



ADVISORY CIRCULARS

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Limited Ratings of Airframe Maintenance

Flight Standard Department

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General Administration of Civil Aviation of China

Advisory Circulars

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Title: Limited Ratings of Airframe Maintenance

1. Basis and Purpose

This advisory circular is established on the basis of Approval of Civil Aircraft Maintenance Organization (CCAR-145-R2) issued on Dec.21st, 2001, and MRBR (Maintenance Review Board Report) of different aircraft types. The purpose of this AC is to standardize applications and approvals of limited ratings about airframe maintenance. It also provides information for the public to accurately understand the limited ratings of airframe maintenance listed in the maintenance organization certificate issued by CAAC (Civil Aviation Administration of China).

2. Applicability

This advisory circular is applicable to those maintenance organizations with limited airframe ratings approved, or applying for limited ratings approval.

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3. Cancellation

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4.Explanations

Firstly, with the developments of theories and managements of civil aviation

maintenance, aircraft maintenance planning has experienced great changes. MP (Maintenance Programme) has been changed from original letter checks one by one to integrated different letter checks. Some even use the intervals by individually controlled maintenance tasks, instead of by letter checks.

Secondly, with the improvement of engineering evaluation capability, air operators do not like to directly transcribe airworthiness documents provided by the Administrator or aircraft manufacturers again. They made their own characterful MP according to their characteristics and requirements.

Then, at the same time, it breaks the original uniform maintenance capability classifications given by CAAC. For example, the previous item "C-check and lower letter checks" approved by CAAC according to a certain air operator's detailed MP maybe has different meaning for other maintenance organizations, which have different MP. Therefore, it will confuse the public and cause a difficulty in maintenance capability control. (For example, if a high level maintenance task unapproved individually by the Administrator, is divided and integrated into lower level maintenance task, it will help an unapproved item change to an approved item easily.)

For convenience, there are many ambiguous sentences in CCAR-145, like "A-check or equivalent...". The definition about it is actually not clear.

To solve the above-mentioned problems, a uniform classification of airframe maintenance ratings should be given. This classification should be clearly understood by the public and can be adapted to different air operator's specific MP also. MRBR for all aircraft types can just meet these requirements. MRBR is not customized. One aircraft type has only one applicable MRBR. It is the base of all air operators' MP. Though MPs maybe greatly differ with each other, they shall all correspond to the MRBR. Each Administrator, air operator and maintenance organization can get MRBR documents easily. So the classification according to the same MRBR for a certain aircraft type will be uniform, although different aircraft types have different classifications.

But the followings need to be clarified with MRBR classification:

- 1). Due to different customized MPs, one maintenance work package maybe contain some high level jobs. Because CCAR-145 not only defines the basic requirements for a specific approved maintenance rating, but also requests evaluation of maintenance organization's quality system at the same time,so, if CAAC is confident in that quality system ,CAAC may give approval in some special circumstances under the applicable articles of CCAR-145.
- 2). The approval of repair, modification and major component replacements for airframe maintenance will be defined in this AC.

5. General

5.1 Scheduled tasks of airframe maintenance will be divided in accordance with different MRBR. The rules of application and approval are:

- (1) Letter-check jobs should be sorted in accordance with MRBR. Other jobs should be sorted in accordance with flight hours, cycles or calendar days. Paragraph 6 of this AC gives the detailed references;
- (2) An approved airframe scheduled task means that all the corresponding work specified in the same MRBR (including tasks below it) has been approved. For one item, if its initial check interval is higher than its repeating check interval, it should be categorized in according to the initial check interval.
- (3) While tasks increasing due to MRBR revision, the quality system of maintenance organization should evaluate their own capability to decide if they can perform them by themselves or contract them outside. Rectification of the maintenance organization certificate is not required. But the evaluation reports shall be kept until next audit of that specific approved maintenance rating by CAAC or regional Administration of CAAC.
- (4) The above approval doesn't include that for those items listed in the MRBR

as “overhaul, bench test, etc”. Those off-wing items should get other approvals accordingly, not the approval for airframe maintenance.

- (5) If a maintenance organization has much higher capabilities than approval, the higher capabilities can be listed in the appendix “maintenance capability” of their MOM (maintenance organization manual) chapter 8, and get an approval accordingly with the MOM.
- (6) Those non-MRBR items listed in the instruction document provided by aircraft manufacturer, or an operator’s MP can be included in similar MRBR items, not necessarily listed independently.
- (7) For those aircrafts without MRBR, maintenance should be performed per airworthiness documents provided by their manufacturers in accordance with the above-mentioned principles.

5.2 It is not necessary to list all repairs under an airframe maintenance rating, after establishing an evaluation procedure under the quality system, and being approved by the quality manager. Those repairs exceeding the airworthiness data provided by the manufacturers can be approved by CAAC or the regional Administration after their approval of the repair programs submitted by the air operators.

5.3 The major alterations of airframe should necessarily be listed individually, except the other alterations which should be evaluated and approved by quality manager of the maintenance organization in accordance with their evaluation procedure for alteration capability.

5.4 All engine, APU (Auxiliary Power Unit) or landing gear replacement shall be approved independently and can’t be included in most airframe ratings, except the airframe overhaul.

5.5 Airframe overhaul includes all jobs, repairs, modifications (except major

alternation) and replacements of engine, APU and landing gear specified in the corresponding MRBR.

6. Typical Airframe Scheduled task Ratings

6.1 Letter check

- (1) Tasks of aircraft system, engine and zone inspection (non-structural items) rated by letter, such as: A, B, C, D check and 1A, 2A, 4A, 8A, 1C check, etc.
- (2) tasks of aircraft structure and zone inspection (structural items) rated by flight cycles, calendar time, structural letter check, such as: 4000 FC or 15 months, 12000 FC or 45 months, S1A, S2A check, ... , S1C, S2C check, etc.

6.2 Non-letter check

- (1) Tasks of aircraft system, engine and zone inspection (non-structural items) rated by flight hours (and/or calendar time), such as: 250 FH or 45 days, 4000 FH or 24 months, etc.
- (2) Tasks of aircraft structure and zone inspection (structural items) rated by flight cycles or calendar time, such as: 400 FC or 75 days (or 2 months), 4000 FC or 750 days, 18000 FC or 8 years, etc.
- (3) Some aircraft MRBRs may classify tasks of aircraft system, engine and zone inspection (non-structural items) by flight cycles, tasks of structure and zone inspection (structural items) by flight hours. In this case, it can be converted according to applicable MRBR conversion methods.

7. Meaning of “A-check or equivalent” in CCAR-145

7.1 For letter check specified in Paragraph 6.1 of this AC, it means A check (such as A, B, C, D check) or 1A check (such as 1A, 2A, 1C check) of the task classification of aircraft system, engine and zone inspection (non-structural

items) .

7.2 For non-letter check specified in Paragraph 6.2 of this AC, it means tasks of aircraft system, engine and zone inspection (non-structural items):

- (1) Lubrication, service, operational check and visual inspection items for an aircraft with passenger seats greater than (or equal) 30, and its flight hours less than (or equal) 500.
- (2) Lubrication, service, operational check and visual inspection items for an aircraft with passenger seats less than (or equal) 30, and its flight hours less than (or equal) 150.

8. Implementation Date

8.1 After issuance of this AC, all new applications of airframe rating approval or change should be done per this AC.

8.2 All approved airframe maintenance ratings before this AC, should be rectified per this AC before January 1st, 2005.