



ADVISORY CIRCULARS

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Guide for Compiling of Maintenance Organization Manual

Flight Standard Department

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General Administration of Civil Aviation of China

Advisory Circulars

No: AC-145-5

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Approved by:

**Title: Guide for Compiling of Maintenance
 Organization Manual**

1. Reference and Purpose:

This Advisory Circular is formulated in accordance with China Civil Aviation Regulations Approval of Civil Aircraft Maintenance Organization for Civil Aircraft (CCAR-145-R2) issued and put into effect on 21 December, 2001. The purpose of this AC is to provide a guide to maintenance organization on how to compile Maintenance Management Manual.

2. Applicability:

This AC is applicable to all maintenance organizations.

3. Cancel:

This AC becomes effective from the issued date. Guide for Compiling and Evaluation of Maintenance Organization <Quality Assurance Manual> and Line Station <Maintenance Management Manual> issued on 1st, June 23, 1992 and revised on 15th, April 1993 is canceled.

4. Description:

This AC is to provide a sample of Maintenance Management Manual and give some instructions to maintenance organization applying for CCAR-145 approval. Contents and formats of this sample are compiled directly in accordance with Article 30 of CCAR-145.

The texts of the sample are the main contents required by Article 30 of CCAR-145. "Notes" gives specific requirements for compiling the Maintenance Management Manual in accordance with the real condition of maintenance organization. It shall be emphasized that no such a manual can meet the requirements of all types and any sized maintenance organizations. On the

contrary, maintenance organization shall compile a manual with its own characteristic by considering its maintenance items and organization structure and management style. For example, for the section of “responsibilities and duties”, it is just an example given by the sample and the maintenance organization may make its own decision for organization setup and responsibility distribution instead of following the sample exactly but all personnel and departments required by the regulation must be addressed.

5. Sample of Maintenance Management Manual

Refer to the Attachments of this AC.

Company Sign	ABC Maintenance Management Manual	Revision: 0 Issued Date: 22/05/2003
Revision Records		

Revision No.	Revision Date	Explanation Revision Contents	of	Inserted By	Insertion Date
0	22/05/2003	Preliminary Revision			

Company Sign	ABC Maintenance Management Manual	Revision: 0 Issued Date: 22/05/2003
Chapter	1. Corporate Commitment by The Accountable Manager	

1. Corporate Commitment by the Accountable Manager

The Manual and relative working procedures, which is made on the basis of the Manual, define the ABC company policies and procedures upon which the relevant requirement of CCAR-145 is based.

This manual is approved by the undersigned ABC company Accountable Manager and must be complied with, as applicable, when maintenance work are being processed under the terms of the CCAR-145 approval.

It is accepted by the company that these procedures do not override the necessity of complying with the applicable China Civil Aviation Regulation CCAR-145 for the time being in force, or any new or amended requirements published or adopted by General Administration of Civil Aviation of China from time to time where these new or amended requirements are in conflict with these procedures.

It is understood that CAAC will approve this organization whist CAAC is satisfied that the policies and procedures are being followed .It is further understood that CAAC reserves the right to suspend, vary or revoke the approval if CAAC has the evidence that the policies and procedures are not followed or the procedures are not revised to comply with the new or amended requirements.

Name: _____ Signature: _____

Title: _____

For and on behalf of ABC company

Note:

1. Any revision to the above content should not compromise its implication.
2. When the Accountable Manager is changed, the commitment should be resigned and the new approval should be applied.

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Chapter	2. Revision and Distribution	

2. Revision and Distribution

2.1 Revision of the Manual

2.1.1 Revision Responsibility

The Quality Manager is responsible for revision of this manual and working procedure manual and it is also his /her responsibility to submit the revised manual to CAAC for review and acceptance.

2.1.2 Sources of Revision

The above-mentioned manual should be revised under the following conditions:

- (1) Conformity of above-mentioned manual is affected by the revision of CCAR-145 and relevant regulations;
- (2) Any non-conformity findings raised by CAAC;
- (3) Any changes happened in company affecting the contents of above-mentioned manuals;
- (4) Any defects or deficiency found through self quality audit and/or other channels;
- (5) Other appropriate reasons or suggestions for improving or promoting the management of company.

2.1.3 Revision Procedures for Maintenance Management Manual

The revision of Maintenance Management Manual may be performed in accordance with the following procedure:

- (1) Quality manager shall provide a revision draft in accordance with above-mentioned sources and explain in writing the revision reasons and non-conformity of CCAR-145.
- (2) Opinions for revision draft and relevant supportive documents shall be collected from relevant department through meetings and then report to the Accountable Manager for approval.
- (3) After the approval is granted by the Accountable Manager, the revision pages should be prepared, and meanwhile, Table of Contents, List of

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Effective Pages and the Revision Records should be prepared.

(4) Submit the revision pages and revised Table of Contents (if affected), List of Effective Pages and the Revision Records to CAAC for review and acceptance.

(5) The revision may become effective and should be distributed in accordance with paragraph 2.2 of this AC after the acceptance of CCAC.

2.1.4 Revision Procedure for Working Procedure Manual

The revision of the working procedure manual may be ~~is~~ performed in accordance with following procedure:

(1) All the department managers provide revision suggestions and reasons in written form, and the quality manager provides revision draft upon these suggestions and reasons. Quality manager also can provide revision draft even though there is no any suggestion and reason from any department.

(2) Quality manager makes the final revision decision after revision draft is feedback from relevant department managers.

(3) The revision may become effective and should be distributed in accordance with paragraph 2.2 of this AC after approved by quality manager.

(4) Once approved and go into effect, report should be made to the Accountable Manager and CAAC for the record.

2.2 Distribution of manual

2.2.1 Distribution Responsibility

The Quality Manager is directly responsible for distributing and controlling of Maintenance Management Manual and working procedure manuals. It is the responsibility of the Department Managers to distribute the working procedure manual which is the department concerned within their departments.

2.2.2 Distribution Scope of Maintenance Management Manual

The master copy of Maintenance Management Manual along with the original approval from CAAC should be preserved by the Quality Manager. The copies shall be distributed to the Accountable Manager and all the department managers and all main units.

2.2.3 Distribution Scope of Working Procedure Manual

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The master copy of working procedure manual along with the original approval from the Quality Manager shall be preserved in the library. The copies shall be distributed to the Accountable Manager and all department managers. Working procedures which the department concerned shall be distributed to relevant units and personnel.

2.2.4 Responsibilities of Manual Holders

Manual holders should make awareness of the revision in details and organize a training of the revision for the relevant personnel once receiving the manual revision pages, and then replace all revised pages according to the List of Effective Pages.

2.2.5 Distribution Control

The distribution of above-mentioned manuals and their subsequent revisions shall be attached with acknowledgement sheet. Manual holder shall sign the acknowledgement sheet and return it to distributor after fulfilling their responsibilities described in Paragraph 2.2.4. upon receiving the manuals or their revisions. Distributor shall preserve the acknowledgement sheets.

Note:

- 1. Above-mentioned information may be varied in accordance with real condition of company, but main contents shall be included.**

Company Sign	ABC Maintenance Management Manual	Revision: 0 Issued Date: 22/05/2003
Chapter	3. Housing and Facilities	

3. Housing and Facilities

3.1 Facilities Floor Plan
(omit)

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Chapter	4. Personnel	

4. Personnel

Till XX Month XX Day XXXX Year, there are XXX personnel in total in ABC company, among them:

Aircraft Overhaul : maintenance personnel XXX, authorized personnel XXX;

Line Maintenance: X airport, maintenance personnel XXX, authorized personnel XXX;

Y airport, maintenance personnel XXX, authorized personnel XXX;

Engine Maintenance: maintenance personnel XXX, authorized personnel XXX;

Electronic Component Maintenance: maintenance personnel XXX, authorized personnel XXX;

Specialized Process Personnel : NDT XXX, cleaning XXX, plating XXX;

Quality Management Personnel : Total XXX, full-time quality audit personnel XXX, part-time quality audit personnel XXX;

Maintenance Management and Support: engineering XXX, production & planning XXX, training management XXX, material management XXX, tooling management XXX;

Line maintenance personnel work a three-shift, engine maintenance personnel work a two-shift. Other personnel work on the normal working days, but maintenance management and support personnel shall be on duty according to requirements of Line or engine maintenance.

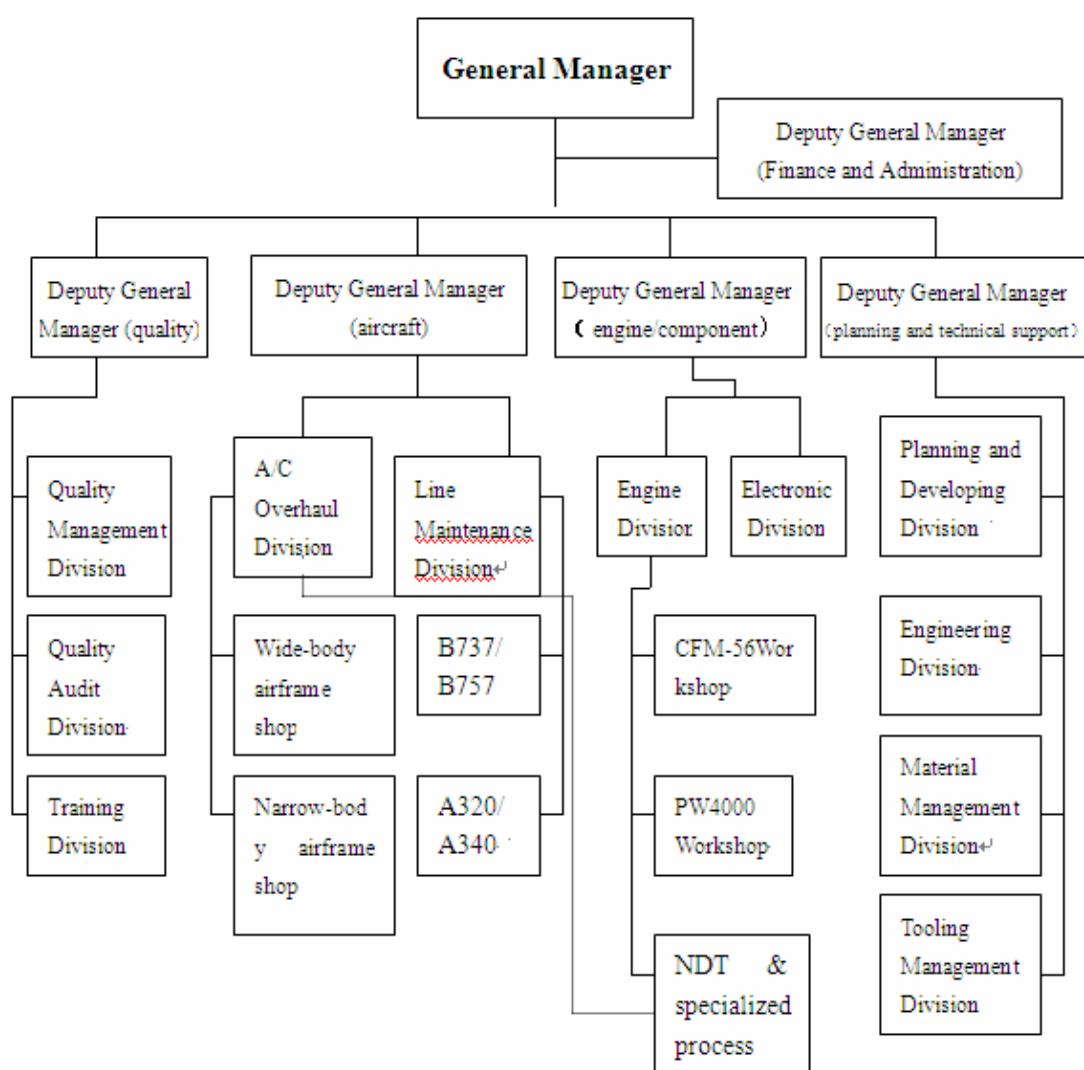
Notice:

1. Above-mentioned information is just for recommendation, maintenance organization may describe it according to it's real personnel condition; If one person has different responsibilities and duties at the same time, his major role shall be mainly described with concurrent post explained. For example, there are five production planning person, but two of them are also responsible for tooling management.

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Chapter	5. Organization	

5. Organization

5.1 General Organization Chart



Note: Non Destructive Test and specialized process workshop provide service for aircraft overhaul division at the same time.

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Chapter	6. Main Management Personnel	

6. Main Management Personnel

6.1 Accountable Manager

Title: General Manager

Name:

Employment Experience:

Responsibilities:

6.2 Quality Manager

Title: Deputy general manager (quality)

Name:

Employment Experience:

Responsibilities:

6.3 Production Manager

6.3.1 Deputy general manager (aircraft)

Name:

Employment Experience:

Responsibilities:

6.3.2 Deputy general manager (Engine/Component)

Name:

Employment Experience:

Responsibilities:

6.3.3 Deputy general manager (Planning and Technical Support)

Name:

Employment Experience:

Responsibilities:

6.4 Other Main Management Personnel

Deputy general manager (Administration and Finance)

Name:

Employment Experience:

Responsibilities:

Notice:

1.The title and responsibilities of above-mentioned main management

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Chapter	6. Main Management Personnel	

personnel may be vary according to real condition of maintenance organization;

2.The number of production manager can be decided by company itself, for example just one deputy manager can be responsible for maintenance and planning of aircraft, engine and component;

3.Quality manager can hold a concurrent post for technical support, but he can't directly responsible for maintenance and planning of aircraft, engine and component.

4.Other main management personnel may not be listed in manual or their employment experience can be omitted if those management personnel are listed.

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Chapter	7. Duties and Responsibilities	

7. Duties and Responsibilities

7.1 Quality Management Division

7.1.1 Duties and Responsibilities of the Division

7.1.2 Duties and Responsibilities of Quality Management Manager

7.2 Quality Audit Division

7.2.1 Duties and Responsibilities of the Division

7.2.2 Duties and Responsibilities of Quality Audit Manager

7.2.3 Duties and Responsibilities of Quality Auditor

7.3 Training Division

7.3.1 Duties and Responsibilities of training Division

7.3.2 Duties and Responsibilities of Training Division Manager

7.4 Aircraft Overhaul Division

7.4.1 Duties and Responsibilities of Aircraft Overhaul Division

7.4.2 Duties and Responsibilities of Aircraft Overhaul ~~Division~~ Manager

7.5 Line Maintenance Division

7.5.1 Duties and Responsibilities of Line Maintenance Division

7.5.2 Duties and Responsibilities of Line Maintenance Manager

7.6 Engine Division

7.6.1 Duties and Responsibilities of Engine Division

7.6.2 Duties and Responsibilities of Engine Division Manager

7.7 Avionics Division

7.7.1 Duties and Responsibilities of Avionics Division

7.7.2 Duties and Responsibilities of Avionics Division Manager

7.8 Planning & Development Division

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Chapter	7. Duties and Responsibilities	

7.8.1 Duties and Responsibilities of Planning & Development Division

7.8.2 Duties and Responsibilities of Planning & Development Division
Manager

7.9 Engineering Technical Service Division

7.9.1 Duties and Responsibilities of Engineering Technical Service Division

7.9.2 Duties and Responsibilities of Engineering Technical Service Division
Manager

7.10 Aviation Supplies Management Division

7.10.1 Duties and Responsibilities of Aviation Supplies Management Division

7.10.2 Duties and Responsibilities of Supplies Manager

7.11 Tools Management Division

7.11.1 Duties and Responsibilities of Tools Management Division

7.11.2 Duties and Responsibilities of Tools Management Division Manager

7.12 Duties and Responsibilities of Authorized Personnel

Notice:

1. **The names and responsibilities of above mentioned division may be vary according to real condition of maintenance organization;**
2. **There shall not be overlap of duties between departments.**
3. **Work dividing in one division can be described in the working procedures.**
4. **Other divisions which do not involve maintenance activities may not be described in this manual.**

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Chapter	8. Maintenance Capability Explanation	

8. Maintenance Capability Description

8.1 Maintenance Organization Certificate

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Chapter	9. Management Requirements	

9. Management Requirements

9.1 Technical Data Management Requirements

9.1.1 Airworthiness Data Receiving and Distribution Control

9.1.2 Effectiveness Control of Airworthiness Data

9.1.3 Accessibility of Airworthiness Data and Reading Equipment

9.1.4 Identification Label and Management Requirements of Un-Controlled Data

9.1.5 Development of work Card/ work Order

9.1.6 Revision of work Card/work Order

9.1.7 Development of Maintenance Accomplishment Instruction

9.1.8 Revision of Maintenance Accomplishment Instruction

9.2 Personnel Training Management Requirements

9.2.1 Training Requirements

9.2.2 Training Plan

9.2.3 Training Organization

9.2.4 Technical archive and Training Records

9.2.5 Revision and storing of Technical Archive and Training records

9.3 Equipment and Tools Management Requirements

9.3.1 Equipment & Tools Identification and List

9.3.2 Preservation of Equipment and Tools

9.3.3 Calibration of Equipment and Tools

9.3.4 Software Control

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Chapter	9. Management Requirements	

9.3.5 Personal Tools

9.3.6 Lost Tools

9.3.7 Leased or Borrowed Equipment and Tools

9.3.8 Self Manufactured Tools and Equipment
(Reference to AC-145-10)

9.3.9 Maintenance Servicing and Handling Description of Tools and Equipment

9.4 Material Management requirements

9.4.1 Material Purchase

9.4.2 Storage Inspection

9.4.3 Self Manufactured Parts

9.4.4 Storage and Distribution of Materials

9.4.5 Transportation of Materials

9.4.6 Storage of Materials on Maintenance Site

9.4.7 Shelf Life Control

9.4.8 Safety Protection of Chemicals

9.4.9 Anti-electrostatic Action

9.4.10 Segregation of Unserviceable

9.4.11 Scrap Materials

9.5 Production Control Requirement

9.5.1 Work Preparation

9.5.2 Work Planning

9.5.3 Work on Shift Policy

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Chapter	9. Management Requirements	

9.5.4 Work Safety

9.5.5 Continuity of Maintenance Work

9.5.6 Man-hour Management

9.6 Contracted Out Items and Contractors Management Requirements:

9.6.1 Ascertainment of Contracting Work

9.6.2 Selection of Contractors

9.6.3 Assessment of Contractors

9.6.4 Receiving Inspection of Contract Items

9.7 Maintenance Records and Report Requirements

9.7.1 Maintenance Records Requirements

9.7.2 Filling out of Maintenance Record

9.7.3 Preservation of Maintenance Record

9.7.4 Records of Computer System

9.7.5 Maintenance Organization Annual Report

9.7.6 Report of Defect and Un-airworthy Conditions

9.7.7 Other Report Required by CAAC

9.8 Quality Control in Maintenance Process

9.8.1 Incoming Inspection

9.8.2 Ascertainment of Work Scope

9.8.3 Use of work Card/ work Order and Accomplishment Instruction

9.8.4 Over-limit Handling

9.8.5 Use of Tools and Equipment

Company Sign	ABC Maintenance Management Manual	Revision: 0 Issued Date: 22/05/2003
Chapter	9. Management Requirements	

9.8.6 Use of Material

9.8.7 Qualification and Authorization of Maintenance Personnel

9.8.8 Maintenance Releasing

9.8.9 Use of Work Instructions

9.8.10 Work Records and Daily Log

9.8.11 Human Factors Control

9.8.12 Control on Foreign Objects

Notes:

- 1. The titles under the management items are just recommendations. Maintenance organization may select or re-name the titles according to its real conditions, but the management requirements shall be included;**
- 2. Only the basic management policies are required here and the detailed working procedures and requirement may be explained in working procedure manual.**
- 3. Compiling of management requirements shall refer to CCAR-145 and other relevant AC and real condition of the Maintenance Organization shall be observed itself.**

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Chapter	10. Self Quality Audit	

10. Self Quality Audit

10.1 Responsibilities of Audit

10.2 Audit Scope

10.3 Audit Interval

10.4 Audit Plan

10.5 Auditor

10.6 Audit Item Sheet and Audit Records

10.7 Notification of Audit Findings

10.8 Remedial Action of Audit Findings

10.9 Follow-up of Remedial Action

10.10 Audit Report

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Chapter	10. Self Quality Audit	

10.11 Preservation of Audit Records and Reports

Notice:

1. Here just gives the basic management policy and specific working procedures and requirements shall be described in the working procedure manual.

2. Compiling of management requirements shall be referred to CCAR-145 and according to the real conditions of the Maintenance Organization.

Company Sign	ABC Maintenance Management Manual	Revision: 0 Issued Date: 22/05/2003
Chapter	11. Roster of Releasing Personnel	

11. Roster of Authorized Personnel

Name	License Number	Authorized Scope	Signature sample	Stamp sample
Approved by:	(Printed Name)	(Signature)	Approval Date:	

Notice:

1. This sheet just gives the basic information of releasing personnel and maintenance organization shall add contents such as employee ID according to its requirements;

Maintenance organization whose releasing personnel changed often shall control this roster individually as attachment of this manual but it shall be explained clearly in this chapter and approved by CAAC.

Company Sign	ABC Maintenance Management Manual	Revision: 0 Issued Date: 22/05/2003
Chapter	12. Contractor and Contract Item List	

12. List of Contractors and Contract out Items

Name of Contractors	Address of the Contractor	Contract out Items	Maintenance Certificate Number	Other Approval Number
Approved by:	(Printed Name)	(Signature)	Approval Date:	

Notice:

1. This sheet just gives the basic information of contractor and contract out items and maintenance organization shall add some other information such as ISO approval upon its requirements;

If the contractors are changing very often, the Maintenance organization may put the List as an attachment to the Maintenance Management Manual, but it shall be explained clearly in this chapter and shall be approved by CAAC.

Company Sign	ABC Maintenance Management Manual	Revision: 0 Issued Date: 22/05/2003
Chapter	13. Forms and Tags	

13.2 Sample of Forms and Tags

13.2.1 Airtworthiness Approval Tag/ Approval Releasing Certificate

Notes:

1.Only CCAR-145 required and the contents of the Maintenance Management Manual involved Forms and tags samples may be listed here. Those working procedures involved Forms and tags may be listed in the relevant procedures manual.

2.Maintenance organization shall make some description for the use and filling of the Forms and Tags as required.

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Chapter	14. CCAR-145 Compliance Explanation	

14. Declaration of Compliance to CCAR145

CCAR-145 article	MMM	Working procedures Instruction	Compliance	Notes
Article 13 Responsibilities and Duties of Maintenance Organization	Chapter: 1,8,9.7, 12		Comply	
Article 15 Subcontract	Chapter: 9.6,12		comply	
Article 20 Housing and Facilities	Chapter: 3			
Article 21 Tools and Equipment	Chapter: 8,9.3			
Article 22 Material	Chapter: 9.4			
Article 23 Personnel	Chapter: 4,6			
Article 24 Airworthiness Data	Chapter: 9.1			
Article 25 Quality System	Chapter: 5,6,7,9, 11			
Article 26 Self Quality Audit System	Chapter: 5,10			
Article 27 Engineering & Technical System	Chapter: 5,9.1			
Article 28 Production Control System	Chapter: 5,9.5			
Article 29 Training System	Chapter: 5,9.2			
Article 30 Maintenance Organization Manual	Chapter: 1-14			
Article 31 Maintenance Criteria	Chapter: 9.8		Comply	
Article 32 Maintenance Records	Chapter: 9.7,13			
Article 33 Maintenance Release Certificate	Chapter: 9.8,13			
Article 34 Report of Defect and Un-airworthy Condition	Chapter: 9.7,13		Comply	

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Chapter	14. CCAR-145 Compliance Explanation	

Notes:

1. The declaration of compliance for CCAR-145 Article 1 to Article12, Article 14, Article16 to Article19, Article35 to Article39 is not required.
2. When it is in compliance with the relevant chapter of the requirement, “Comply” shall be filled in the “Compliance” Column; When it is not in compliance with the relevant chapter of the requirement, “Not Comply” shall be filled in the “Compliance” Column and equivalent safety action shall be explained in the column of “Notes”; When it is partially in compliance with the relevant chapter of the requirement, “Partially Comply” shall be filled in the “Compliance” Column and equivalent safety action shall be explained in the column “Notes”.
3. A “none” may be filled in the relevant column if it is not affected.

Company Sign

ABC Maintenance Management Manual

Revision: _____

Control Number: _____

Approved by: _____

22nd, May, 2002