles and for their replacement after use.

The stockroom manager may delegate to any qualified assistant as necessary, however, such delegation does not relieve the stockroom manager of the overall responsibilities.

APPROVED: *L. M. Bero*
General Manager

FIGURE 22. SECTION V - INSPECTION SYSTEM COVER PAGE.

NOTE: This section contains some areas that may be considered in excess of minimum FAR requirements. In order to produce satisfactory quality control those additional procedures were required.

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INSPECTION SYSTEM

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FIGURE 23. INSPECTION SYSTEM AND INSPECTION PERSONNEL.

Reference: FAR Sections 145.45, 145.45(a), (b), (1), (2), (3) and 145.59(b). All inspectors should be certificated in accordance with FAR Part 65.

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INSPECTION SYSTEM

GENERAL

The chief inspector is responsible to the general manager for full compliance with all procedures outlined in this system as appropriate to any item being inspected, repaired, overhauled or altered by the repair station. The airworthiness of those items and compliance with record requirements of the operators of those items and of the repair station, depends upon conformity to the procedures of this system.

INSPECTION PERSONNEL

Inspection personnel are required to be thoroughly familiar with all inspection methods, techniques and equipment used in their area of responsibility to determine the quality of airworthiness of an article undergoing maintenance, repair or alterations. All personnel must also maintain proficiency in the use of the various types of inspection aids to be used for inspection of the particular items undergoing inspection. Available to all inspection personnel are current specifications involving inspection tolerances, limits, and procedures as set forth by manufacturer of the product undergoing inspection and other forms of inspection information such as FAA airworthiness directives, manufacturers bulletins, etc. A file of maintenance manuals, engineering letters, service letters, FAA regulations, etc., are maintained in the inspection office.

Inspection personnel assigned to repair station operations are required to familiarize themselves with FAA regulations applicable to such operations with particular emphasis on the following:

- FAR Part 21 - Certification Procedures For Products And Parts
- FAR Part 23 - Airworthiness Standards: Normal, Utility And Acrobatic Category Airplanes
- FAR Part 25 - Airworthiness Standards: Transport Category Airplanes
- FAR Part 39 - Airworthiness Directives

APPROVED: J. M. Bono
General Manager

FIGURE 23. INSPECTION AND INSPECTION PERSONNEL (CONTINUED)

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INSPECTION PERSONNEL (CONTINUED)

FAR Part 43 - Maintenance, Preventive Maintenance, Rebuilding and Alteration

FAR Part 45 - Identification And Registration Marking

FAR Part 65 - Certification: Airmen Other Than Flight Crewmembers

FAR Part 91 - General Operating And Flight Rules

FAR Part 145 - Repair Stations

FAR Part 121 - Certification and Operations: Domestic, Flag, and Supplemental Air Carriers and Commercial Operators of Large Aircraft

FAR Part 125 Certification and Operation Rules for Certain Large Airplanes

FAR Part 135 - Air Taxi Operators And Commercial Operators

INSPECTORS, MECHANICS AND SUPERVISORS

All supervisors, inspectors and mechanics are required to be thoroughly familiar with the requirements of this manual, FAA regulations, airworthiness directives and advisory circulars, manufacturers service letters and bulletins and engineering orders. The basic inspection system requires mechanics to sign their last name for work performed by them prior to submitting the item to inspectors for final acceptance. Inspectors will indicate their acceptance of work performed with the application of the inspector's acceptance stamp next to the item on the work forms. See Section VI of this manual for sample forms and instructions for their use.

APPROVED: J. M. Bono
General Manager

2/13/81

FIGURE 24. INSPECTION CONTINUITY

Reference: FAR Sections 145.45(f) and 145.61. This section should show by title, who performs the inspection, the forms to be used, and disposition of the records. The inspection continuity should encompass incoming materials, preliminary hidden damage and final inspection where applicable. It should include items as they progress through various stages of repair, overhaul or modification, including other inspections, test and calibrations (Rockwell Hardness Test, Magnflux, Ultrasonic X-ray, etc.), adjusting or calibrating VOR, DME or ILS equipment. It should establish a system for passing along the continuity of inspection and other maintenance from one shift or person to another. It should reference manufacturer's inspection standards for the maintenance of the particular items.

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CONTINUITY OF INSPECTION RESPONSIBILITY

Through a "Line of Succession" list maintained by the chief inspector, his duties are assured of performance as "Acting Chief Inspector."

A status book will be provided in the hangar and each shop in which a status report will be left by each of the inspectors leaving the job before completion of a project, for information to the succeeding inspector. Its purpose is to assure a continuing inspection responsibility for in-progress work inspections.

All forms upon which work performed is listed have been designed to show the name of the mechanic, or repairman who performs the work (or supervises it) and the name of the inspector inspecting that work.

A project involving work other than inspection only, may not be approved for return to service unless it has been cleared by the chief inspector as satisfying the requirements of FAR 145.61, and 145.59(a).

Samples of work forms, inspection forms, and instructions for completing them, are contained in Section VI of this manual.

APPROVED: J. M. Boas
General Manager

FIGURE 25. INCOMING MATERIALS

Reference: FAR Section 145.45(c). This section should explain how compliance is shown, how the inspections are recorded, classification of incoming materials, including checks for damage, preservation and shelf-life, identification of parts by part number, and the person responsible to perform the inspection (by title). In addition, it should describe the action to be taken when materials received do not meet specifications.

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PARTS RECEIVING POLICY

The chief inspector of the repair station (or designee) is responsible to see that all incoming materials, AN or MS and other hardware, parts, component, equipment and other products procured for use by the repair station are subject to receiving inspection to assure conformance to part number, purchase order and/or other applicable specifications. A record of such inspections will be recorded on repair station Form No. 214, Receiving Inspection. Any products that fail to meet applicable specifications will be red tagged as unserviceable, listing the discrepancy and be returned to the stockroom manager for return to vendor. To preclude those parts from being used, the stockroom manager will place such items in the locked holding area until they are repacked for shipping back to the vendor.

GENERAL TEST REQUIREMENTS:

1. New components manufactured under a type or production certificate, or in accordance with a Technical Standard Order (or similar FAA approved technical data), or components which have been rebuilt by the manufacturer to production specifications, require a visual receiving inspection.
2. Any repaired or overhauled components received from an FAA certificated repair station do not normally require more than a visual receiving inspection before being returned to service. Repaired or overhauled components that are received from other than an FAA certified repair station, in addition to the normal receiving inspection, will be functionally checked before being returned to service.
3. All components requiring a functional check are routed to the proper repair station shop for the accomplishment of this check.

NOTE: Functional checks are performed in accordance with instructions contained in the appropriate manufacturer's publications. However, if such specific instructions are not available, functional check requirements will be determined by the chief inspector, and issued on a form to provide a means of recording compliance therewith.

APPROVED: D. M. Bree
GENERAL MANAGER

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FIGURE 25. INCOMING MATERIALS (CONTINUED)

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PARTS RECEIVING POLICY (CONTINUED)

NOTE: Functional checks are performed in accordance with instructions contained in the appropriate manufacturer's publications. However, if such specific instructions are not available, functional check requirements will be determined by the chief inspector, and issued on a form to provide a means of recording compliance therewith. If suitable test facilities are not available in repair station, components may be functionally checked in the aircraft. In any case, all functional checks must be monitored and recorded by the chief inspector or designee.

4. The Supervisor - Quality Control may request a functional check of any component overhauled or repaired by any agency, when of the opinion that such a check is required in order to return the component to service.
5. All adhesives, sealers, primers, finishing and other materials having limited shelf-life are identified by material control labels showing the expiration date of the shelf-life as established by applicable specifications. Inspectors and mechanics will dispose of any materials found in the shop or store rooms without such identification or with expired shelf-life.
6. The detailed functions of material inspection are covered by the manufacturer's quality assurance directive and inspection bulletins which will be used to implement the operation of the repair station with respect to the control and identification of materials, parts and equipment received for direct use in the repair station. All parts new or overhauled purchased from vendors will be checked for proper approval documentation prior to release for installation by the repair station.

APPROVED: J. M. Bono
General Manager

FIGURE 26. WORK ORDER

Reference: FAR Section 145.61. The work order should have an identification number, show the name of the repair station, address and the FAA assigned repair station number. It should show the customers name and address, complete identification of the items worked on, detailed instructions for work to be accomplished and space or reference instructions for work to be accomplished. For the work accomplished sign off space for mechanics and inspector. And instructions for sign off of work as acceptable to the company.

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WORK ORDER

Upon receipt of a work request for maintenance or alteration on an airframe, engine, accessory, propeller, instrument, radio or a product requiring a specialized service covered by the repair station certificate, the maintenance department will issue a (name of company) Repair Station Work Order Form 1234 to authorize that work to be accomplished. The form is prenumbered and that number will be the basic reference for the product's maintenance record. The work order will specify the work to be accomplished. The work order will be supplemented as necessary with detailed inspection instructions along with applicable forms, to assure proper inspection and repair of the unit involved. The number of additional forms used will be identified on the work order. The original of the printed and numbered work order form will be retained in the maintenance manager's office.

A logbook will be maintained in the maintenance manager's office for recording each work order in numerical order, identifying the customer, the product for which it was issued along with the manufacturer serial number, special instructions and the work accomplished.

It will be the responsibility of the respective shop manager and chief inspector to assure that proper supplemental instructions are furnished to assure proper progressive servicing, inspection and testing of the product involved.

Mechanics will enter work accomplished and use last names to sign off that work on the form. Inspectors will use their inspection stamp to sign off inspections. A list of inspectors and stamp numbers are contained in this manual under Section II, Page 2.

See copy of work order and supplemental forms in Section VI of this manual.

APPROVED: D. M. Brad
 General Manager

FIGURE 27. RECORD OF WORK

Reference: FAR Section 145.61. A copy of the work order with all attachments should be on file as a permanent record of all work accomplished. The record should reflect the signature of each mechanic and inspector that performed maintenance on each unit. It should reflect exactly what work was accomplished. It should show all of the parts used. The records should be maintained for a period of not less than two years.

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RECORD OF WORK

A detailed record shall be kept of all work performed by the repair station. A copy of each Work Order Form 1234 with all attached supplementary form(s) will be maintained in the repair station records section. A separate file area is provided for all paper work associated with the repair station's work activities. Each work record is checked by an inspector for work accomplished, parts used, signature of mechanic and inspectors who performed maintenance. Records are maintained in active file for two (2) years then transferred to dead storage for 5 additional years.

APPROVED: S. M. Amos
General Manager

FIGURE 28. PRELIMINARY INSPECTION.

Reference: FAR Sections 145.2 and 145.45(d). This information should indicate who is to perform the inspection, the method of inspection and any special testing requirements. Instructions should include the type of form to be used, how defects noted are recorded and the requirement to make them part of the work order.

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| <p>(NAME OF COMPANY)</p> <p><u>REPAIR STATION - INSPECTION PROCEDURES MANUAL</u></p> <p>Section: V Page No: 8 Title: Inspection System Issue Date: 7/1/78</p> <p><u>PRELIMINARY INSPECTION</u></p> <p>The Chief Inspector of the repair station is responsible for the performance of appropriate inspections including functional and nondestructive tests to assure that all units delivered to the repair station for maintenance, alteration or repair under the privileges of the repair station certificate are subjected to a preliminary inspection to determine the state of preservation and any defects on the items involved. This inspection will be recorded on the Preliminary Inspection Form 567 with any discrepancies noted and the form must be attached to the work order identified with the unit involved. It will remain with the applicable inspection records until the unit is released for service. Appropriate supplemental forms will be used to record the results of functional and nondestructive tests. Those forms will show the work order number and will be routed attached to the work order.</p> <p>Before any work is begun, the Chief Inspector will, in the case of work to be performed for an air carrier under the continuous airworthiness requirements of FAR Parts 121, 125, 127, or 135, make sure that all necessary current information and specifications are included or referred to in the work instructions that are to accompany the article through the repair station, and that the work is done in accordance with the air carrier's manual.</p> <p>APPROVED: <u>S. M. Jones</u> General Manager</p> | |
|--|--|

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FIGURE 29. HIDDEN DAMAGE INSPECTION

Reference: FAR Section 145.45(e). This section should describe who is to perform the inspection (by title), the depth (should include areas adjacent to obviously damaged members or components), how the inspection will be recorded, the recording and handling of any defects noted and the requirement to make the inspection a part of the work order.

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INSPECTION FOR HIDDEN DAMAGE

The preliminary inspection is not limited to the area of obvious damage or deterioration but includes a thorough and searching inspection for hidden damage in areas adjacent to the damaged area and/or in the case of deterioration, a thorough review of all similar materials or equipment in a given system or structural area. The scope of this inspection will be governed by the type of unit involved with special consideration accorded previous operating history, Malfunction or Defect Reports, service bulletins and AD notes applicable to the unit involved. The inspector is responsible for listing all discrepancies noted during inspection on the work order prior to release for return to service. See Section VI of this manual for proper forms and instructions for using them.

APPROVED J. M. Rose
General Manager

FIGURE 30. RECORD OF INSPECTION

Reference: FAR Sections 145.59(a), 145.59(d) through (f) and 145.61.
This section should explain how the results of required inspections are recorded and made part of the applicable work order.

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PROGRESSIVE INSPECTION

Authorized inspectors will be assigned to make inspections at various stages of teardown, overhaul, and repair of all units or components received by the repair station for service. Progressive inspections are accomplished with a frequency determined by applicable manual recommendations and/or repair station originated work forms.

MAJOR REPAIR AND ALTERATION AIRCRAFT AND COMPONENTS

Following the preliminary inspection, additional records may be prepared by the inspection department to provide a comprehensive historical record of the work performed. These records will contain work orders, service bulletins, AD notes, service letters, type of inspection, detailed figures related to functional tests and special nondestructive tests to be accomplished. The approved engineering or other approved technical data authorizing the repair or alteration will be clearly indicated. Where special drawings are made to cover specific repair conditions, a copy of the drawing will be included in the aircraft records.

Units removed from the aircraft will be tagged with the appropriate inspection identification tag listing the aircraft serial number, unit serial number and reason for removal.

No item removed and tagged as above described will be reinstalled unless the unit is cleared as "serviceable" by inspection.

REPAIR, ALTERATION AND OVERHAUL ACCESSORIES AND APPLIANCES

Self-contained accessory and appliance units such as actuators, pumps, valves, generators, etc., which, after preliminary inspection, have been established as eligible for overhaul or repair, will be identified with a green repairable part tag with appropriate repair instructions entered on the face of the tag, as authorized by the work order. No such unit shall be approved for returned to service without a maintenance release tag authorizing its return to service.

APPROVED: J. M. Bono
General Manager

FIGURE 30. RECORD OF INSPECTION (CONTINUED)

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INSPECTION PROCEDURES

The Chief Inspector is responsible for the complete and efficient performance of inspections assigned to the repair station to assure inspection acceptance in accordance with manual specifications or other approved technical data.

Shop supervisors are responsible for the accomplishment of all work in accordance with manual specifications or other approved technical data. The work done under the repair station's Limited Rating- Specialized Service Nondestructive Inspection by X-ray, magnetic particle, eddy current or ultrasonic must be accomplished in accordance with the (name of company) FAA approved process specification NDT-1 dated 7/1/78.

Alterations and repair will be subject to progressive inspection by the inspection department. Discrepancies generated during the process of accomplishing the work involved will be recorded on the appropriate work forms. Discrepancies so recorded will be corrected before the unit is submitted for final inspection. Upon completion of this progressive inspection, the area affected is given a shakedown inspection and after all rework is accomplished and accepted, the inspection will clear the unit for final acceptance.

Upon completion of a specific operation, the mechanic will sign off the records using his signature indicating that the item is complete and ready for inspection. The action accomplished to correct a specific discrepancy will be noted under each item on the work order. The inspector will then inspect the item to assure conformance to specifications and established workmanship standards. Functional checks of any system affected by the work involved will be accomplished before final acceptance. Inspection acceptance will be indicated by the inspector's stamp.

APPROVED: J. M. Bono
General Manager

FIGURE 30. RECORD OF INSPECTION (CONTINUED)

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MAINTENANCE INSPECTION

One-hundred hour and progressive inspections, inspections of amateur built aircraft and aircraft on FAR Section 91.217 programs will be accomplished in accordance with the inspection cards or inspection schedule provided for each specific model aircraft. The inspection paperwork will be supplemented as necessary to cover items to be replaced for time, special inspection items, discrepancies and airworthiness directives. All 100-hour and annual inspection paperwork will comply with FAR Part 43 Appendix D.

No aircraft will be returned to service following an inspection as outlined above until all discrepancies affecting airworthiness have been corrected.

Maintenance supervisors are responsible for screening completed work orders covering work performed in their assigned area to assure that all items on the work order have been cleared, that there are no open discrepancies and that all major work accomplished is covered by approved data. Inspector will recheck to assure compliance with this section.

After work orders have been screened for completeness and accuracy, they are routed to the maintenance manager's office. Such inspection and work records will be retained in active file for a period of not less than two years (as required by FAR Part 145) and then transferred to dead storage for 5 additional years.

CONTINUITY OF MAINTENANCE RESPONSIBILITY

A status book will be provided in the hangar and each shop in which a status report will be entered by each of the lead mechanics informing the next shift of the status of each job not completed. Its purpose is to assure a continuing maintenance responsibility for work in progress.

APPROVED: D. M. Brown
General Manager

2/13/81

FIGURE 31. HANDLING OF PARTS

Reference: FAR Sections 145.35, 145.35(a)(3), 145.35(d) 145.35(a)(4) and 145.35(e). This section should explain compliance with the rule.

Processing of parts, identification, tag, segregation, protection from damage and/or contamination, parts finishing, preservation, stock control and shelf-life.

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HANDLING OF PARTS

All items or components undergoing maintenance, repairs and/or alterations in the repair station shall have the component parts segregated and in containers in order to assure that all parts of the same unit(s) are kept together. Suitable trays, racks, stands and protective coverings (as required) are to be provided in shop areas to ensure maximum protection of all parts. Rejected parts will be identified by the use of a red reject tag and final disposition will be the responsibility of the Supervisor - Quality Control.

TAGGING AND IDENTIFICATION OF PARTS

The following is our four (4) tag system:

White tag - Used for identification of unit and customer only. To be completed by shop supervisor or a designated employee.

Green tag - Will be attached to units or parts requiring repairs or test and will include work to be performed. To be executed and signed by inspector only.

Yellow tag - To be attached to completed units which have received final inspection and are approved for return to service. The maintenance release is printed or stamped on the reverse side of this tag. (See Maintenance Release Statement, Section V, Page 21). This release will be signed by a designated person only.

Red tag - Will be attached to rejected parts, pending final disposition. If rejected parts are in large quantities, they can be placed in a special container marked "rejected parts." This tag to be completed by an inspector.

APPROVED: *J. M. Brea*
General Manager

FIGURE 31. HANDLING OF PARTS (CONTINUED)

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HANDLING OF PARTS (CONTINUED)

All tags contain the following information:

Manufacturer - model - part number - serial number - name of part - owner.

The yellow tag will remain attached to the parts returned to the customer.

The red, white and green tags will be made a part of the work order file. If the rejected part is returned to the customer, the red tag will remain attached and a record will be made on the work order showing the part was returned to the customer.

PART FINISHING

Painting and spraying is accomplished in an area segregated from the assembly areas.

PRESERVATION OF PARTS

Components are preserved in accordance with manufacturer's recommendations or other acceptable industry standards. To afford protection against humidity, extreme temperatures, dust, rough handling or other damage, the component will be preserved by wrapping in suitable containers, plastic bags, and/or rigid boxes containing suitable shock absorption material.

Storage of "Repair Station" preserved components will be accomplished by storing in a separate "Repair Station" location maintained by the "Stores" department. The location should provide maximum protection from physical damage. (Expand as necessary the preservation and storage requirements to suit the products worked on under the repair station ratings.)

SHELF LIFE

For those items having a specific shelf life, Repair Station Form 2468 is completed by the receiving inspector during the first ten (10) calendar days of each month.

Components or parts that have exceeded allowable shelf life limits will be red tagged (Condemned) and will be forwarded to the Supervisor, Quality Control for final disposition.

APPROVED: J. M. Bono
General Manager

FIGURE 31. HANDLING OF PARTS (CONTINUED)

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INCOMING MATERIAL

All incoming material shall be inspected for quantity, quality, conformity to dimensions or specifications and state of preservation. At this time the cure date of material having shelf life shall be noted, and the older stock shall be used first provided it is not beyond manufacturer's specifications.

HARDWARE AND EQUIPMENT STORAGE

The Stockroom Manager is responsible to the General Manager for the operation of the stockroom and is responsible for controlling, segregating and maintaining all stock and tools as to a serviceable or unserviceable category approved by the Chief Inspector.

In addition the Stockroom manager is required to:

Properly store, segregate and protect materials, parts and supplies.

Provide suitable storage facilities for storing standard parts, spare parts and assure that raw materials are separated from shop and working space.

Provide for the preservation of all articles or parts, while in inventory, that are subject to deterioration and shelf-life specifications.

Only acceptable parts and supplies will be issued for any job. Acceptable industry practices shall be followed for the proper protection and storage of materials. (The standards for use by the repair station should be detailed here.)

APPROVED: J. W. Bone
General Manager

FIGURE 32. RECORD OF TEST AND/OR CALIBRATION. This section should include in-house tests applicable to the repair station ratings and those contracted to outside agencies. It should include a requirement for the signature of the mechanic and/or inspector as appropriate. The record should identify the article by serial number or company assigned number.

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RECORD OF SPECIALIZED INSPECTION, TEST AND/OR CALIBRATION

Specific notations, attesting accomplishment, will be made on either Form 468 and/or appropriate printed work forms for recording specialized inspection, testing and/or calibration of a component or aircraft. (See Section VI of this manual.)

RECORD OF INSPECTIONS

Where a record of the inspection by dimensions, tests or calibration is required by the manufacturer's technical data such record shall be made on an appropriate form properly identified with the Work Order; it must also be dated and signed by the mechanic performing the inspection, tests or calibration and/or the inspector as appropriate.

RECORD OF TESTS AND CALIBRATION OF PRECISION EQUIPMENT

A system is maintained on all precision test equipment that will properly identify each piece of equipment. A file system is maintained to properly identify the equipment and record the date and person testing or calibrating each individual piece of precision equipment. (Give details of system here, or state where it can be obtained.)

WORK BY OUTSIDE CONTRACTORS

When test and/or calibrations are performed by the following outside contractors they will be required to provide the records as outlined above. (List here the outside agencies and the work for which they are contracted to do for the repair station.)

APPROVED: S. M. Gino
General Manager

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FIGURE 33. RECORD OF PRECISION TEST EQUIPMENT CALIBRATION.

Reference: FAR Sections 145.47(b) and 145.57(b). Identify the person (by title) responsible for the calibration and the test records. The records should include the manufacturer, model and serial or company assigned number, date of check, the method used to calibrate and the frequency, the person or company who performs checks, and the results and/or corrections made, when the next inspection is due, and requirements to tag equipment as appropriate.

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CONTROL OF PRECISION TOOLS AND TEST EQUIPMENT

Precision tools, gauges, scales, pressure gauges, ammeters, ohmmeters, voltmeters, radio, electronic, X-ray, eddy current and ultrasonic test equipment used in the repair station operations are subject to periodic checks and calibration in accordance with appropriate repair station procedures. (List equipment here and outline procedures as appropriate.)

All repair station personnel, before using test equipment, are responsible to check that the testing unit has a current calibration label attached. Any piece of test equipment found in the repair station without a current calibration label attached shall be given to the inspection department for recalibration.

TEST EQUIPMENT CALIBRATION REQUIREMENTS

Test equipment shall be calibrated at periodic intervals established on the basis of stability, purpose and degree of usage. One year shall be the maximum calibration interval. (List calibration periods on equipment list.)

Each piece of test equipment will be labeled. The label will identify the unit by manufacturer, model and serial number. The attached label must indicate the last calibration date and next calibration due date.

During the first week of each month the chief inspector will review the test equipment calibration history card file and give cards for test equipment requiring calibration to the maintenance manager and each shop foreman as appropriate. It will be the responsibility of those persons to issue work orders to repair station shops or outside contractors as necessary for the calibration of the units and attachment of updated calibration labels. After calibration, the test unit will be checked for proper labeling and the equipment calibration history card will be updated and returned to the inspection department active file.

APPROVED: *J. M. Bono*
General Manager

FIGURE 33. RECORD OF PRECISION TEST EQUIPMENT CALIBRATION (CONTINUED)

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TEST EQUIPMENT CALIBRATION REQUIREMENTS (CONTINUED)

At no time will any person be permitted to perform work on aircraft or components using test equipment which is out of calibration. The test equipment labels will be checked by supervisors at random to assure that equipment in use is in calibration. If at any time a piece of test equipment inadvertently exceeds its calibration due date, it will immediately be removed from service until a calibration check has been performed.

Standards used to calibrate test equipment must be traceable to U.S. Bureau of Standards or an approved foreign country's standards by certificate from the testing facility. Frequency for calibration standards may vary for different units but must never exceed a 12-month interval.

APPROVED: J. M. Ross
General Manager

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FIGURE 34. FINAL INSPECTION AND RELEASE TO SERVICE

Reference: FAR Sections 43.9 and 145.59(a). This should explain compliance with the rules, who performs the inspection (by title), how it is recorded, and require a check of maintenance work package for completion.

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FINAL INSPECTION AND RELEASE TO SERVICE

Prior to approval for return to service, irrespective of the method to be used to indicate such approval, the Chief Inspector will audit the records "package" as identified by the work order, to determine that all work has been inspected as required for compliance with this inspection system and FAR Section 145.59(a). He will indicate affirmative findings approving the form per Section VI of this manual.

When approval has been given to the above audit, either the Chief Inspector or the individual authorized in the official roster and individual summary of employment, will approve the article for return to service.

This approval will be accomplished as appropriate to the work done, the article involved, the records available with the article, and the instructions of the customer. Care will be exercised to comply with FAR Part 43 in every case.

Whenever the aircraft records (log) are available, record of work accomplished is expected to be made therein. This does not waive any FAR Part 145 records requirements. Neither will FAR Part 43 or FAR Part 91 be considered waived by FAR Part 145 records requirements.

Articles such as appliances, accessories, and individual parts or components will not have an individual record to which an entry may be added. However, the installation of these items on an aircraft constitutes an aircraft maintenance or alteration, and records must be made accordingly.

Routinely, major repair approvals will be handled in accordance with Section 43.9 and paragraph (b) of FAR Part 43, Appendix B. A maintenance release is completed as a part of the work order form at the time of approval for return to service. A separate maintenance release card will be completed and shipped on an article that is shipped to a customer. At the request of the customer (to be indicated on the work order when originated), FAA Form 337 will be completed instead of the maintenance release approval for return to service in accordance with the procedure in paragraph (a) of FAR Part 43, Appendix B.

In all cases where major alteration is involved, FAA Form 337 will be completed per FAR Part 43.9 and FAR Part 43, Appendix B.

APPROVED: *L. M. Brad*
General Manager

FIGURE 34. FINAL INSPECTION AND RELEASE TO SERVICE (CONTINUED)

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FINAL INSPECTION AND RELEASE TO SERVICE (CONTINUED)

The authorized supervisor in whose area the repair or alteration is accomplished will be responsible for establishing that the repair or alteration was made in accordance with the requirements of FAR Part 43 and will sign the conformity statement (Item 6) on FAA Form 337.

Authorized personnel responsible for the approval for return to service of aircraft will indicate such approval by signing the approval for return to service (Item 7) on FAA Form 337. Appropriate entries will be made in the aircraft record pertinent to the repairs and alterations accomplished by the repair station. Specific reference will be made by calendar date to the applicable FAA Form 337. The original FAA Form 337 will be inserted in the aircraft record with a copy forwarded to the local FAA district office and one copy retained with the copy of the aircraft work order.

It is the responsibility of the person authorizing return to service to assure that the aircraft flight manual is properly revised following any alteration or modification to the aircraft and that the weight and balance record has been amended as necessary.

Aircraft components, appliances, and other items, other than completed aircraft repaired or overhauled as authorized by the repair station specifications, will be returned to service through the use of a maintenance release preprinted on the serviceable parts tag described in this section of this manual. The authorized supervisor under whose jurisdiction the work is accomplished will be responsible for the release of units in the category.

No aircraft or unit may be released for return to service until the work order and other records have been reviewed for completeness and final acceptance cleared by inspection. Particular attention shall be accorded the status of applicable airworthiness directives.

APPROVED: J. M. Bono
General Manager

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FIGURE 35. SAMPLE OF MAINTENANCE RELEASE

| | |
|---|--|
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| <u>MAINTENANCE RELEASE STATEMENT</u> | |
| <p>A maintenance release statement stamp and/or preprinted tag, prepared in accordance with FAR Part 43, Appendix B, will be used to release to service major repairs which have been accomplished by this station in accordance with FAR Part 43. Other records required by FAR Part 43.9 will be executed, as required, regardless of whether an FAA Form 337 or maintenance release has been used to return the article to service. In any event, the station will indicate on their copy of the work order whether or not a maintenance release was used, including the signature of the authorized representative.</p> | |
| "Example" | |
| MAINTENANCE RELEASE (title) | |
| <p><u>The (use only applicable rating or ratings) aircraft, airframe, aircraft engine, propeller or appliance identified above was repaired and inspected in accordance with current instructions contained in (name operator and manual or program), the maintenance rules of the Federal Aviation Regulation under which the operator is certificated and is approved for return to service as per those requirements.</u></p> | |
| <p>"Pertinent details of the repair are on file at this repair station under Work Order No. ____ Date ____"</p> | |
| <p>Signed _____ (Signature of authorized representative)</p> | |
| <p>for _____ (Repair station name & certificate number)</p> | |
| <p>_____ (Address)</p> | |
| <p>NOTE 1: Inspection stamp/symbol will <u>not</u> be used on the maintenance release.</p> | |
| <p>APPROVED: <u>J. M. Bras</u> General Manager</p> | |

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FIGURE 35A. SAMPLE OF MAINTENANCE RELEASE FOR AIR CARRIER WORK

Reference: FAR Section 43.13(c)(d), FAR Section 145.2, Subpart L of FAR Part 121, Subpart G of FAR Part 125, Subpart I of FAR Part 127, and Subpart J of FAR Part 135.

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| <u>MAINTENANCE RELEASE STATEMENT</u> | |
| <p>A maintenance release statement stamp and/or preprinted tag, prepared in accordance with FAR Part 43, Appendix B, will be used to release to service major repairs which have been accomplished by this station in accordance with FAR Part 43. Other records required by FAR Part 43.9 will be executed, as required, regardless of whether an FAA Form 337 or maintenance release has been used to return the article to service. In any event, the station will indicate on their copy of the work order whether or not a maintenance release was used, including the signature of the authorized representative.</p> | |
| "Example" | |
| MAINTENANCE RELEASE (title) | |
| <p><u>The (use only applicable rating or ratings) aircraft, airframe, aircraft engine, propeller or appliance identified above was repaired and inspected in accordance with current instructions contained in (name operator and manual or program), the maintenance rules of the Federal Aviation Regulation under which the operator is certificated and is approved for return to service as per those requirements.</u></p> | |
| <p>"Pertinent details of the repair are on file at this repair station under Work Order No. ____ Date ____"</p> | |
| <p>Signed _____ (Signature of authorized representative)</p> | |
| <p>for _____ (Repair station name & certificate number)</p> | |
| <p>_____ (Address)</p> | |
| <p>NOTE 1: Inspection stamp/symbol will <u>not</u> be used on the maintenance release.</p> | |
| <p>APPROVED: <u>S. M. Bono</u> General Manager</p> | |

FIGURE 36. MALFUNCTION OR DEFECT AND MECHANICAL RELIABILITY REPORT

Reference: FAR Section 145.63(a) and (b). This section should explain in detail how compliance with rules and reporting requirements are to be met, and prescribe the responsibility (by title) of person(s) who prepare and submit reports.

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MALFUNCTION OR DEFECT REPORT

This repair station will report to the FAA within 72 hours after it discovers any serious defect in, or other recurring unairworthy condition of, an aircraft, powerplant, or propeller, or any component of any of them. The report will be made on an FAA Form 8010-4, Malfunction or Defect Report, describing the defect or malfunction completely without withholding any pertinent information. (See Forms Section VI for copy of form.)

In any case, where the filing of a report under the preceding paragraph might prejudice the repair station, it will be referred to the Administrator for a determination as to whether it must be reported. If the defect or malfunction could result in an imminent hazard to flight, the repair station will use the most expeditious method it can to inform the Administrator.

MECHANICAL RELIABILITY REPORTS

When work is being accomplished for an air carrier and a defect as described under the Malfunction or Defect Report is found, the air carrier will be notified in order that a Mechanical Reliability Report may be issued by the air carrier.

RESPONSIBILITY FOR SUBMITTING REPORTS

The General Manager and Chief Inspector are responsible for preparing and submitting a Malfunction or Defect Report to the FAA General Aviation District Office. (Show location of office.)

APPROVED: J. M. Boas
General Manager

FIGURE 37. SUBCONTRACTED MAINTENANCE PROCEDURES

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SUBCONTRACTED MAINTENANCE

Any work performed by another agency for this repair station will be inspected by the Chief Inspector or an inspector delegated for such inspection. This inspection will be to verify that the work was performed in an airworthy manner, that parts and materials used were of such a quality to be airworthy, and that the paperwork received with the material verifies the authenticity of the part and work performed. At no time shall the stockroom manager release any parts made by, or parts having had work performed on them by a subcontractor until the Chief Inspector or an inspector delegated has approved the materials as being airworthy.

All subcontracted work shall be kept separate from regular stock until this inspection has been performed and the material accepted for use.

If for any reason subcontracted material is rejected as being unairworthy, it will immediately be identified as unairworthy and the proper disposition made, such as scrap or return to vendor.

LIST OF SUBCONTRACTED MAINTENANCE

1. Metal plating or anodizing.
2. Complex machine operations involving the use of planers, shapers, milling machines, etc.
3. Abrasive air blasting and chemical cleaning operations.
4. Heat treatment.
5. Magnetic inspection.
6. Fabricate wood spars.
7. Overhaul and repair hydraulic-pneumatic shock absorber units.
8. Overhaul and repair hydraulic system components.
9. Fluorescent inspection of alloy parts.
10. Recovering and refinishing of components and entire aircraft.

APPROVED: J. M. Bruno
General Manager

FIGURE 39. PERFORMANCE OF WORK AT A LOCATION OTHER THAN THE REPAIR STATION (CONTINUED)

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PERFORMANCE OF MAINTENANCE AT A LOCATION OTHER THAN THE REPAIR STATION

(Name of Company) will provide maintenance service for its customers on an emergency on-call basis at a place away from the repair station. (Name of Company) can only provide this service for work for which the repair station is rated. Only the general manager or the chief inspector are authorized to initiate a work order for such work.

The maintenance manager will be responsible for assigning the personnel necessary to perform the work and appoint a person to be in charge of the work force. The chief inspector will assign the inspector(s) responsible to inspect the work and assure that all required forms and work are completed as necessary. The chief inspector will assign one inspector with the responsibility for returning the article to service.

The maintenance manager will ensure that the article to undergo maintenance and the work force will be in an area safe for the work to be performed and that they will be protected from the elements. The maintenance manager will be responsible for providing all the necessary manpower, work forms, technical data, tools, and equipment necessary for the accomplishment of the maintenance. The maintenance manager will establish a system of communications between the field force and the repair station.

The stockroom manager will be responsible for assigning a stockperson who will provide parts and supply support between the repair station and the field force. All articles removed by the field force from a product undergoing maintenance at a location away from the repair station will be routed through the stockroom parts receiving department. The article(s) will be inspected in accordance with the repair station inspection procedures and either routed to the repair station shops or to contract repair agencies as appropriate.

All personnel assigned to accomplish work away from the repair station shall accomplish the specific function of work in the same manner as when performed at the repair station and in accordance with FAR Sections 145.57 through 145.61.

APPROVED: J. M. Bono
General Manager

FIGURE 40. SECTION VI - FORMS SAMPLE COVER PAGE.

Reference: FAR Section 145.45(f). This section is required to contain samples of each of the forms used by the repair station in the performance of maintenance and the method of executing them. The instruction for executing a form may be contained on the form if it is found practical. However, if it is necessary to change any of the procedures for handling the form it would require a reprint of the form. Unless a form is judged stable, it may be more economical to provide separate instructions on a manual page. It would then be a simple task to revise the manual page to show the change.

1. When planning a form system, important functions to be considered are the control of operational procedures and recordation of all work performed on each article processed.

2. The number and content of the forms would be influenced by the size of the repair station, the complexity and variety of the articles for which the repair station is rated, and the needs of its customers.

3. Some factors to consider during the development of instructions for completing a form are:

a. How the form is to be introduced, (at what point in the maintenance process) and when it is to be completed.

b. The person or section responsible to start the form, who will contribute to its completion, and who will finish it.

c. How the form will be executed (what kind of information, in what form, etc.).

d. The purpose of the form, and how it fits into the system.

e. How the form will travel and what its final destination in the records system will be.

f. A system to locate and check the progress of products enroute thru the repair station.

4. Detailed inspection forms and checklists which may be used in the performance of annual or other approved inspection programs, or engine overhaul inspection sheets, need not be included in this manual. These forms should be referenced in the forms section by form number, revision date and title. The manual should contain instructions for use and a copy of the detailed forms should be available for inspection upon request of the FAA and other authorized persons.

FIGURE 40. SECTION VI - FORMS SAMPLE COVER PAGE (CONTINUED)

5. It is possible at times to develop forms that can be used for multiple operations or work. The form should have adequate space and appropriate instructions, including specific assignment of responsibility, to assure that it can be properly identified with the operation for which it was used and for recordation of work performance.

6. Forms used to record an inspection should be executed by indicating the inspection was completed, or that inspection was not required. Results of the inspection should be entered on the form or, if applicable, indicate that no discrepancies were noted.

NOTE: No examples of forms are offered since forms must be developed in accordance with the need of each repair station.

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FORMS