BASIC AVIATION TRAINING DEVICE (BATD) REQUIREMENTS

GACAR PART – 60

Organization Name			
Organization's Address		Contact Number	
Representative Name		Position	
Representative Contact Number		Email Address	

APPENDIX B. BASIC AVIATION TRAINING DEVICE (BATD) REQUIREMENTS

	Maneuvers and Tasks	GACAR Reference	COMPLIANCE YES	NO	NA
B.1	Purpose. This appendix describes how the GACA will evaluate a BATD for approval and authorized use. A BATD incorporating specific design criteria will be evaluated for approval as a BATD on the basis of meeting or exceeding the criteria outlined in this appendix.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.2	Authorized Use. Except for specific aircraft type training and testing, a BATD may be approved and authorized for use in accomplishing certain required tasks, maneuvers, or procedures as applicable under GACAR parts 61 and 141. GACA will specify the allowable credit in the BATD letter of authorization (LOA) for private pilot, instrument rating, and instrument recency of experience.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
	Note 1: The flight experience allowance for the use of a BATD and the flight experience allowance for an advanced aviation training device (AATD), a flight training device (FTD), or a full flight simulator (FFS) towards obtaining an instrument rating may be combined. However, that combination may not exceed that allowed under Part 61, § 61.89 and may not exceed that allowed under part 141 appendix B (50 percent maximum of the required training).	V4 CHP 30 (AC) 61-136B	☐	☐	☐
	Note 2: Part 141 certificated pilot schools must obtain a specific authorization for the use of the BATD as part of that pilot school's approved training course outline (TCO). This authorization must come from GACA to that pilot school.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3	BATD Design Criteria. The Qualification and Approval Guide (QAG) is the initial means for determining whether a BATD is acceptable for use in part 61 pilot training or approved part 141 pilot school training curricula. The QAG will be used to determine if a BATD meets or exceeds the minimum GACA design criteria outlined in this appendix. A BATD found acceptable for use will typically be used to train procedural tasks and may also be used to meet instrument experience requirements when specifically authorized. Each QAG submitted to the GACA for evaluation must state the make and model (M/M) of aircraft being represented and is the basis for the following requirements:	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.1	General Control Requirements. The following items are required for all ATD approvals.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.1.1	The aircraft physical flight and associated control systems must be recognizable as to their function and how they are to be manipulated solely from their appearance. These physical flight control systems cannot use interfaces such as a keyboard, mouse, or gaming joystick to control the aircraft in simulated flight.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.1.2	Virtual controls are those controls used to set up certain aspects of the simulation (such as selecting the aircraft configuration, location, weather conditions, etc.) and otherwise program, effect, or pause the training device. These controls are often part of the instructor station or independent computer interface.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.1.3	Except for the initial setup, a keyboard or mouse may not be used to set or position any feature of the ATD flight controls for the maneuvers or training tasks to be accomplished. See the control requirements listed below as applicable to the aircraft model represented. The pilot must be able to operate the controls in the same manner as it would be in the actual aircraft.	V4 CHP 30 (AC) 61-136B	☐	☐	☐

	This includes the landing gear, wing flaps, cowl flaps, carburetor heat, mixture, propeller, and throttle controls appropriate to the aircraft model represented.				
B.3.1.4	The physical arrangement, appearance, and operation of controls, instruments, and switches required by this appendix should closely model the aircraft represented. Manufacturers are expected to recreate the appearance, arrangement, operation, and function of realistically placed physical switches and other required controls representative of an aircraft instrument panel that includes at least the following:	V4 CHP 30 (AC) 61-136B	☐	☐	☐
a.	• Master/battery;		☐	☐	☐
b.	• Magnetos for each engine (as applicable);		☐	☐	☐
c.	• Alternators or generators for each engine;		☐	☐	☐
d.	• Auxiliary power unit (APU) (if applicable);		☐	☐	☐
e.	• Fuel boost pumps/prime boost pumps for each engine;		☐	☐	☐
f.	• Avionics master;		☐	☐	☐
g.	• Pitot heat; and		☐	☐	☐
h.	• Rotating beacon/strobe, navigation, taxi, and landing lights.		☐	☐	☐
B.3.1.5	When a GACA-approved ATD is in use, only the software evaluated by the GACA may be loaded for use on that computer system. This does not preclude providing software updates that do not otherwise change the appearance of the systems operation.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.2	Additional Controls and Functional Requirements. Physical flight and aircraft system controls must be provided as follows:	V4 CHP 30 (AC) 61-136B	☐	☐	☐

TABLE B-1. SAMPLE AIRPLANE PERFORMANCE TABLE

Aircraft Model	Vso	Vs1	Vx	Vy	Va	Vne	Vmc	KTAS at Cruise at 75% power setting	Rate of climb (fpm) at best rate (Vy), at full power or as recommended	Single Engine Climb rate (at Vyse)
C172S							N/A	SL	SL	SL N/A
6,000 feet→										N/A
PA28							N/A	SL	SL	SL N/A
6,000 feet→										N/A
BE58								SL	SL	SL
6,000 feet→										

TABLE B-2. SAMPLE HELICOPTER PERFORMANCE TABLE

Helicopter Model	Power setting required to lift off, standard day at gross weight	KTAS at Cruise at 75% power setting	Rate of climb (fpm) at best rate at full power or as recommended	Single Engine Climb rate
R22	SL	SL	SL	SL N/A
	6K			N/A
R44	SL	SL	SL	SL N/A
	6K			N/A
EC135	SL	SL	SL	SL
	6K			

Note: Use standard atmosphere and gross weight conditions for these performance tables.

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	Maneuvers and Tasks	GACAR Reference	COMPLIANCE YES	NO	NA
B.3.5.3	Aircraft vertical lift component must change as a function of bank comparable to the way the aircraft being represented performs and handles.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.5.4	Changes in flap setting, slat setting, gear position, collective control, or cyclic control must be accompanied by changes in flight dynamics comparable to the way the M/M of aircraft represented performs and handles.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.5.5	The presence and intensity of wind and turbulence must be reflected in the handling and performance qualities of the simulated aircraft and should be comparable to the way the aircraft represented performs and handles.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.6	Instructor Management Requirements.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.6.1	The instructor must be able to pause the system at any time during the training simulation for the purpose of administering instruction or procedural recommendations.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.6.2	If a training session begins with the “aircraft in the air” and ready for the performance of a particular procedural task, the instructor must be able to manipulate the following system parameters independently of the simulation:	V4 CHP 30 (AC) 61-136B	☐	☐	☐
a.	• Aircraft geographic location,	V4 CHP 30 (AC) 61-136B	☐	☐	☐
b.	• Aircraft heading,	V4 CHP 30 (AC) 61-136B	☐	☐	☐
c.	• Aircraft airspeed,	V4 CHP 30 (AC) 61-136B	☐	☐	☐
d.	• Aircraft altitude, and	V4 CHP 30 (AC) 61-136B	☐	☐	☐
e.	• Wind direction, speed, and turbulence.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.6.3	The system must be capable of recording both a horizontal and vertical track of aircraft movement during the entire training session for later playback and review.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.6.4	The instructor must be able to disable any of the instruments prior to or during a training session and be able to simulate failure of any of the instruments without stopping or freezing the simulation to affect the failure. This includes simulated engine failures and the following aircraft systems failures: alternator or generator, vacuum or pressure pump, pitot static, electronic flight displays, or landing gear or flaps, as appropriate.	V4 CHP 30 (AC) 61-136B	☐	☐	☐
B.3.6.5	The ATD must have at least a navigational area database that is local (25 nautical miles (NM)) to the training facility to allow reinforcement of procedures learned during actual flight in that area. All navigational data must be based on procedures as published per GACAR part 97.	V4 CHP 30 (AC) 61-136B	☐	☐	☐

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Remarks

Inspection Result	
☐ Satisfactory	☐ Unsatisfactory

No.	Inspector Name	Signature	Date (dd/mm/yy)