Civil Aviation Administration of China (CAAC)

Aircraft Evaluation Group (AEG)

Aircraft Evaluation Report

For

H160 Series

(H160-B)

AER.086H Initial Date: April 15, 2025

Manufacturer: Airbus Helicopters

Revision Record & Approval

Rev. No.	Section	Highlight	Date	Prepare	Review	Approve
Initial	All	Initial Evaluation for H160-B	April 15, 2025	LI Xiaolei	WANG Jin	HAN Guangzu

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Foreword

Airbus Helicopters (AH) H160 series helicopters include following models under the same TC:

- H160-B

The H160 is certificated as a large Rotorcraft, Category A and category B by EASA in 2020 firstly. CAAC initial validated certification (VTC0383A) is completed in 2025 March.

The H160 is equipped with a Spheriflex type main rotor including five “Blue Edge” blades, new canted Fenestron including a stator, the biplane stabilizer with doubled plan stage architecture, full-composite structure fuselage, integrated avionics Helionix suite, digital basic 4-axis autopilot (AFCS), electrically powered retractable landing gear, and two SAFRAN (SHE) ARRANO 1A engines.

The H160 is a 6 tons class multi-mission medium helicopter and approved for VFR and IFR operations, day and night, in non-icing conditions, range between the EC155 and the EC175, is the first member of the “H type” generation by Airbus Helicopters.

In September 2023, CAAC AEG initial evaluation for H160 series was conducted on the model of H160-B and initial issue of this report was finalized based on the conclusions of the initial evaluation.

Section 1: Operational Information Related to Aircraft Type Design

1.1 Statement and Explanation:

This section includes the operation related information for H160 helicopters mainly based on the following aircraft configuration documents:

- EASA Type Certificate Data Sheet No. EASA.R.516, Issue 4.
- H160 Approved Rotorcraft Flight Manual, Revision 20/01/2025.

The information is provided as an aid to support operation approval but should not be considered operation approval. If the operator is required to show compliance, it remains the responsibility of the competent Principal Inspector (PI) to approve the appropriate operation.

When the aircraft configuration differs from the above stated airworthiness approval, it is the responsibility of the operator and its Principal Inspector (PI) to evaluate those differences and develop compliance with the relevant requirements.

1.2 H160-B

(1) General Information

Item		Type Related Information	Reference
1.1	Category	Transport Rotorcraft *Category A and B*	TCDS，RFM
1.2	Dimensions	Length: 13.96 m Width hull: 3.54 m Height: 4.91m Main rotor Diameter: 13.40 m Tail Rotor Diameter: 1.20 m	TCDS
1.3	Engines	Two Safran Helicopter Engines (former: Turbomeca) Arrano 1A	TCDS，RFM
1.4	APU	Not applicable	-
1.5	Propellers	Not applicable	-
1.6	Maximum Operating Altitude	Flight altitude -1 500 ft to +20 000 ft PA Take-off and landing altitude: Minimum: -1 500 ft PA and -4 600ft DA Maximum： - Category B: 13 000 ft DA - Category A clear area: 12 500 ft DA	TCDS，RFM
1.7	Approach category	Not applicable	-
1.8	Maximum Certified Weights	in-flight: 6 050 kg (MTOW) on-ground: 6 100 kg (Maximum weight for taxiing)	TCDS，RFM
1.9	Minimum Flight Crew	VFR - one pilot (right seat) IFR - one pilot (right seat)	TCDS，RFM
1.10.	Maximum Occupants	14 (including Flight Crew)	TCDS，RFM
1.11.	Baggage/ Cargo Compartment	Cargo floor max. load: 300 kg (330 kg with the optional cargo extension installed and with mandatory approved restraint nets), Cargo floor max. unit load: 300 kg/m²	TCDS
1.12	Serial Numbers Eligibility	S/N 1002 and subsequent	TCDS

(2) Kind of Operation

Item		Information	Reference
2.1	Visual Flight Rules (VFR)	Certified for VFR Day and Night.	VFR
2.2	Instrument Flight Rules (IFR)	Certified for IFR operation in non-icing conditions Flight in falling and blowing snow without inlet barrier filter installed is prohibited	TCDS，RFM
2.3	Night and over-the-top	Certified for VFR Day and Night.	RFM
2.4	Icing conditions	Operation in icing conditions not certified	RFM
2.5	Extended Overwater Operation	Not applicable	RFM
2.6	Extended Range Operation （EDTO）	Not applicable	RFM

(3) Communication, Navigation and Surveillance

Item		Information	Reference
3.1	ATC transponder	T3CAS multifunction transponder	RFM
3.2	Data Link Communicatio n	Not applicable	-
3.3	Satellite Communicatio n (SATCOM)	Not applicable	-
3.4	RVSM	Not applicable	-
3.5	Performance Based Navigation	None	-
3.6	Low visibility operation	None	-
3.7	Weather radar	weather radar as basis	RFM
3.8	Terrain awareness and warning system （TAWS）	HTAWS (included in Helionix)	-

Item		Information	Reference
3.9	Traffic Alert and Collision Avoidance equipment	T3CAS multifunction transponder	RFM
3.10	Low altitude windshear	Not applicable	--
3.11	ADS-B	T3CAS multifunction transponder， ADS-B Out （1090ES）	RFM
3.12	HUD	Not applicable	-

(4) Recording Equipment

Item		Information	Reference
4.1	Flight recorder	CVFDR	RFM
4.2	Quick Access Recorder	Not applicable	-

Section 2: Pilot Qualification Specification

2.1 Statement and Explanation

This section is the formal notification that the CAAC AEG has conducted Pilot Qualification Specification (PQS) evaluation of H160 series helicopter based on the EASA Operation Suitability Data (OSD) process and determination for flight crew, which specifies the pilot type rating, training, checking, and currency specifications for flight crews.

Hereby, the provisions in this section can be used as the basis by Chinese operators to develop their pilot qualification and training program for the above aircraft and as a reference by the competent Principal Inspector (PI) for approval and supervision.

Alternate means of compliance, other than specified in the provisions of this section, must be approved by Flight Standards Department of the CAAC. If an alternate means of compliance is sought, operators may be required to show the CAAC that the proposed alternate means of compliance will provide an equivalent level of safety to the provisions of this section. This may be accomplished by submitting analyses, demonstrations, proof of concept testing, differences in documentation, and other supporting evidence to the CAAC.

Find EASA Approved OSD here:

The H160 Operational Suitability Data (OSD) Flight Crew Data (FCD) is distributed by Airbus helicopters as request and also published on Airbusworld website（TIPI）.

2.2 Pilot Type Rating and Licence Endorsement

Upon the AEG evaluation, the Pilot Type Rating for H160 Helicopters is listed as follows:

Manufacturer	Aircraft Type/Model	Pilot Type Rating
Airbus Helicopters	H160-B	H160

Note 1: *Based on commonalities between H160B and EC175B, EASA approved H160 OSD FCD gives the possibility to have Reduced Type Rating for Helionix Family (refer to ODR tables) even if H160 and EC175 are approved in separate type certificates.*

License endorsement:

"H160" is designated as the type rating of H160. The specific helicopter model, which are listed in “Aircraft Type/Model” column of the above table, should be identified in training and checking records.

2.3 ODR and MDR

Operator Differences Requirements (ODR) tables for H160 series helicopters have been given as follows:

Following ODRs have been given in Appendix of EASA OSD FCD for support the differences specific configuration (Helionix Family):

- ODR Tables for differences: H160-B (candidate aircraft) versus EC175B (Helionix step 3.2) (base aircraft)
- ODR table for optional specific equipment: to be considered for the Type Rating

Master Differences Requirements (MDR) tables for H160 series helicopters have been given as follows:

H160 MDR Table

Reserved

2.4 Specification for Training

The Type Rating Training Specification proposed by Airbus Helicopters for H160 helicopters are included as follows and they have to be considered as the basis when developing pilot training program.

- H160 Type Training Program，ETS EI 025 H160，Rev. E and as revised.

Note 1: *Above training documents includes H160 Type rating training courses,*
Note 2: *Above training course documents are available from Airbus Helicopters upon request.*
Note 3： *Particular emphasis elements during training refer to the Section 7.5 of “H160 Operational Suitability Data (OSD) Flight Crew Data (FCD)”.*

2.5 Specification for Checking

As required by CCAR Part 61 and 135.

2.6 Specification for Currency

As required by CCAR Part 61 and 135.

2.7 Specification for Flight Simulation Training Devices

The Flight Simulation Training Devices qualified in accordance with CCAR Part 60 are available for H160.

Section 3: Maintenance Personnel Qualification Specification

3.1 Statement and Explanation

This section is the formal notification that the CAAC AEG has conducted Maintenance Personnel Qualification Specification (MPQS) evaluation for H160 series helicopters based on the documentation provided by Airbus Helicopters.

Thus, the provisions in this section can be used as the basis for Chinese operators to develop their maintenance personnel qualification and type training program for above helicopters.

Alternate means of compliance other than specified in the provisions of this section must be approved by Flight Standards Department of the CAAC.

3.2 Maintenance Personnel License Endorsement

Upon the AEG evaluation, the maintenance personnel license endorsement for H160 series helicopters is listed as follows:

Manufacturer	Aircraft Model	License Endorsement
Airbus Helicopters	H160-B	H160

License endorsement:

"H160" is designated as the maintenance personnel license type endorsement code of H160 series helicopters. The specific airframe model and the engine model combination should be identified in type training certificate and training records.

3.3 Specification for Training

The Maintenance Training Specification (MTS) proposed by Airbus Helicopters for H160 series helicopters is as follows. Operators and maintenance training providers should consider these courses as a baseline when developing maintenance training program:

- H160 Type Endorsement and Maintenance Training Specification, Issue 5.0 and as

revised.

Note 1: *The MTS of H160 covers type training course, including both theoretical and practical training, as well as special emphasis items.*

Note 2: *The MTS of H160 also included the recurrent training course for type knowledge refresh needed to keep license validity.*

Note 3: *The supplement training needed for Modification are also included in the MTS document in Annex**.** It is the operator and training provider's responsibility to recognize the details of differences based on actual configurations; and, the supplement training may be conducted by the operator or its contracted maintenance organization.*

Note 4: *The above MTS documents are available from Airbus Helicopters on request.*

Section 4: Master Minimum Equipment List

4.1 Statement and Explanation

This section is the formal notification that CAAC AEG has conducted the evaluation of Master Minimum Equipment List (MMEL) for H160 Helicopter based on EASA approval process, and considering the following MMEL outlines the items of equipment that may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations.

- MASTER MINIMUM EQUIPMENT LIST H160B for Chinese Authorities (H160-B CHN), first issue (Issue date: 28/01/2025) and as revised.

Note 1: *According to EASA policy, approval of revisions to above MMEL may both by EASA directly or by Airbus Helicopters under DOA privilege.*

Hereby, the MMEL and hereafter revisions approved by EASA process can be used, as a basis, by Chinese operator to develop their Minimum Equipment List (MEL) for above helicopter.

Find EASA MMEL here:

The above MMEL distributed by Airbus Helicopters on Airbusworld website, and EASA approval reference is available by request to Airbus Helicopters.

4.2 CAAC Supplemental

Not applicable.

Section 5: Scheduled Maintenance Requirements

5.1 Statement and Explanation

This section is the formal notification that CAAC AEG has conducted schedule Maintenance Requirements (SMR) evaluation for H160 series helicopters based on the Maintenance Review Board Report (MRBR) for H160 approved by EASA which outlines the initial minimum maintenance requirements to be used in the development of an approved operator's maintenance program for the airframe, engines, systems and components.

- Maintenance Review Board Report (MRBR) H160B, Normal Revision 4 (issue date: 19/09/2024) and as revised.

Note: *Airbus Helicopters also published Master Servicing Manual (MSM) which cover all scheduled maintenance tasks from MRBR.*

Hereby, the MRBR and hereafter revisions approved by EASA can be used, as the basis, by Chinese operator to develop their maintenance program for above helicopters.

Find EASA Approved MRBR:

The H160 MRBR is available on Airbusworld website, and EASA approval status could be found in following EASA website:

5.2 CAAC Supplemental

Not applicable.

Section 6: Operational and Continued Airworthiness Instructions

6.1 Statement and Explanation:

This section is the formal notification that CAAC AEG has conducted evaluation of the Operational and Continued Airworthiness Instructions (OCAI) for H160 helicopter based on the policies and procedures of Airbus Helicopters.

Hereby, the Operational and Continued Airworthiness Instructions documents listed in this section were acceptable by the CAAC AEG, and will give the necessary guidance for properly operating and maintaining the above helicopter within the approved operating conditions and limitations.

This acceptance may not fully assure the accuracy and applicability of the content in each document. It is the responsibility of the owner or the operator to report any defect or discrepancy in these documents to the aircraft manufacturer or to CAAC AEG by email: aeg@caac.gov.cn.

Operational & Continued Airworthiness Instructions distribution:

All of OCAI documents are distributed by AH on Airbusworld website.

6.2 List of Operational and Continued Airworthiness Instructions for H160

Manual	Doc. No.	Description	Revision/Date
RFM or e-RFM	--	H160 Approved Rotorcraft Flight Manual	As revised
e-QRH	--	H160 QRH	As revised
AMM	--	H160 Aircraft Maintenance Manual	As revised
SDS	--	H160 System Description Section	As revised
MSM	--	H160 Master Servicing Manual	As revised
WDM	--	H160 Wiring Diagram Manual	As revised
IPC	--	H160 Illustrated Parts Catalog	As revised
SRM	--	H160 Structural Repair Manual	As revised
CMP	--	Component Maintenance Publication	As revised
MTC	--	All Standard Practices Manual	As revised

Note 1: *The on-line application ORION is developed by Airbus Helicopters for technical publications and available through Airbusworld website.*

Note 2: *The following documents were approved by the type certification process, and must be followed by Chinese operators for operation and maintenance, any modification, deviation or exemption must be approved by CAAC airworthiness department:*

- *Rotorcraft Flight Manual, RFM H160-B*
- *Airworthiness Limitations Section, ALS H160-B*

Note 3: *Airbus Helicopters also developed **e-**RFM (c-RFM), which included the data files and software application.*

- *data file(s):*
  - *AIRCREW H160-000*
- *software applications:*
  - *HCrew*
  - *H160 Flight Perfo*

*All above is approved by EASA. For authorised e-RFM host platforms and installation information refer to 'H160 c-RFM Installation Guide', Airbus Helicopters document ref. TN U000A1570E01 issue E, or later revisions. The use of e-RFM software applications on other host platforms than those specified in the above document is **not** allowed.*

Note 4: *The engine manuals are developed and distributed by their manufacturers. Please reference the Engine TCDS for more information.*

Note 5: *Electrical Structural Network (ESN) connection repair is covered by SRM section 51-8 "Electrical Bonding".*

Note 6: *Weight and Balance are Section 6 in RFM (Volume 2).*

Note 7: *Special Tools Catalog is covered by H160 IPC chapter 13*

Note 8: *Airbus Helicopters using LOAP (List of Applicable Publications) provide the list of all publications for H160, and the LOAP could be created in Airbusworld website and provide real time information of all publication.*

Note 9: *In addition to the above manuals, Airbus Helicopters also provide Information Notice (IN) and Safety Information Notice (SIN), Service Bulletins (SB/ASB/EASB), Flight Operations Briefing Note (FOBN) by AH T.I.P.I. website as the need arises to quickly transmit technical and operational information.*

Section 7: Other Evaluation Items

7.1 Forward Observer Seat

Not applicable.

7.2 Flight Crew Sleeping Quarters

Not applicable.

7.3 Electronic Flight Bag

This paragraph is the formal statement that CAAC AEG has evaluated the "portable EFB" of H160 helicopter with software application "**HCrew**" and "**Flight Perfo**" in iPad platform based on the EASA EFB Evaluation Statement document, and concluded that the compliance of the "portable EFB" for operational used in H160 helicopter, but for operator to use the "portable EFB" without paper backup, the specific operational approval is still required.

Modifications to either the software or hardware from the original specifications will need re-approval by Flight Standards Department of CAAC, additional analysis, demonstrations, proof of concept testing, differences documentation, or other evidence may be required.

Note 1： *The c-RFM (computerized-RFM) is general tittle for EFB, including the software and hardware. Software consisted by "HCrew" and "Flight Perfo" application. Hardware is the iPad platform. The data files including "eRFM", "eQRH", "eMMEL" are parts of EFB.*

Note2： *Both software applications have previously been approved at EASA certification level as part of the electronic rotorcraft flight manual (e-RFM) of the H160-B helicopter, as stated in EASA TCDS.*

Note 3： *EASA also give the operational suitability evaluation for c-RFM under the OEB process based on "H160 c-RFM User and Compliance Manual"and "Hardware Compliance Dossier" by AH, which could be download from Airbusworld website, And EASA has issued the statement to support the OPS approval.*

Note 4： *The c-RFM training is integrated in the AH approved H160 type rating, refer to "H160 TYPE TRAINING PROGRAM".*

7. 4 Emergency Evacuation Demonstration

Not applicable.

Section 8: OEM Product Support Information

8.1 Flight Training

Airbus Helicopters has established, as the OEM organization, an approved flight training Center.
The flight training center was certified by CAAC under approval reference: 047-FR

8.2 Maintenance Training

Airbus Helicopters has established, as the OEM organization an approved Maintenance Training Center.
The training center was certified by CAAC under approval F.147.0330003

8.3 Technical Publication

Airbus Helicopters provide technical publication service by Airbus world

8.4 Maintenance Support

Airbus Helicopters has established, as the OEM maintenance organization, the approved maintenance center.
The maintenance center was certified by CAAC under approval reference: F03300171.

Appendix: CAAC AEG Team and Point of Contact

A: CAAC AEG Team for H160 Evaluation

WANG Jin	Aircraft Evaluation Division, Flight Standards Department of CAAC
Li Xiaolei	Chief of Maintenance, Aircraft Evaluation Center, Civil Aviation Safety & Technology Center of CAAC

B: Airbus Helicopters Point of Contact

Sandrine Magnani	International Certification Engineer (ICE)
Ludovic VIGNAROLI	International Certification Engineer (ICE)
Dandan Suriaganda	International Certification Manager (ICM)
LI Sheng (Jason)	Airworthiness Manager, Airbus Helicopters China