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Flight Standardization Board (FSB) Report

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Manufacturer
Honda Aircraft Company

Type Certificate Data Sheet (TCDS)	TCDS Identifier	Marketing Name	Pilot Type Rating
A00018AT	HA-420	HondaJet (S/N 42000012 thru 42000125)	HA-420
A00018AT	HA-420	HondaJet Elite (S/N 42000011, 42000126 and up)	HA-420

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1. RECORD OF REVISIONS

Revision Number	Sections(s)	Page(s)	Date
Original	All	All	01/15/2016
1	Cover Page, Table of Contents, Record of Revisions, Highlights of Change, 8.2.6, Appendix 4	1 thru 3, 17, 24	09/28/2016
2	All	All	02/13/2019

2. INTRODUCTION

Aircraft Evaluation Groups (AEG) are responsible for working with aircraft manufacturers and modifiers during the development and Federal Aviation Administration (FAA) certification of new and modified aircraft to determine: 1) the pilot type rating; 2) flightcrew member training, checking, and currency requirements; and 3) operational suitability.

This report lists those determinations for use by: 1) FAA employees who approve training programs; 2) FAA employees and designees who certify airmen; and 3) aircraft operators and training providers to assist them in developing their flightcrew member training, checking, and currency.

3. HIGHLIGHTS OF CHANGE

The purpose of this revision is to: 1) include an avionics upgrade with the Garmin 71.45 software load, increased weight/center of gravity (CG) envelope, aerodynamic improvements, added fuel, and optional interior enhancements; and 2) reformat the Flight Standardization Board (FSB) report using a standardized template. This report has been completely modified from the previous revision. Major modifications include the deletion of currency levels depicted in the Master Differences Requirements (MDR) table, renaming of Operator Differences Requirements (ODR) tables to Differences Tables, and deleting regulatory repetitive information, including hour requirements.

NOTE: Due to significant administrative changes, change bars are not used in this revision.

4. BACKGROUND

The Small Aircraft Branch formed an FSB that evaluated the Honda Aircraft Company HA-420 aircraft as defined in FAA Type Certificate Data Sheet (TCDS) #A00018AT. The evaluation was conducted in October 2015 in Greensboro, NC, using the methods described in FAA Advisory Circular (AC) 120-53B, Guidance for Conducting and Use of Flight Standardization Board Evaluations. For the remainder of this document, Honda Aircraft Company and Honda Aircraft are the same entity.

The electronic checklist (ECL) was evaluated after the completion of a formal FSB. The evaluation was completed in March of 2016 at the Honda Aircraft facility in Greensboro, NC.

On May 17, 2018, the FSB conducted flight evaluations in an HA-420 Elite (S/N 42000011) for Garmin 3000 software enhancements which primarily included automatic flight control system (AFCS) coupled go-around with underspeed protection (USP); AFCS electronic stability and protection (ESP) with roll and angle of attack functions; and integrated takeoff and landing data (TOLD) and performance (PERF) calculations. The HA-420 Elite model also included minor design changes in the fuel, electrical, and hydraulic systems. The aircraft, as well as the associated Airplane Flight Manual (AFM) change, was found to be operationally suitable. Training, checking, and currency requirements are listed in Appendix 3, Differences Tables.

5. ACRONYMS

14 CFR	Title 14 of the Code of Federal Regulations
AC	Advisory Circular
ACS	Airman Certification Standards
AEG	Aircraft Evaluation Group
AFCS	Automatic Flight Control System
AFM	Airplane Flight Manual
AOA	Angle of Attack
ATP	Airline Transport Pilot
CAS	Crew Alert System
CG	Center of Gravity
CPT	Cockpit Procedures Trainer
CRM	Crew Resource Management
ECL	Electronic Checklist
EFB	Electronic Flight Bag
ESP	Electronic Stability and Protection
FAA	Federal Aviation Administration
FFS	Full Flight Simulator
FMS	Flight Management System
FSB	Flight Standardization Board
FSTD	Flight Simulation Training Device
FTD	Flight Training Device
GTC	Garmin Touchscreen Controller
ICBI	Interactive Computer-Based Instruction

MDR	Master Differences Requirements
MEL	Minimum Equipment List
MFD	Multifunction Display
MMEL	Master Minimum Equipment List
MTOW	Maximum Takeoff Weight
NWS	Nose Wheel Steering
ODR	Operator Differences Requirements
OE	Operating Experience
Part 91K	Part 91 Subpart K
PERF	Performance
PFD	Primary Flight Display
PIC	Pilot in Command
PTT	Part Task Trainers
PTS	Practical Test Standards
QRH	Quick Reference Handbook
SIC	Second in Command
SOE	Supervised Operating Experience
SVS	Synthetic Vision System
TAWS	Terrain Awareness and Warning System
TCAS	Traffic Alert and Collision Avoidance System
TCBI	Tutorial Computer-Based Instruction
TCDS	Type Certificate Data Sheet
TOLD	Takeoff and Landing Data
USP	Underspeed Protection
V ₁	Takeoff Decision Speed
VNAV	Vertical Navigation

6. DEFINITIONS

These definitions are for the purposes of this report only.

- 6.1. **Base Aircraft.** An aircraft identified for use as a reference to compare differences with another aircraft.
- 6.2. **Current.** A crewmember meets all requirements to operate the aircraft under the applicable operating part.
- 6.3. **Differences Tables.** Describe the differences between a pair of related aircraft and the minimum levels operators must use to conduct differences training and checking of crewmembers. Difference levels range from A to E.
- 6.4. **Master Differences Requirements (MDR).** Specifies the highest training and checking difference levels between a pair of related aircraft derived from the Differences Tables.
- 6.5. **Mixed Fleet Flying.** The operation of a base aircraft and one or more related aircraft for which credit may be taken for training, checking, and currency events.

- 6.6. Operational Evaluation.** An AEG process to determine pilot type rating, minimum crewmember training, checking, and currency requirements, and unique or special airman certification requirements (e.g., specific flight characteristics, no-flap landing).
- 6.7. Operational Suitability.** An AEG determination that an aircraft or system may be used in the National Airspace System (NAS) and meets the applicable operational regulations (e.g., Title 14 of the Code of Federal Regulations (14 CFR) parts 91, 121, 133, 135).
- 6.8. Qualified.** A crewmember holds the appropriate airman certificate and ratings as required by the applicable operating part.
- 6.9. Related Aircraft.** Any two or more aircraft of the same make with either the same or different type certificates that have been demonstrated and determined by the Administrator to have commonality.
- 6.10. Seat Dependent Tasks.** Maneuvers or procedures using controls that are accessible or operable from only one flightcrew member seat.
- 6.11. Special Emphasis Area.** A training requirement unique to the aircraft, based on a system, procedure, or maneuver, which requires additional highlighting during training. It may also require additional training time, specialized training devices, or training equipment.
- 6.12. Specific Flight Characteristics.** A maneuver or procedure with unique handling or performance characteristics that the FSB has determined must be checked.

7. PILOT TYPE RATING

7.1. Type Rating.

7.1.1 The HA-420 type rating designation is HA-420 and may be operated with or without a second in command (SIC) with certain limitations. The AFM lists equipment that must be operative to operate the aircraft single pilot.

7.1.2 An HA-420 pilot type rating may be issued with the limitation “HA-420 Second in Command Required” as applicable.

7.2. Common Type Ratings.

Not applicable.

7.3. Military Equivalent Designations. Military aircraft that qualify for the HA-420 can be found on the [faa.gov](http://www.faa.gov/licenses_certificates/airmen_certification) website under Licenses and Certificates, Airmen Certification, Online Services, Aircraft Type Rating Designators. This webpage is kept up-to-date and can be found at http://www.faa.gov/licenses_certificates/airmen_certification.

8. RELATED AIRCRAFT

8.1. Related Aircraft on Same TCDS:

- HA-420: S/N 42000012 thru 42000125.
- HA-420 Elite: S/N 42000011, 42000126, and up.

8.2. Related Aircraft on Different TCDS.

Not applicable.

9. PILOT TRAINING

9.1. Airman Experience.

Airmen receiving HA-420 initial training will benefit from prior experience operating multi-engine turbojet aircraft. Additionally, a working knowledge of advanced aircraft systems, flight management systems (FMS) with electronic flight displays, and high altitude operations is highly recommended. Pilots without this experience may require additional training.

Airmen receiving differences and upgrade training are assumed to have previous experience in the aircraft type.

9.2. Special Emphasis Areas.

9.2.1 Pilots must receive special emphasis on the following areas during initial, recurrent, requalification, and transition ground training:

- Brake system. Brake antiskid logic.
- Nose wheel steering (NWS). Nose wheel positioning and control logic at touchdown and rollout. Adverse interaction of asymmetrical braking with NWS.
- Crosswind takeoff and landing. Unique limitations, cautions, warnings, and critical piloting techniques and procedures found in the AFM. Proper application of aircraft controls and hazards of incorrect aircraft controls application during two-engine and single-engine operations.
- Discuss what leads to yaw, divergence, and a loss of control about the vertical axis during rollout and how to quickly regain control (i.e., what control inputs improve stability and control during landing rollout and what inputs lead to divergence).
- Emergency descent mode.
- Traffic Alert and Collision Avoidance System (TCAS) and Terrain Awareness and Warning System (TAWS).
- Weather radar.
- Vertical navigation (VNAV) departure and arrival procedures.
- Operation with emergency power only.

- Emergency/abnormal quick reference handbook (QRH).
- Master Minimum Equipment List (MMEL)/minimum equipment list (MEL).
- Single-Pilot Resource Management and/or Crew Resource Management (CRM).
- ECL.
- Synthetic Vision System (SVS) operation.
- Risk assessment and risk management.

9.2.2 Pilots must receive special emphasis on and perform tasks related to the following areas during initial, recurrent, requalification, and transition flight training:

- Emergency descent mode.
- TCAS and TAWS.
- Weather radar.
- VNAV departure and arrival procedures.
- Emergency/abnormal QRH.
- Single-Pilot Resource Management and/or CRM.
- ECL.
- SVS operation.
- Crosswind takeoffs and landings. Adherence to cautions, warnings, and critical crosswind piloting techniques and procedures in the AFM (AFM limitations must not be exceeded). Including but not limited to:
 - Crosswind takeoffs and landings – two-engine and single-engine operations.
 - Crosswind rejected takeoff before takeoff decision speed (V_1).
- Demonstrate (simulator only) what leads to yaw, divergence, and a loss of control about the vertical axis during rollout and how to quickly regain control (i.e., what control inputs improve stability and control during landing rollout and what inputs lead to divergence).

NOTE: When conducting crosswind training, the crosswind limitation and handling characteristics of the aircraft must be considered. Exposure to progressively increasing crosswind components should be weighed to ensure safe operation of the aircraft. Requirement for brake cooling during multiple takeoffs and landings should be emphasized.

9.2.3 Pilots must receive special emphasis on and perform tasks related to the following during initial flight training:

Operation with emergency power only.

9.3. Specific Flight Characteristics.

Maneuvers/procedures required to be checked as referenced in the airline transport pilot (ATP) and type rating practical test standards (PTS) or Airman Certification Standards (ACS), as applicable.

There are no specific flight characteristics.

9.4. Seat Dependent Tasks.

There are no specific seat dependent tasks. However, the minimum crew determination listed in the AFM and the TCDS is one pilot in the left seat. As such, the pilot must occupy the left pilot seat for all pilot in command (PIC) training as a single pilot.

9.5. Regulatory Training Requirements which are Not Applicable to the HA-420.

Part 135 ground training: propellers.

9.6. Flight Simulation Training Devices (FSTD).

There are no specific systems, procedures, or maneuvers that are unique to the HA-420 that require a specific FSTD for training.

9.7. Training Equipment.

There are no specific systems or procedures that are unique to the HA-420 that require specific training equipment.

9.8. Differences Training between Related Aircraft.

Differences training is applicable between the HA-420 and HA-420 Elite. The level of training is specified in Appendix 3.

10. PILOT CHECKING

There are no additional pilot checking requirements for the HA-420 other than those already specified in 14 CFR parts 61, 91 subpart K (part 91K), and 135.

10.1. Landing from a No-Flap or Nonstandard Flap Approach.

The probability of flap extension failure on the HA-420 is not extremely remote due to system design. Therefore, demonstration of a no-flap approach and landing during pilot certification or a part 61, § 61.58 proficiency check, part 91, § 91.1065 competency check, or part 135, § 135.293 competency check is required.

Refer to FAA Order 8900.1, Volume 5 when the test or check is conducted in an aircraft versus a full flight simulator (FFS).

10.2. Specific Flight Characteristics.

Maneuvers/procedures required to be checked as referenced in the ATP and type rating PTS or ACS, as applicable.

There are no specific flight characteristics.

10.3. Seat Dependent Tasks.

There are no specific seat dependent tasks. However, the minimum crew determination listed in the AFM and the TCDS is one pilot in the left seat. As such, the pilot must occupy the left pilot seat for all practical tests and proficiency checks as a single pilot.

10.4. Other Checking Items.

Not applicable.

10.5. FSTD.

There are no specific systems, procedures, or maneuvers that are unique to the HA-420 that require a specific FSTD for checking.

10.6. Equipment.

There are no specific systems or procedures that are unique to the HA-420 that require specific equipment.

10.7. Differences Checking between Related Aircraft.

Differences checking is applicable between the HA-420 and HA-420 Elite. The level of checking is specified in Appendix 3.

11. PILOT CURRENCY

There are no additional currency requirements for the HA-420 other than those already specified in parts 61, 91, and 135.

11.1. Operating Experience (OE) and Supervised Operating Experience (SOE).

11.1.1 PICs completing OE to serve as a single pilot must occupy the left pilot seat.

11.1.2 Pilots with the limitation “HA-420 Second in Command Required” may occupy either the left or right pilot seat to complete SOE in accordance with § 61.64(g). Pilots without the limitation must occupy the left pilot seat to complete SOE in accordance with § 61.64(g).

11.2. Differences Currency between Related Aircraft.

Not applicable.

12. OPERATIONAL SUITABILITY

The HA-420 is operationally suitable for operations under parts 91, 91K, and 135. The FSB determined operational compliance by conducting an evaluation in October 2015. The list of operating rules evaluated is on file at the Small Aircraft Branch.

13. MISCELLANEOUS

13.1. Forward Observer Seat.

HA-420 aircraft are not equipped with a dedicated forward observer seat. The HA-420 right cockpit seat, installed in accordance with TCDS #A00018AT, has been evaluated and determined to meet requirements of § 135.75(b) for use by the Administrator during enroute inspections and for the administration of flight tests leading to pilot certification or operating privileges. The right cockpit seat is the primary seat in the HA-420 to meet the regulations cited above. However, if that seat is occupied (i.e., for two-pilot crew operations), the side-facing seat across from the forward entry door is acceptable for conducting enroute inspections and line checks only. This is the only configuration that has been evaluated by the FSB. The operator must provide a means for the inspector to monitor communications between the crew and those external to the aircraft.

13.2. Landing Minima Categories (Reference 14 CFR Part 97, § 97.3).

The HA-420 is considered Category B aircraft for the purposes of determining “straight-in landing weather minima.”

13.3. Normal Landing Flaps.

The HA-420 normal “final landing flap setting” per § 91.126(c) is flaps “LDG”.

13.4. Electronic Flight Bag (EFB).

The EFB evaluation determined chart display functions to be suitable as one source for electronic display of airport diagrams, approach plates, arrival procedures, and departure procedures. Since chart information cannot be displayed in the event of certain avionics failures, a suitable backup is required. Approved AFM provides operating limitations for the installation.

The G3000 includes “FliteChart” and optional “ChartView” electronic charts. A specific system description for the system configuration appropriate to the installation is available in the approved AFM and Garmin G3000 Integrated Avionics System Pilot’s Guide.

13.5. Steep approach has not been evaluated by the FSB.

13.6. ECL.

See Appendix 4, Electronic Checklist Evaluation.

APPENDIX 1. DIFFERENCES LEGEND

Training Differences Legend

Differences Level	Type	Training Method Examples	Conditions
A	Self-Instruction	<ul style="list-style-type: none"> • Operating manual revision (HO) • Flightcrew operating bulletin (HO) 	<ul style="list-style-type: none"> • Crew has already demonstrated understanding on base aircraft (e.g., updated version of engine). • Minor or no procedural changes required. • No safety impact if information is not reviewed or is forgotten (e.g., different engine vibration damping mount). • Once called to attention of crew, the difference is self-evident.
B	Aided Instruction	<ul style="list-style-type: none"> • Audiovisual presentation (AV) • Tutorial computer-based instruction (TCBI) • Stand-up instruction (SU) 	<ul style="list-style-type: none"> • Systems are functionally similar. • Crew understanding required. • Issues need emphasis. • Standard methods of presentation required.
C	Systems Devices	<ul style="list-style-type: none"> • Interactive (full-task) computer-based instruction (ICBI) • Cockpit Procedures Trainers (CPT) • Part task trainers (PTT) • Level 4 or 5 flight training device (FTD 4–5) 	<ul style="list-style-type: none"> • Training can only be accomplished through systems training devices. • Training objectives focus on mastering individual systems, procedures, or tasks versus highly integrated flight operations or “real-time” operations. • Training devices are required to assure attainment or retention of crew skills to accomplish more complex tasks usually related to aircraft systems.
D	Maneuvers Devices	<ul style="list-style-type: none"> • Level 6 or 7 flight training device (FTD 6–7) • Level A or B full flight simulator (FFS A–B) 	<ul style="list-style-type: none"> • Training can only be accomplished in flight maneuver devices in a real-time environment. • Training requires mastery of interrelated skills versus individual skills. • Motion, visual, control loading, and specific environmental conditions may be required.
E	Level C/D FFS or Aircraft	<ul style="list-style-type: none"> • Level C or D full flight simulator (FFS C–D) • Aircraft (ACFT) 	<ul style="list-style-type: none"> • Motion, visual, control loading, audio, and specific environmental conditions are required. • Significant full task differences that require a high fidelity environment. • Usually correlates with significant differences in handling qualities.

Checking Differences Legend

Differences Level	Checking Method Examples	Conditions
A	None	None
B	<ul style="list-style-type: none"> • Oral or written exam • Tutorial computer-based instruction self-test (TCBI) 	<ul style="list-style-type: none"> • Individual systems or related groups of systems.
C	<ul style="list-style-type: none"> • Interactive (full-task) computer-based instruction (ICBI) • Cockpit Procedures Trainers (CPT) • Part task trainers (PTT) • Level 4 or 5 flight training device (FTD 4–5) 	<ul style="list-style-type: none"> • Checking can only be accomplished using systems devices. • Checking objectives focus on mastering individual systems, procedures, or tasks.
D	<ul style="list-style-type: none"> • Level 6 or 7 flight training device (FTD 6–7) • Level A or B full flight simulator (FFS A–B) 	<ul style="list-style-type: none"> • Checking can only be accomplished in flight maneuver devices in a real-time environment. • Checking requires mastery of interrelated skills versus individual skills. • Motion, visual, control loading, and specific environmental conditions may be required.
E	<ul style="list-style-type: none"> • Level C or D full flight simulator (FFS C–D) • Aircraft (ACFT) 	<ul style="list-style-type: none"> • Significant full task differences that require a high fidelity environment.

APPENDIX 2. MASTER DIFFERENCES REQUIREMENTS (MDR) TABLE

These are the minimum levels of training and checking required, derived from the highest level in the Differences Tables in Appendix 3. Differences levels are arranged as training/checking.

Related Aircraft ↓	Base Aircraft →	HA-420	HA-420 Elite
HA-420		Not applicable	B/B
HA-420 Elite		C/B	Not applicable

APPENDIX 3. DIFFERENCES TABLES

This Design Differences Table, from the HA-420 to the HA-420 Elite, was proposed by Honda Aircraft and validated by the Flight Standardization Board (FSB) on May 17, 2018. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

NOTE: Optional equipment is delineated with a double asterisk **. Training and checking is not required if equipment is not installed on the operator's aircraft.

FROM BASE AIRCRAFT: HA-420	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
TO RELATED AIRCRAFT: HA-420 Elite						
	Limitations	Increased maximum takeoff weight (MTOW) by 100 lb. Weight limit increase for fuel and baggage. Center of gravity (CG) envelope expansion.	No	Yes	B	B
	Performance	Revised takeoff performance information.	No	No	A	A
	Performance	Integrated takeoff and landing data (TOLD) and performance (PERF) calculation.	No	Yes	B	B

FROM BASE AIRCRAFT: HA-420 TO RELATED AIRCRAFT: HA-420 Elite	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 22 Autoflight	**Electronic Stability and Protection (ESP). **Coupled go-around with underspeed protection (USP).	No	Yes	C	B
	Dimensions	Horizontal stabilizer is 6 inches longer.	No	No	A	A
	Indication	Revised Crew Alert System (CAS) logic. CAS messages were added for new functionality with TOLD and ESP, and for the fuel system.	No	Yes	B	B
	Indication	The new software includes a pilot-selectable angle of attack (AOA) indicator situated on the primary flight display (PFD) below the airspeed tape.	No	No	A	A

FROM BASE AIRCRAFT: HA-420 TO RELATED AIRCRAFT: HA-420 Elite	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 24 Electrical Power	The #1 (system) battery was changed from 28Ah to 17Ah, USB charging ports added at each pilot station and each club seat, and power feeds were added to accommodate new galley and future cabin systems.	No	No	B	A
	ATA 28 Fuel	Increase in fuel capacity. Remove outside fueling gage and added "Fuel Slowly" light.	No	Yes	B	A
	ATA 29 Hydraulic Power	Volume compensator was installed in the master cylinder command lines, and brake shutoff valve modified to prevent pilot-commanded brake applications during gear retraction. This improves brake feel during initial application. There is no change to braking performance.	No	No	B	A

This Maneuver Differences Table, from the HA-420 to the HA-420 Elite, was proposed by Honda Aircraft and validated by the FSB on May 17, 2018. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: HA-420	MANUEVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
TO RELATED AIRCRAFT: HA-420 Elite						
	Preflight Inspection	Changes in horizontal tail, elevator, removal of wingtip triangles.	No	No	A	A
	Cockpit Preparation	Integrated TOLD and PERF calculation.	No	Yes	B	B
	Navigation-Approach	Added visual approach as a selection in the Garmin 3000 database.	No	Yes	B	A
	Approach	**Coupled go-around with USP.	No	Yes	C	B
	All Phases of Flight	**Automatic Flight Control System (AFCS) protection modes USP and ESP.	No	Yes	C	B

This Design Differences Table, from the HA-420 Elite to the HA-420, was proposed by Honda Aircraft and validated by the FSB on May 17, 2018. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: HA-420 Elite TO RELATED AIRCRAFT: HA-420	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Limitations	Decreased MTOW by 100 lb. Weight limit decrease for fuel and baggage. CG Envelope change.	No	Yes	B	B
	Performance	Revised takeoff performance information.	No	Yes	A	A
	Performance	**Integrated TOLD and PERF calculation is optional.	No	Yes	B	B
	ATA 22 Autoflight	**AFCS coupled go-around, USP, and ESP not available.	No	Yes	B	A
	Dimensions	Horizontal stabilizer is 6 inches shorter.	No	No	A	A
	Indication	Revised CAS logic. Removed CAS messages for functionality with TOLD and ESP, and for the fuel system.	No	Yes	B	B

FROM BASE AIRCRAFT: HA-420 Elite TO RELATED AIRCRAFT: HA-420	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Indication	Pilot-selectable AOA indicator not available.	No	No	A	A
	ATA 24 Electrical Power	The #1 (system) battery was changed from 17Ah to 28Ah. USB charging ports not installed. Power feeds not installed. New galley and future cabin systems not available.	No	No	B	A
	ATA 28 Fuel	Decrease in fuel capacity. “Fuel Slowly” light is not installed.	No	Yes	B	A

FROM BASE AIRCRAFT: HA-420 Elite TO RELATED AIRCRAFT: HA-420	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 29 Hydraulic Power	<p>Volume compensator not installed in the master cylinder command lines, and brake shutoff valve not modified to prevent pilot-commanded brake applications during gear retraction.</p> <p>This brake feel during initial application is not improved. There is no change to braking performance.</p>	No	No	B	A

This Maneuver Differences Table, from the HA-420 Elite to the HA-420, was proposed by Honda Aircraft and validated by the FSB on May 17, 2018. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: HA-420 Elite	MANUEVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
TO RELATED AIRCRAFT: HA-420	Preflight Inspection	Changes in horizontal tail, elevator. Wingtip triangles installed.	No	No	A	A
	Cockpit preparation	**Integrated TOLD and PERF calculation is optional.	No	Yes	B	B
	Navigation-Approach	Visual approach as a selection in the Garmin 3000 database is not available.	No	Yes	B	A
	Approach	**Coupled go-around not installed.	No	Yes	B	A
	All Phases of Flight	**AFCS protection modes, USP, and ESP not installed	No	Yes	B	A

APPENDIX 4. ELECTRONIC CHECKLIST EVALUATION

The electronic checklist (ECL) was evaluated after the completion of the formal Flight Standardization Board (FSB). The evaluation was completed in March of 2016 at the Honda Aircraft Facility in Greensboro, NC.

Checklists can be displayed on any display pane of the primary flight displays (PFD) or multifunction display (MFD), and checklist items can be selected/deselected. Selection of checklist items or checklist section can be accomplished using the Garmin Touchscreen Controller (GTC) or by a scroll wheel control on each yoke. The CHECKLIST control is an up/down scroll wheel switch with detents and a momentary push-action. Pushing the wheel displays the checklist on the on-side PFD display pane. Rotating the scroll wheel moves a selection box up/down on the display.

A paper/hard copy of the Honda Aircraft HA-420 normal procedures and emergency/abnormal procedures quick reference handbook (QRH) must be readily available during flight operations as a means of backup in case of ECL/MFD failure.

This checklist system was found to be operationally suitable for all flight operations by the Small Aircraft Branch.