



Civil Aviation Administration of China (CAAC)

Aircraft Evaluation Group (AEG)

Aircraft Evaluation Report

For

AT-504

Rev.0 December 31, 2013

Manufacturer: Air Tractor, Inc.

Revision Record & Approval

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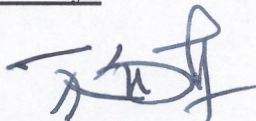
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Foreword

AT-504 is one type of agriculture airplane which has been certificated in restricted category by FAA. For ensuring enough safety level, **Chinese operators must use these airplanes within the operation limitations of Paragraph 5.1 in this report.**

AT-504 was certificated by FAA in Feb. 11th, 2009. Structural certification was done in accordance with requirements in FAR Part 23. Systems relating to turbine engine installations were certificated to certain FAR Part 23 requirements that are listed in the certification basis, except in cases where inappropriate for agricultural operations. Flight tests were conducted in accordance with CAM 8.

AT-504 is very similar in structure and configuration with other models produced by Air Tractor Inc. The main differences are reflected in dimension, number of seats and maximum take-off weight. AT-504 is a two-seat side by side and all metal low-wing agricultural airplane with dual controls. It has conventional landing gear with spring steel main and tail gear struts. Its propeller, driven by a PT6 turboprop engine, is a Hartzell three-blade constant-speed, feathering and reversing propeller.

AT-504 has been certificated in day VFR and night VFR (with appropriate lighting system installation) operations. Its flight into icing condition is prohibited.

The type certificate of AT-504 was first validated by CAAC Airworthiness Department on Nov. 5th, 2010. The VTC and VTCDS on AT-504 were issued.

AT-504 was evaluated by CAAC AEG in July 2013. This report is the result of the AEG evaluation. It shall be used as a basic reference by CAAC operational inspectors and Chinese operators in their working processes or operations.

Section 1: Pilot Type Rating and Qualification Specification

1.1 Statement and Explanation

This paragraph is a formal notification that CAAC AEG has conducted a Flight Standardization Board (FSB) evaluation for AT-504 airplane based on the result of FAA evaluation such as the assigned type rating and approved training program.

Hereby, the provisions in this section can be used, as the basis, by Chinese operators to develop their pilot qualification standards and training program for this airplane.

Any alternate means of compliance to the appropriate requirements of CCAR 61 and 91, other than as specified in the provisions of this section, must be approved by Flight Standards Department of CAAC. If alternate compliance is sought, operators will be required to establish that proposed alternate means provide an equivalent level of safety to the provisions of this section, and analysis, demonstrations, proof of concept testing, differences documentation, or other evidence may be required.

No FAA FSB Report for AT-504 has been issued.

1.2 Pilot Type Rating and Licence Endorsement

Upon this CAAC AEG evaluation, the pilot type rating and license endorsement for AT-504 is listed as following:

Manufacturer	Aircraft Model	Pilot Type Rating
Air Tractor, Inc.	AT-504	None

License endorsement:

No type rating has been assigned to AT-504 by CAAC according to CCARs and this CAAC AEG Evaluation. For the purpose of training or checking records, **AT-504** may be used.

1.3 ODR and MDR

Not applicable.

1.4 Specification for Training

There is not any training course for AT-504 provided or recommended by Air Tractor Inc because no specific training is required according to the FAA AEG evaluation. Although the

specific training for AT-504 is not mandatory according to CCAR Part 61 either, CAAC still suggests that the operators involved in commercial aerial work operations should develop their appropriate training program for AT-504 on the base of Flight Manual.

No pilot may fly AT-504 airplane except as a trainee unless the pilot meets the following requirements at least:

- (a) Holding a pilot license with airplane category rating and single-engine land class rating.
- (b) Having completed tail-wheel airplane training in accordance with CCAR 61.27(e).
- (c) Having completed an additional training of complex airplane in accordance with CCAR 61.27(f).

1.5 Specification for Checking

As required by CCAR Part 61.

1.6 Specification for Currency

As required by CCAR Part 61.

1.7 Specification for Flight Simulation Training Devices

At present, no FSTD for AT-504 is available.

Section 2: Master Minimum Equipment List

2.1 Statement and Explanation

Although a proposed MMEL has been provided for AT-504 airplane by Air Tractor Inc, but FAA didn't approve it. Therefore, no approved MMEL is available at present.

For the purpose of operational convenience and safety, Chinese operators may develop their MEL on the base of the proposed MMEL provided by Air Tractor Inc, and use it with an appropriate PI approval.

2.2 CAAC Supplement

Not applicable.

Section 3: Maintenance Review Board Report

3.1 Statement and Explanation

There is no Maintenance Review Board Report for the AT-504 airplane.

Airworthiness Limitations are contained in section 6 of Owners Manual. These Limitations may not be changed without FAA approval.

Schedule maintenance requirements recommended by Air Tractor Inc included in the following documents:

—Inspection of AT-504 Owners Manual.

The maintenance tasks of the above mentioned schedule maintenance requirements may be escalated with the supporting data by operator's reliability program.

3.2 CAAC Supplement

Not applicable.

Section 4: Operational and Continued Airworthiness Instructions

4.1 Statement and Explanation:

This paragraph is a formal notification that CAAC AEG has conducted an evaluation of the operational and continued airworthiness instructions for AT-504 airplane based on the relevant policies and procedures of Air Tractor Inc.

The documents of Operational and Continued Airworthiness Instructions listed in the paragraph 4.2 of this section were found and accepted by CAAC AEG. These documents will give the necessary guidance for properly operating and maintaining AT-504 airplane within the approved operating conditions and limitations.

This acceptance may not assure the accuracy and applicability of the content in each document. It is the aircraft owner's or operator's responsibility to report any defect or discrepancy in the documents to the aircraft manufacturer. And they may also report such information to CAAC AEG by the website: <http://aeg.caac.gov.cn>.

Operational and Continued Airworthiness Instructions distribution:

The related documents are distributed by the website of Air Tractor Inc, <http://www.airtractor.com>, except engine and propeller manuals, which are directly distributed to the operators by the engine and propeller manufacturer.

4.2 List of Operational and Continued Airworthiness Instructions

Manual	Reference No.	Description	Revision/Date
AMM	N/A	AT-504 Owner's Manual	As revised
IPC	N/A	Model AT-502B Parts Manual Model AT-504 Supplemental Parts Manual (For use in conjunction with AT-502B Parts Manual)	As revised
ALI	N/A	Section 6 - Airworthiness Limitations, AT-504 Owner's Manual	As revised
AFM	N/A	Airplane Flight Manual for Air Tractor Model AT-504	As revised

Note 1: The acceptance of the above manuals is not affected by the customization of these documents.

Note 2: The acceptance of the above manuals doesn't mean that the other applicable technical publication for AT-504 could not be used by Chinese operators.

Section 5: CCARs Compliance Checklist

5.1 Statement and Explanation

This paragraph is a formal notification that CAAC AEG has developed the compliance checklists for AT-504 airplane based on the following documents related to the aircraft configuration:

- AT-504 3-View Drawing, Drawing Number 10015
- Type Certificate Data Sheet No. A17SW, R13

The compliance checklists are provided as aids for inspectors and operators to identify the compliance with those specific requirements of CCARs for which the compliance has already been demonstrated in the type design. The checklist also notes the requirements of CCARs which remain to be demonstrated the compliance by the operators.

When the aircraft configuration differs from the above stated aircraft configuration, it is the responsibility of the operators and their CAAC Principle Inspectors (PIs) to evaluate those differences and demonstrate or determine the compliance with the relevant requirements of CCARs.

It is also the responsibility of the operators and their PIs to evaluate the corrective actions for those items not satisfactorily demonstrating compliance in the checklist prior to an approval of conducting an appropriate operation.

Note: Operating Limitations. AT-504 is a restricted category aircraft certificated by FAA. Therefore, for ensuring enough safety level, the following operating limitation shall be met when an operator uses this aircraft:

(a) AT-504 can only be used for the special purposes as following:

(1) Agricultural (spraying, dusting, and seeding, and livestock and predatory animal control);

(2) Forest and wildlife conservation.

(b) It is permitted to conduct operations necessary to accomplish the work activity directly associated with special purposes listed in paragraph (a) of this section. Providing flight training in a special purpose is considered to be an operation for that special purpose.

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5.2 CCAR-91 Compliance Checklist (AT-504)

Articles/Subject	Compliance	Remark/Limitation
§91.401 Civil aircraft: Certifications required	Compliant.	Because AT-504 is an agriculture airplane, Part 36 Noise Requirements are not applicable to AT-504 according to CCAR 36.1583.
§91.403 Instrument and Equipment for VFR operation	Compliant when anti-collision light system and clock are installed.	
§91.405 Instrument and Equipment for IFR operation	Not Compliant.	AT-504 was only approved for VFR operation.
§91.407 Instruments and Equipments for night and over-the-top operation	Compliant when optional landing light, navigation lights, anti-collision light, instrument lighting system, clock and flashlight are installed.	
§91.409 Mach number indicator	Not Applicable.	
§91.411 Radio communication equipment	Compliant when optional radio communication system is installed.	
§91.413 Navigation equipment	Not Compliant.	Only one optional equipment with navigation function is available for AT-504.
§91.415 Emergency and life-saving equipment	Compliant when one optional extinguisher is installed.	
§91.417 Additional emergency and Life equipments for over water operation	Not Compliant.	
§91.419 Additional emergency and life-saving equipment for rotorcraft over water flights	Not Applicable.	
§91.421 Additional emergency and Life-saving equipment for flights over designated land areas	Not Compliant.	
§91.423 Oxygen equipment-operation at high altitude	Not Compliant.	
§91.425 Equipment for operation in icing conditions	Not Compliant.	Flight into icing conditions is prohibited.

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Articles/Subject	Compliance	Remark/Limitation
§91.427 ATC transponder and altitude reporting equipment	Compliant when an optional transponder is installed.	
§91.429 Altitude alerting system or device: Turbojet-powered civil airplanes	Not Applicable.	
§91.431 Weather radar	Not Compliant.	
§91.433 Flight recorder	Not Applicable.	
§91.435 Emergency locator transmitter	Not Applicable.	
§91.437 Terrain awareness and warning system	Not Applicable.	
§91.439 Traffic Alert and Collision Avoidance equipment and use	Not Applicable.	
§91.441 Radiation indicator	Not Applicable.	
Appendix B Category II Operations: Manual, Instruments, Equipment, and Maintenance	Not Compliant.	
Appendix C Operations within airspace designated as Minimum Navigation Performance Specification Airspace	Not Compliant.	
Appendix D Operations in Reduced Vertical Separation Minimum(RVSM)	Not Compliant.	

5.3 CCAR-121 Compliance Checklist (AT-504)

Not Applicable.

5.4 CCAR-135 Compliance Checklist (AT-504)

Not Applicable.

Section 6: Other Evaluation Items

[Reserved]

Appendix: CAAC AEG and Air Tractor Coordinator

A.1: CAAC AEG

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<u>Mr. Liu Yunlei</u>	Engineer, AEG Office of Civil Aviation Safety and Technology Center

A.2: Air Tractor Coordinator

<u>Mr. Jim Hirsch</u>	President, Air Tractor Inc.
<u>Mr. David Ligon</u>	Engineering Manager, Air Tractor Inc.
<u>Mr. Marshall T Leemann</u>	Project Engineer, Air Tractor Inc.