TYPE-CERTIFICATE

DATA SHEET

NO. EASA.IM.A.352

for
Honda Aircraft HA-420

Type Certificate Holder
Honda Aircraft Company

6430 Ballinger Road
Greensboro, North Carolina 27410
United States of America

For models: HA-420

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SECTION 1: GENERAL HA-420

1. **Data Sheet No**: EASA.IM.A.352

2. **Airworthiness Category:** CS-23 Normal Category.

3. **Certifying Authority:** Federal Aviation Administration
Atlanta Aircraft Certification Office
1701 Columbia Avenue
College Park, Georgia 30337
United States of America

4. **Type Certificate Holder**: **Honda Aircraft Company**
6430 Ballinger Road
Greensboro, North Carolina 27410
United States of America

5. **Manufacturer:** **Honda Aircraft Company**
6430 Ballinger Road
Greensboro, North Carolina 27410
United States of America

SECTION 2

I. General

1. **Aeroplane:** Honda Aircraft HA-420
(See Note 6)

2. **EASA Validation Application Date:** 8 February 2007

3. **FAA Type Certification Date:** 8 December 2015

4. **EASA Validation Date:** 23 May 2016

II. Certification Basis

1. **Reference Date for FAA Certification:** 1 October 2013

FAA Type Certificate Data Sheet No. A00018AT

2. **FAA Certification Basis:** 14 CFR Part 23, Airworthiness Standards: Normal, Utility, Acrobatic, and Commuter Airplanes, effective February 1, 1965, as amended by Amendments 23-1, effective July 29, 1965, through Amendment 23-62, effective January 31, 2012

14 CFR Part 34, Fuel Venting and Exhaust Emission Requirements for Turbine Engine Powered Airplanes, effective September 10, 1990, as amended by Amendments 34-1, effective July 31, 1995 through amendment 34-5, effective December 31, 2012

14 CFR Part 36, Noise Standards: Aircraft Type and Airworthiness Certification, effective December 1, 1969, as amended by Amendments 36-1, effective December 1, 1969, through Amendment 36-29, effective March 11, 2013

3. **EASA Airworthiness Requirements:**

CS 23	Am 4, Normal, Utility, Aerobatic, and Commuter Category Aircraft, dated 15 July 2015.
CS 34	Am 1, Aircraft Engine Emissions and fuel venting, Am 1, dated 23 January 2013.
CS 36:	Am 3, Aircraft Noise Am 3, dated 23 January 2013.
CS-ACNS	Airborne Communications, Navigation and Surveillance, Initial Issue dated 17 December 2013.
CS-FCD	Operational Suitability Data (OSD) Flight Crew Data, 31 January 2014
CS-MMEL	Master Minimum Equipment List, 31 January 2014
CS 25, Appendix Q	Am 21, Large Aeroplanes – Additional airworthiness requirements for approval of a Steep Approach Landing (SAL) capability, dated 27 March 2018.

4. **EASA Special Conditions:**

B-01	Handling and Performance
B-02	High Speed Characteristics
B-03	Stall Speed Determination
B-05	Stick Pusher
C-01	Sonic Fatigue
C-02	Pressurisation into Non Pressurised Areas
C-03	Speed Margins
C-04	Yawing Manoeuvre
C-05	Dynamic Response
C-06	Out Of Trim Characteristics (Structures)
C-102	Side Facing Seats/Divans
D-01	Take Off Warning System
D-02	Extension and Retraction Systems
D-03	Wheels
D-04	Brakes and Braking System
D-05	Doors
D-06	Bird Strike
E-01	Fuel Tank Installation
E-04	Lines, Fittings and Components

E-06	Fire Extinguishing Fuselage Mounted Engines
E-10	Fuel Tank Ignition Prevention
F-02	Hydraulic Systems
F-03	Interaction of Systems and Structure
F-56	FADEC Integration
F-63	High Altitude Operations (41000 Ft)
F-104	Cruise Speed Control
O-01	Steep Approach and Landing (SAL)

5. **EASA Exemptions:**

N/A

6. **EASA Equivalent Safety Findings:**

B-56	Dynamic Stability
E-102	Digital Only N2 and Fuel Flow
E-103	Calculated vs Measured Fuel Flow
F-57	Use of LED Lights
F-102	Use of Aircraft Battery for Starting
F-103	Uncompensated Magnetic Compass
G-101	Airspeed Indicator (ASI) Flap Markings

7. **EASA Environmental Standards:**

CS 34 - Aircraft Engine Emissions and Fuel Venting, of 23 January 2013;
CS 36 - Aircraft Noise, of 23 January 2013;

III. Technical Characteristics and Operational Limitations

1. **Design Standard:** Defined by Report HA420-100-10001 “EASA Type Design Configuration Report” at Revision A or later approved revision.

2. **Description:** Low wing jet with a T-tail configuration, powered by two turbofan engines mounted on pylons over the wing.

The structure is conventional, with a predominant composite fuselage and aluminium wing. The landing gear is retractable tricycle type, and both main and nose landing gear are single wheeled.

3. **Dimensions:**

Length	12.99 m	(42.62 ft)
Span	12.12 m	(39.76 ft)
Height	4.56 m	(14.97 ft)
Wing Area	16.40 m^2	(176.56 ft^2)

4. **Engines:** Two GE Honda Aero Engines HF120-H1A turbofans (TC/TCDS reference EASA.IM.E.054)

5. **Fuel:** Refer to applicable approved manuals

6. **Oil:** Refer to applicable approved manuals

7. **Airspeeds:** V_{MO} 270 K_{IAS}, M_{MO} 0.72 (See Airplane Flight Manual)

8. **Maximum Operating Altitude:** 13106 m (43,000 ft) MSL

9. **Operational Capability:**
Single Pilot / Two Pilots
VFR Day and Night
IFR Day and Night
Over Water
Reduced Vertical Separation Minima (RVSM) (Note 9)
Flight into Known Icing Conditions (FIKI) (Note 10)
Steep Approach and Landing (SAL) (Note 11)

10. **Maximum Certified Weights:**
For S/N 42000012 through 42000125:

Takeoff:	4808 kg (10,600 lb)
Landing:	4472 kg (9,860 lb)
Zero Fuel:	3992 kg (8,800 lb)
Ramp:	4844 kg (10,680 lb)

For S/N 42000011, 42000012 through 42000125 with SB-420-42-004 and SB-420-55-001 installed, 42000126 and up:

Takeoff:	4853 kg (10,700 lb)
Landing:	4517 kg (9,960 lb)
Zero Fuel:	4036 kg (8,900 lb)
Ramp:	4889 kg (10,780 lb)

11. **Centre of Gravity:** See Airplane Flight Manual

12. **Datum:** 1.75 m (69.0 in) forward of the nose jacking position

13. **Mean Aerodynamic Chord (MAC):** 1.52 m (59.72 in.)
L.E. of MAC at + 5.90 m (232.2 in.) aft of datum

14. **Levelling Means:** Left hand floorboard inside main entry way
(see AFM for further information)

15. **Minimum Flight Crew:** (See note 5 for cockpit equipment /arrangement restrictions)
One pilot (in the left pilot seat) plus additional equipment as specified in the Limitations Section of the EASA Approved Airplane Flight Manual, or

One pilot and one copilot.

16. **Maximum Passenger Capacity:** Maximum six (S/N 42000012 through 42000125).
Maximum seven (S/N 42000011, 42000126 and up).

17. **Baggage / Cargo Compartment:**

For S/N 42000012 through 42000125:

Forward Baggage Compartment	45 kg (100 lb)
Forward Baggage Compartment*	90 kg (200 lb)
*SB-420-52-002 incorporated	
AFT Baggage Compartment	181 kg (400 lb)
Luggage Valet	23 kg (50 lb)

For S/N 42000011, 42000012 through 42000125 with SB-420-42-004 and SB-420-55-001 installed, 42000126 and up:

Forward Baggage Compartment	90 kg (200 lb)
Aft Baggage Compartment	181 kg (400 lb)
Luggage Valet	23 kg (50 lb)

For Aft Compartment loading distribution, refer to Section 6 of the latest EASA Approved Airplane Flight Manual

IV. Operating and Servicing Instructions

1. **Airplane Flight Manual (AFM):**

For S/N 42000012 through 42000125:
Airplanes must be operated according to the EASA approved AFM, part number HJ1-29000-003-001, revision A2 (or later EASA approved revision)

For S/N 42000012 through 42000125 with SB-420-42-004 and SB-420-55-001 installed:
Airplanes must be operated according to the EASA approved AFM, part number HJ1-29001-003-001, revision A4 (or later EASA approved revision)

For S/N 42000011, 42000126 and up:
Airplanes must be operated according to the EASA approved AFM, part number HJ1-29001-003-001, revision A1 (or later EASA approved revision)

2. **Airplane Maintenance Manual (AMM):**

Airplane Maintenance Manual, part number HJ1-29000-011 revision A3 (or later accepted revision). See HJ1-29000-013, Chapter 5, Section 05-60-00, “Airworthiness Limitations” (Note 3). “Airworthiness Limitations” may not be changed without the approval of EASA.

V. Operational Suitability Data (OSD)

The Operational Suitability Data elements listed below are approved by the European Union Aviation Safety Agency under the EASA Type Certificate as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. **Master Minimum Equipment List**

a) HA-005-00101 EASA Master Minimum Equipment List, revision A or later approved revision.
b) Required for entry into service by EU operator.

2. **Flight Crew Data**

a) HA420-100-10004 EASA Operational Suitability Data, Flight Crew, revision original or later approved revision.
b) Required for entry into service by EU operator.
c) Pilot Type Rating: HA-420

VI Notes

NOTE 1 - Weight and balance.
Current weight and balance report, including the list of equipment that are part of the certificated basic empty weight and loading instructions, must be provided for each aircraft at the time of original airworthiness certification.

The certificated empty weight and corresponding center of gravity location must include:

For S/N 42000012 through 42000125:
Unusable fuel: 20.6 kg (45.4 lb) at + 6.53 m (257.18 in.) aft of datum
Full oil:* 5.58 kg (12.3 lb) at + 8.13 m (320.00 in) aft of datum*
Hydraulic Fluid: 4.0 kg (8.8 lb) at + 7.4 m (291.9 in.) aft of datum, considering density of 0.837 kg/l (6.99 lb/gal).
*It is considered the oil from the engine installation (filters and lines)

For S/N 42000011, 42000126 and up:
Unusable fuel: 22.4 kg (49.4 lb) at + 6.61 m (260.13 in.) aft of datum
Full oil:* 5.58 kg (12.3 lb) at + 8.13 m (320.00 in) aft of datum*
Hydraulic Fluid: 4.0 kg (8.8 lb) at + 7.4 m (291.9 in.) aft of datum, considering density of 0.837 kg/l (6.99 lb/gal).
*It is considered the oil from the engine installation (filters and lines)

NOTE 2 - Markings and placards.
All marking and placards required by the applicable certification requirements (see certification basis) and by the operational requirements must be installed in the appropriated locations. Required placards and marking are listed in Section 2 of the AFM.

NOTE 3 - Continuing Airworthiness.
See Airworthiness Limitation and Inspection Manual HJ1-29000-013, Chapter 5, Section 05-60-00, "Airworthiness Limitations" for Systems Airworthiness Limitations, Structure Airworthiness Limitations (ALI) and Life-Limited Items (LLI). The life limit for rotating parts on the HF120-H1A engine is in the Airworthiness Limitations Manual of the GE Honda LMM P/N GEK 112112, latest revision.

NOTE 4 - All replacement seats (crew and passenger), although they may comply with TSO C127, must also be demonstrated to comply with installation requirements into the aircraft listed in CS 23.2, 23.561, 23.562, and 23.785.

The foam cushion buildup of all seats (crew and passenger) may not be altered. Any deviation in the foam construction or stiffness must be demonstrated by test or analysis to comply with the CS 23.562 paragraph.

The cabinet that is installed forward of the RH side-facing seat is an integral part of the certified seat and restraint system (applicable for S/N 42000011 and up). The divider

forward of the RH belted lavatory seat is an integral part of the certified seat and restraint system (applicable for S/N 42000011, 42000126 and up). These items may not be structurally altered unless the changes are shown to comply with the requirements of the Certification Basis (including CS 23.561, 23.562 and 23.785).

NOTE 5 - Approval for operation with a minimum crew of one pilot (in the left pilot seat) is based upon the cockpit equipment installation and arrangement evaluated during EASA certification testing. No significant changes may be made to the installed cockpit equipment or arrangement (EFIS, autopilot, avionics, etc.), except as permitted by the approved MMEL/MEL, without prior approval from the appropriate Competent Authority. For single pilot operations, the following equipment must be operative / available: Autopilot and the EASA Approved Quick Reference Handbook (HJ1-29000-007-001 (Volumes 1 and 2) for S/N 42000012 through 42000125, or HJ1-29001-007-001 for S/N 42000011, 42000012 through 42000125 with SB-420-42-004 and SB-420-55-001 installed, 42000126 and up).

NOTE 6 - The HA-420 is often referred to as the “HondaJet” or “HondaJet Elite”. These names are strictly marketing designations and are not part of the official model designation.

NOTE 7 - The Model HA-420 is approved for One Engine Inoperative 10 minutes thrust capability with the GE Honda Aero Engines HF120-H1A engine, As an option under CS-Definitions Am 2 dated 23 December 2010 item “Take-off Power and/or Thrust” page 19 subpara c.

NOTE 8 – The Aircell CTR System is intended to provide cabin internet connection and email services using portable electronic devices (PEDs). Any other intended function of this equipment will require a re-examination of the certification basis.

NOTE 9 – Per Type Design, Aircraft Serial 42000011 and subsequent meet the Reduced Vertical Separation Minima (RVSM) technical requirements. Each Operator must obtain an Operational Approval for flight in RVSM airspace from their Competent National Aviation Authority (NAA).

NOTE 10 – Per Type Design, Aircraft Serial 42000049 and subsequent are FIKI capable. For aircraft Serials 42000011 through 42000048 Honda Service Bulletin ref SB-420-42-001 must be incorporated to allow FIKI.

NOTE 11 – Compliance has been shown for steep approach operations as an optional kit with appropriate manual supplements.

Change Record

Issue	Date	Changes
Issue 1	23 May 2016	Initial Issue
Issue 2	16 Feb 2017	RVSM and FIKI approvals added Section III 9, and Notes 9 and 10 added
Issue 3	04 June 2018	Corrected amendment dates in Section II 2. Corrected typo in Section III 9 Updated for blockpoint change at S/N 42000011 and 42000126 and up: Updated Section III 10, Section III 17, Section IV 1, Note 1, Note 4, Note 5, and Note 6
Issue 4	17 Oct 2018	Updated for Steep Approach and Landing capability: Updated Section III 9 and added Note 11
Issue 5	05 Dec 2018	Updated cover page format Various formatting corrections Updated for Advanced Performance Modification Group (APMG) retrofit changes: Updated Table of Contents Update Section III 10, Section III 17, Section IV 1, Note 5, and Note 11
Issue 6	14 Feb 2020	Updated for Steep Approach and Landing capability and increased occupancy: Updated Section III 16 and Note 11

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