

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A00018AT Revision 1
Honda Aircraft Company LLC
HA-420
August 18, 2016

TYPE CERTIFICATE DATA SHEET NO. A00018AT

This data sheet, which is part of Type Certificate No. A00018AT, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Honda Aircraft Company LLC
 6430 Ballinger Road
 Greensboro, North Carolina 27410

I – Model HA-420 (6/7PCLM, Normal Category) Approved December 8, 2015

Engines: Two (2) GE Honda Aero Engines HF120-H1A turbofan engines
 Type Certificate E00085EN

Fuel: Jet A or Jet A-1

For approved fuel additives, refer to the FAA Approved Airplane Flight Manual (HJ1-29000-003)

Oil: For approved oils, refer to the FAA Approved Airplane Flight Manual (HJ1-29000-003)

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Engine Limits:

<u>Thrust Setting</u>	<u>N₁ Fan RPM</u>	<u>ITT (1)</u>	<u>N₂ Turbine RPM</u>
Takeoff	100.0% (19,055 RPM)	860°C (2)	100.9% (49,200 RPM)
Max Continuous	100.0% (19,055 RPM)	860°C (2)	100.9% (49,200 RPM)

The HA-420 is approved for 10 Minutes OEI (see NOTE 5)

(1) ITT values are displayed limits and not actual temperature values.

(2) Maximum transient for 2 minutes is 885°C

HF120-H1A power management de-rated minimum static thrust ratings at sea level and 77°C/25°C with no installation losses:

Takeoff	2037 lbs thrust
Max Continuous	1922 lbs thrust

Airspeed Limits:

V _{MO}	270 KIAS
M _{MO}	0.72 Mach
V _A	220 KIAS
V _{MCA}	
Flaps UP.....	105 KIAS
Flaps TO/APPR.....	100 KIAS
V _{MCL}	
Flaps LDG.....	95 KIAS
V _{FE/FO}	
Flaps TO/APPR.....	200 KIAS
Flaps LDG.....	160 KIAS
V _{LE/LO}	200 KIAS
V _{TIRE}	165 knots (Max Tire Ground Speed)

Maximum Weights:

Max. Ramp.....	10,680 lbs
Max. Takeoff.....	10,600 lbs
Max. Landing.....	9,860 lbs
Max. Zero Fuel.....	8,800 lbs

Max Baggage Loading:

Fwd Compartment.....	100 lbs	(F-Sta 54.5)
Aft Compartment.....	400 lbs	(F-Sta 328.4)
Luggage Valet.....	50 lbs	(F-Sta 162.6)

For Aft Compartment loading distribution, refer to the latest FAA Approved Airplane Flight Manual (HJ1-29000-003), Section 6.

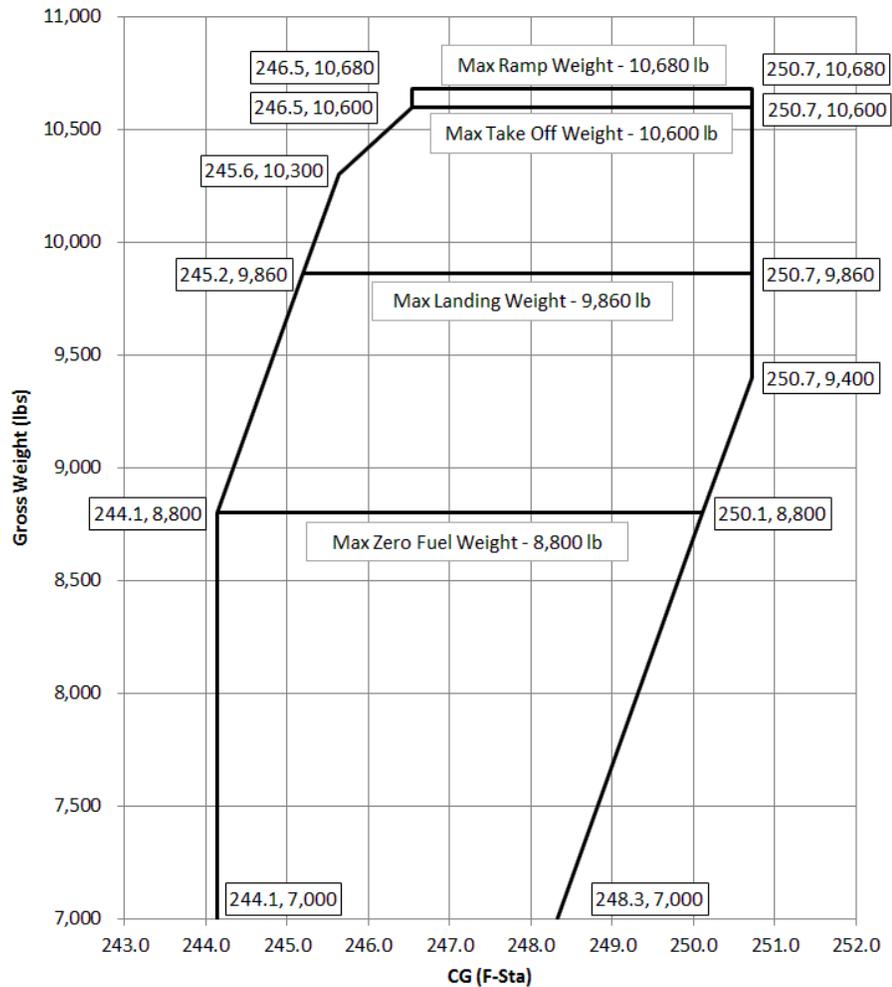
Datum: (F-Sta 0.00) 69.0 inches forward of the nose jacking position

Mean Aerodynamic Chord: 59.72 inches (M.A.C. leading edge is 232.2 inches aft of datum)

Leveling Means: Left Hand floorboard inside Main entry way

Empty Weight C.G. Range: None

CG Range:



Fuel Capacity: 430.7 US gal TOTAL (F-Sta 263.5)
 423.9 US gal Usable
 6.8 US gal Unusable

Oil Tank Capacity:

Each engine tank:

MAX Oil Level (FULL line): 4.99 quarts (F-Sta 320.0)
 2.64 quarts Usable, 2.35 quarts Unusable

Control Surface
Movements:

<u>Control Surface</u>	<u>Maximum Deflection</u>	
	<u>Trailing Edge Up or Left</u>	<u>Trailing Edge Down or Right</u>
Elevator	20.5° ± 0.5°	6.5° ± 0.5°
Rudder	34.5° ± 0.5°	34.5° ± 0.5°
Aileron	21.1° + 0.5°, -1.5°	19.9° + 0.5°, -1.5°
Aileron Trim	15° ± 1.0°	15° ± 1.0°
Rudder Trim	25° ± 1.0°	25° ± 1.0°
Elevator Trim	10° ± 1.0°	15° ± 1.0°
Flaps	N/A	UP: 0.0° ± 0.25° TO/APPR: 15.7° ± 0.8° LDG: 35° ± 1.3°

Manufacturer Serial No.
Eligible:

42000011 and up

PERTINENT DATAMinimum Crew:

One (1) pilot (left seat) -OR-
 Two (2) pilots

Number of Seats:

7 Max (Includes pilot(s) and crew). Refer to the latest FAA
 Approved Airplane Flight Manual (HJ1-29000-003), Section 6 for
 seat configurations and moment arms.

Maximum Operating
Altitude:

43,000 ft MSL

Maximum Takeoff
Field Elevation:

10,000 ft MSL

Temperature Operating
Limitation:

55°C
 -40°C (Starting)

Types of Operation:

Day/Night VFR
 Day/Night IFR

Maneuver Limits: Maneuvers are limited to any maneuver incident to normal flying, stalls (except whip stalls) and steep turns in which the angle of bank is not more than 60 degrees. Acrobatic maneuvers, including spins, are prohibited.

Other Operating Limitations: The aircraft must be operated in accordance with the FAA approved Airplane Flight Manual (HJ1-29000-003).

Type Certificate Application: October 11, 2006

Type Certificate Issuance: Type Certificate A00018AT Issued December 8, 2015

Certification Basis: 14 CFR Part 23, Airworthiness Standards: Normal, Utility, Acrobatic, and Commuter Airplanes, effective February 1, 1965, as amended by Amendments 23-1, dated July 29, 1965, through Amendment 23-62, dated December 2, 2011

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, dated July 31, 1995 through Amendment 34-5, dated December 31, 2012

14 CFR Part 36, Noise Standards: Aircraft Type Certification and Airworthiness Certification, effective March 11, 1994, as amended by Amendments 36-1, dated December 1, 1965, through Amendment 36-29, dated March 11, 2013.

Optional Design Regulations: None

Exemptions from 14 CFR Part 23 in accordance with 14 CFR Part 11:

Exemption 11123 dated December 16, 2014, 23.181(b), Dynamic Stability Compliance with 23.181(b) during takeoff and landing.

Equivalent Safety Findings (ELOS) according to the provisions of 14 CFR part 21.21(b)(1) for the following subjects:

<u>ELOS No., date and Subject</u>	<u>Regulation modified by ELOS</u>
<i>ACE-15-08, dated June 5, 2015: Use of 1-g Stall Speeds in lieu of Minimum Speed in the Stall as a Basis for Determining Compliance</i>	§1.1, §1.2, §23.49, §23.51, §23.65, §23.67, §23.69, §23.73, §23.143, §23.145, §23.147, §23.149, §23.157, §23.161, §23.175, §23.177, §23.201, §23.203, §23.207, §23.233, §23.729, §23.735, §23.1001, §23.1323, §23.1325, §23.1545, and §23.1587
<i>ACE-15-09, dated March 26, 2015: Electronic Display of Engine Instruments N1, N2, ITT, Oil Pressure, Oil Temperature, Fuel Flow, and Fuel Quantity on a Garmin G3000 Integrated Flight Deck</i>	§23.1305, §23.1337, §23.1549, §23.1553
<i>ACE-15-10, dated March 25, 2015: Storage Battery Design and Installation</i>	§23.1353(h)
<i>ACE-15-11, dated September 14, 2015: Airspeed Indicator (ASI) Flap Markings</i>	§23.1545(b)(4)
<i>ACE-15-15, dated September 1, 2015: Amendment 23-62 Corrections</i>	§23.45, §23.51, §23.63, §23.67, §23.73, §23.77, §23.161, §23.181, §23.221, §23.251, §23.253, §23.571, §23.1195, §23.1197, §23.1199, §23.1201, §23.1545, §23.1583

The following Special Conditions (SC) in accordance with 14 CFR Part 11:

<u>Special Condition No., Date and Subject</u>	<u>Regulation modified by Special Condition</u>
<i>Special Condition No. 23-263-SC, dated March 25, 2015, Dynamic Test Requirements for Single Place Side-Facing Seats</i>	§23.562, §23.785
<i>Special Condition No. 23-264-SC, dated March 25, 2015, Electronic Engine Control System</i>	§23.1309
<i>Special Condition 23-265-SC, dated June 9, 2015, Fire Extinguishing</i> <i>Note: This special condition supersedes the ELOS finding of ELOS Memo ACE-15-15.</i>	§23.1195, §23.1197, §23.1199, §23.1201
<i>Special Condition No. 23-269-SC, dated Sept 14, 2015, Lithium-Ion Battery Installation</i>	§23.1353
<i>Special Condition No. 23-270-SC, dated August 3, 2015: High Altitude Operations</i>	§23.831
<i>Special Condition Notice No. 23-271-SC, dated October 26, 2015, Cruise Speed Control</i>	§23.1329

Compliance has been shown for applicable ditching provisions.

Compliance has not been shown for flight into known or forecast icing.

Per the type design, S/N 42000011 and up meet the Reduced Vertical Separation Minima (RVSM) technical requirements. Each operator must obtain operational approval for flight in RVSM airspace from their cognizant Flight Standards District Office (FSDO).

Model HA-420 is defined by drawing, HJ1-10000-000, Rev G or later FAA approved revision (see Honda Report HJS-3292, Rev NC or later FAA approved revision, for associated drawing list).

ADDITIONAL DESIGN REQUIREMENTS AND CONDITIONS:

The following design details or information must be maintained to ensure that an unsafe design condition is not present: None

Production Basis:

Production Certificate No. 348, dated July 8, 2016

Equipment:

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:

1. FAA Approved Airplane Flight Manual (HJ1-29000-003)

For single pilot operations, the following equipment must be operative/ available in addition to those items listed above:

1. Autopilot
2. FAA Approved Quick Reference Handbook (HJ1-29000-007), Volumes 1 and 2

NOTES:NOTE 1. Weight and Balance:

A current weight and balance report, including a list of equipment included in the certificated empty weight, and loading instructions must be provided for each aircraft at the time of original certification.

NOTE 2. Placards

Airplane operation must be in accordance with the FAA Approved Airplane Flight Manual (HJ1-29000-003). All placards required by the Flight Manual, the applicable operating rules, and the Certification Basis must be installed in the airplane.

NOTE 3. Service Life Limits and required Maintenance/Inspections

Inspection time limits and maintenance checks are included in the Airworthiness Limitation and Inspection Manual (HJ1-29000-013). The retirement times of the life limited components in Section 05-60-00 cannot be altered without FAA Engineering approval.

NOTE 4. Interior Components

Replacement Seats (crew and passenger) must be demonstrated to comply with installation requirements as established by the Certification Basis (including 14 CFR §23.2, 23.561, 23.562 and 23.785) even if they are previously found to be compliant to TSO C127a (or later amended version).

The cushion buildup of all seats (crew and passenger) may not be altered without appropriate qualification as established by the Certification Basis (including 14 CFR §23.562).

The cabinet that is installed forward of the RH, side-facing seat is an integral part of the certified seat and restraint system. This cabinet may not be structurally altered unless the changes are shown to comply with the requirements of the Certification Basis (including 14 CFR §23.561, 23.562 and 23.785).

NOTE 5. Engine Operation

The Model HA-420 is approved for One Engine Inoperative 10 minutes thrust capability with the GE Honda Aero Engines HF120-H1A engine, per FAA Policy Memo Policy Statement on Approval for 10-Minute Rated Takeoff Thrust/Power during Takeoff with One-Engine Inoperative (OEI) under 14 CFR Part 23 and 14 CFR Part 33 [PS-ANE33-ACE23-2006-1], dated August 30, 2006.

NOTE 6. Aircell CTR System

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

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