



ADVISORY CIRCULARS

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Aircraft Line Maintenance

Flight Standard Department

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General Administration of Civil Aviation of China

Advisory Circulars

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Approved by:

Title: Aircraft Line Maintenance

1. Basis and Purpose:

This AC is formulated in accordance with China Civil Aviation Regulation Approval of Civil Aircraft Maintenance Organization (CCAR-145-R2). The purpose of this AC is to provide guidance on how to meet CCAR-145 requirements when air carrier's maintenance organizations apply for line maintenance at outstations for its own aircraft and when independent maintenance organizations apply for line maintenance.

2. Applicability:

This AC is applicable to those maintenance organizations applying for aircraft line maintenance items.

3. Cancellation:

Standby.

4. Description:

Any line maintenance work at outstations of air carrier must be performed by an approved maintenance organization. Because the main base of air carrier takes the most management responsibility of line maintenance, the air carrier is encouraged to apply for outstation line maintenance approval based on management by its main base, and it is allowed to adopt equal safety action in case of implementing responsibility in written form, but never in case that the outstation applies for maintenance approval independently. Maintenance organization of air carrier shall be regarded as independent line maintenance organization when it performs line maintenance to aircraft out of its property.

General servicing work is not regarded as line maintenance item. Air carrier shall take full responsibility no matter in which way it performs the servicing

work, self-handling or entrusting to other company by agreement. Therefore general servicing work of line maintenance won't be approved separately, but be regarded as a part of air carrier's operation approval audit.

5. Air carrier's maintenance organization applying for line maintenance at outstations

5.1 Application

Air carrier's maintenance organization shall submit application to its local civil aviation management organization if it intends to apply for line maintenance at outstations of aircraft under its maintenance agreement. The following documentations are firmly asked:

- (1) Application Form
- (2) Maintenance agreement and others on renting/borrowing aircraft
- (3) Outstation management manuals (could be independent manual or included by maintenance organization manual)

5.2 Responsibility of air carrier's maintenance organization

Air carrier's maintenance organization shall take full responsibility for compliance between maintenance at outstation and CCAR-145 requirements & the approved standards.

5.3 Rights of air carrier's maintenance organization

In case of meeting requirements of this AC, air carrier's maintenance organization could assign special personnel or select any local organization or individuals at the outstation to perform line maintenance or releasing work to its aircraft, it could rent or use local housing & facility, tools & equipment and material at outstation under agreement.

5.4 Airworthiness documentation

Airworthiness documentation provided by aircraft manufacturer must be available on site at outstation. Besides that, the maintenance organization could keep those airworthiness documentation being used frequently on

aboard, provide those being used seldom by fax or e-mail whenever necessary in the premise that the organization states explanation about this in outstation maintenance manual and takes responsibility for validity of airworthiness documentation. These documentations are classified as followings according to applicability.

- (1) AMM
- (2) MEL and CDL
- (3) FIM
- (4) WDM
- (5) IPC

Effective copies of line maintenance manuals (if applicable) compiled by air carrier's maintenance organization or other maintenance guidance must be available on site at outstations.

5.5 Personnel

As for line maintenance or releasing personnel at outstations, air carrier's maintenance organization could employ personnel from local or other companies besides those long-stationed from its main base or those following flights. However the organization must state explanation about this in outstation maintenance manual and take responsibility for personnel qualification.

5.6 Quality system

Air carrier's maintenance organization must confirm the responsible units and management duties to outstation maintenance management. These duties could be assigned to different units, but the overlapped ones shall be avoided. No matter what kind of personnel employed by air carrier's maintenance organization, it has to confirm the requirements to personnel involved in the line maintenance at outstations and set up personnel position qualification evaluation system, authorization to those qualified personnel shall be given by written form as well. Authorization of maintenance personnel could be signed by quality managers or authorized personnel by them; authorization of releasing personnel could be signed by quality managers or authorized

managers by them. A complete authorization record of outstation personnel shall be archived by quality unit; a corresponding authorization copy shall be kept at outstation work site. A complete authorization record of outstation releasing personnel shall be kept at office of quality manager; a corresponding authorization copy shall be kept at outstation work site.

Air carrier's maintenance organization must set up outstation work procedures, which shall cover outstation management by main base of air carrier's maintenance organization and the concrete line maintenance work procedure, such as maintenance methods of different line stations, establishment of different work procedures due to different management and confirm the applicability. Establishment and revision of the work procedures shall be approved by the Accountable Manager or the Quality Manager authorized by him. It shall be implemented in actual work activities after being approved.

5.7 Quality self-audit

Line maintenance and its management at outstation shall be covered by quality self-audit system of air carrier's maintenance organization. The maximum audit interval to outstation is 12 months. The audit frequency to those outstations with many findings or critical findings could be increased properly.

5.8 Training system

The training of personnel performing work at outstation must be covered by training management system of air carrier's maintenance organization, no matter whether he/she is employed by this organization. The training management system includes establishment of training and re-training requirements due to the work position, listing concerned personnel into air carrier's training program.

Air carrier's maintenance organization shall also set up the technical records and training records of outstation maintenance and releasing personnel, which shall be controlled by the organization's corresponding management system.

5.9 Maintenance organization manual

If air carrier's maintenance organization applies for outstation maintenance

approval, its Maintenance Organization Manual shall include all concerned contents of line maintenance at outstations, the management part of which could be covered by general Maintenance Management Manual or included in Outstation Maintenance Management Manual (this manual need to be approved by CAAC or local administration also). In addition, air carrier's maintenance organization must develop a line maintenance capability list and attach it to Maintenance Management Manual or Outstation Maintenance Management Manual. Line maintenance capability list makes the details of name and address of line stations, capable A/C types and maintenance methods (e.g. with personnel accompanying flight or stationing at outstation performs xx work; entrust xx company to perform xx work), Maintenance Management Manual or Outstation Maintenance Management Manual of air carrier's maintenance organization must be distributed to worksite at outstation and offered to concerned personnel.

5.10 Maintenance agreement

If air carrier's maintenance organization entrusted other companies to perform line maintenance or releasing work at outstation, it shall sign clear maintenance agreement with the contracted company. The agreement shall at least include following contents:

- (1) Technical document, material, management procedures provided by air carrier and instructions of controlling the validity;
- (2) Tooling, equipment and material provided by air carrier and management instructions, including instructions of borrowing tooling, equipment and material;
- (3) Training instructions provided by air carrier;
- (4) Work scope entrusted by air carrier and authorization instruction;
- (5) Maintenance records and reporting methods;
- (6) Other concerned instructions.

A copy of maintenance agreement shall be kept at outstation.

5.11 Approval of outstation line maintenance performed by air carrier's maintenance organization

Civil aviation regional administration shall adopt following methods when approving application by air carrier's maintenance organization for outstation line maintenance of their own aircraft:

(1) to describe as follows only in the page of approved maintenance items of maintenance certificate:

Limited airframe---line maintenance of xx aircraft type

(2) to sign and approve the line maintenance capability list, which lists out the line station, aircraft type and maintenance methods as detailed approval limitation. The line maintenance capability list is one attachment of maintenance management manual or outstation maintenance management manual. In case of approving any change, only approval of the changed line maintenance capability list is necessary, instead of the maintenance certificate, unless air carrier won't operate the aircraft type anymore.

6. Independent line maintenance organization

6.1 Application

Independent maintenance organization shall submit application to its local civil aviation management organization if it intends to apply for line maintenance of one air carrier's aircraft. The following documentations are firmly asked: :

- (1) Application Form
- (2) Maintenance agreement
- (3) Maintenance management manual

6.2 Responsibility of independent maintenance organization

Line maintenance organization shall take full responsibility for compliance between line maintenance at approved locations and CCAR-145 requirements, also the compliance between the committed line maintenance work in the maintenance agreement and the approved standards.

Line maintenance organization shall inform the actual information to air carrier and never issue the maintenance releasing documentation in case that the maintenance requirements raised by air carrier can not ensure aircraft to reach the airworthiness status.

6.3 Rights of independent line maintenance organization

Line maintenance organization performs line maintenance work at locations listed in maintenance certificate based on the approved standards and air carrier's requirements, but never performs work at locations out of maintenance certificate approval.

6.4 Tools & equipment

Line maintenance organization must have tools & equipment necessary to perform line maintenance work at locations listed in maintenance certificate. However it could obtain the special equipment from air carrier by means of agreement.

6.5 Material

Line maintenance organization must have consumable material necessary to line maintenance work available at locations listed in maintenance certificate. However it could obtain the special material from air carrier by means of agreement.

6.6 Airworthiness documentation

Line maintenance organization must obtain airworthiness documentation relating to line maintenance from air carrier at approved locations listed in maintenance certificate. This documentation includes:

- (1) AMM
- (2) MEL and CDL
- (3) FIM
- (4) WDM
- (5) IPC
- (6) Line maintenance manuals and other maintenance guidance (if applicable)

Air carrier takes most responsibility of validity controlling for above-mentioned material. However the line maintenance organization must obtain confirmation of document validity in written form from air carrier quarterly and ensure the compliance between it and material kept at line maintenance location.

6.7 Quality self-audit

Line maintenance organization could set up quality self-audit system or entrust an approved third party to perform the audit, however the entrusted unit shall provide the copy of audit report to the concerned regional civil aviation management organization.

6.8 Maintenance organization manual

The capable aircraft type at the approved locations stated in maintenance certificate, work scope entrusted by air carrier which the maintenance organization subordinate to and other air carriers shall be listed in the part of maintenance capability instruction of line maintenance organization's maintenance organization manual. The concerned working procedure must be worked out according to air carrier's procedure and requirements, any special requirement of air carrier shall be reflected in the procedure also.

Line maintenance organization must keep one set of current maintenance management manual and pertinent procedures & requirements. Maintenance management manual and working procedure manual of the maintenance organization must be distributed to worksite at outstation and offered to concerned personnel.

6.9 Maintenance agreement

Line maintenance organization shall sign clear maintenance agreement with air carrier. The agreement shall at least include the following contents:

- (1) Technical document, material, management procedures provided by air carrier and instructions of controlling the validity;
- (2) Tooling, equipment and material provided by air carrier and management instructions, including instructions of borrowing tooling, equipment and material;
- (3) Training instructions provided by air carrier;
- (4) Work scope entrusted by air carrier and authorization instruction;
- (5) Maintenance records and reporting methods;
- (6) Other concerned instructions.

A copy of maintenance agreement shall be kept at outstation.

6.10 Approval of line maintenance performed by independent maintenance organization

Civil aviation regional administration shall adopt following methods when approving application by independent maintenance organization for line maintenance:

(1) to describe as follows only in the page of approved maintenance items of maintenance certificate:

Limited airframe---line maintenance of xx aircraft type

(2) to sign and approve the line maintenance capability list, which lists out the capable aircraft type, work scope entrusted by air carrier which the maintenance organization subordinate to and other air carriers. The line maintenance capability list is one attachment of maintenance management manual. In case of approving any change, only approval of the changed line maintenance capability list is necessary, instead of the maintenance certificate, unless the application is for cancellation or increase of a whole aircraft type.