

**Training Centers & Pilot Schools Section**  
**ATD EVALUATION AND SUBJECTIVE TEST CRITERIA**  
**GACAR-60**  
**GACA EBOOK V4, FAA AC 61-136-B**

• <b>ATD Operator Name</b>				
• <b>ATD Qualification Level</b>	<input type="checkbox"/> Basic Aviation Training Device (BATD)	<input type="checkbox"/> Advanced Aviation Training Device (AATD)		
• <b>ATD Qualification Type</b>	<input type="checkbox"/> Initial Qualification	<input type="checkbox"/> Qualification renewal	<input type="checkbox"/> Modification	<input type="checkbox"/> Re-location
• <b>ATD Manufacturer Name</b>				
• <b>ATD Serial No</b>				
• <b>ATD Qualification Number</b>				
• <b>ATD Qualification Expiry Date</b>				

**APPENDIX E. EVALUATION AND SUBJECTIVE TEST CRITERIA**

**1. General Requirements and Evaluation.**

**1.1** Devices eligible as an Aviation Training Device (ATD) must conform to an acceptable aircraft cockpit configuration and instrument panel design. (See Checklist B, Basic Aviation Training Device (BATD) Requirements, and Checklist C, Advanced Aviation Training Device (AATD) Requirements). The simulated systems and subsystems should be able to perform operational functions and performance maneuvers that closely mimic the represented aircraft. Specific attention should be given to ergonomic and human factors.

**1.2** ATDs must be designed to readily facilitate training, practice, and improving piloting skills. This should include both the procedural and operational performance tasks specified in the Airman Certification Standards (ACS). The criteria listed in Checklists B and C and this checklist will be used to determine whether the design and performance of the training device qualifies for GACA approval as an ATD. GACA will use the following checklist during the evaluation of an ATD and must be included in the Qualification and Approval Guide (QAG):

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**E-1. Procedures and Tasks Test Checklist**

	Maneuvers and Tasks	GACAR Reference	Compliance		
			YES	NO	NA
<b>a)</b>	<b>Pre-takeoff</b>	V4 CHP 30) (AC) 61-136B			
1.	Engine start	V4 CHP 30) (AC) 61-136B			
2.	Taxi and brake operation	(V4 CHP 30) (AC) 61-136B			
<b>b)</b>	<b>Takeoff</b>	(V4 CHP 30) (AC) 61-136B			
<b>1.</b>	<b>AIRPLANE Takeoff</b>	(V4 CHP 30) (AC) 61-136B			
i.	Run-up and power plant checks	(V4 CHP 30) (AC) 61-136B			
ii.	Acceleration characteristics	(V4 CHP 30) (AC) 61-136B			
iii.	Nose wheel and rudder steering	(V4 CHP 30) (AC) 61-136B			
iv.	Effect of crosswind	(V4 CHP 30) (AC) 61-136B			
v	Instrument	(V4 CHP 30) (AC) 61-136B			
vi	Landing gear, wing flap operation	(V4 CHP 30) (AC) 61-136B			
<b>2.</b>	<b>HELICOPTER Takeoff</b>	(V4 CHP 30) (AC) 61-136B			
i.	Power plant checks	(V4 CHP 30) (AC) 61-136B			
ii.	From hover	(V4 CHP 30) (AC) 61-136B			
iii.	From ground	(V4 CHP 30) (AC) 61-136B			
iv.	Vertical	(V4 CHP 30) (AC) 61-136B			
v	Running	(V4 CHP 30) (AC) 61-136B			
<b>c)</b>	<b>In-Flight Operation</b>	(V4 CHP 30) (AC) 61-136B			
<b>1.</b>	<b>AIRPLANE In-Flight Operation</b>	(V4 CHP 30) (AC) 61-136B			
i.	Climb	(V4 CHP 30) (AC) 61-136B			
(a)	Normal and max. performance	(V4 CHP 30) (AC) 61-136B			

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	Maneuvers and Tasks	GACAR Reference	Compliance		
			YES	NO	NA
(b)	One-engine-inoperative procedures (multiengine)	(V4 CHP 30) (AC) 61-136B			
ii.	Cruise	(V4 CHP 30) (AC) 61-136B			
(a)	Performance characteristics (speed vs. power)	(V4 CHP 30) (AC) 61-136B			
(b)	Normal and steep turns	(V4 CHP 30) (AC) 61-136B			
(c)	Approach to stalls (i.e., stall warning), stalls, and recovery. Execute from takeoff, cruise, and approach and landing configurations.	(V4 CHP 30) (AC) 61-136B			
(d)	In-flight engine shutdown (multiengine)	(V4 CHP 30) (AC) 61-136B			
(e)	Fuel selector function	(V4 CHP 30) (AC) 61-136B			
(f)	In-flight engine start	(V4 CHP 30) (AC) 61-136B			
iii.	Approach	(V4 CHP 30) (AC) 61-136B			
(a)	Normal (with and without flaps) (check gear warning, if applicable)	(V4 CHP 30) (AC) 61-136B			
(b)	Best glide no power	(V4 CHP 30) (AC) 61-136B			
iv.	Landings	(V4 CHP 30) (AC) 61-136B			
2)	<b>HELICOPTER In-Flight Operation</b>	V4 CHP 30) (AC) 61-136B			
i.	Hovering and air taxi	V4 CHP 30) (AC) 61-136B			
(a)	Forward	V4 CHP 30) (AC) 61-136B			
(b)	Rearward	V4 CHP 30) (AC) 61-136B			
(c)	Sideward	V4 CHP 30) (AC) 61-136B			
(d)	Turns	V4 CHP 30) (AC) 61-136B			
ii.	Climb	V4 CHP 30) (AC) 61-136B			
iii.	Cruise	V4 CHP 30) (AC) 61-136B			
(a)	Performance characteristics (speed vs. power)	V4 CHP 30) (AC) 61-136B			
(b)	Turns	V4 CHP 30) (AC) 61-136B			
(i)	Recovery	V4 CHP 30) (AC) 61-136B			
(ii)	Skidding	V4 CHP 30) (AC) 61-136B			

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			Compliance		
	Maneuvers and Tasks	GACAR Reference	YES	NO	NA
(iii)	Slipping	V4 CHP 30) (AC) 61-136B			
(iv)	Steep turns	V4 CHP 30) (AC) 61-136B			
(c)	In-flight engine shutdown and start (multiengine)	V4 CHP 30) (AC) 61-136B			
(d)	Descents	V4 CHP 30) (AC) 61-136B			
(e)	Straight in and 180° autorotation	V4 CHP 30) (AC) 61-136B			
(f)	Landings	V4 CHP 30) (AC) 61-136B			
<b>d)</b>	<b>Instrument Approaches</b>	V4 CHP 30) (AC) 61-136B			
<b>1)</b>	<b>Non- precision</b>	V4 CHP 30) (AC) 61-136B			
i)	GPS and LPV	V4 CHP 30) (AC) 61-136B			
ii)	GPS-WAAS (optional)	V4 CHP 30) (AC) 61-136B			
iii)	All engines operating	V4 CHP 30) (AC) 61-136B			
iv)	One or more engines inoperative	V4 CHP 30) (AC) 61-136B			
v)	Approach procedures (VOR, VOR/DME, LOC procedures on an ILS, LDA, RNAV (RDP) or RNAV (GPS) to LNAV, LNAV/VNAV or LPV)	V4 CHP 30) (AC) 61-136B			
<b>2)</b>	<b>Precision</b>	V4 CHP 30) (AC) 61-136B			
i)	ILS	V4 CHP 30) (AC) 61-136B			
ii)	GLS (optional)	V4 CHP 30) (AC) 61-136B			
iii)	Effects of crosswind	V4 CHP 30) (AC) 61-136B			
iv)	With engine inoperative (multiengine)	V4 CHP 30) (AC) 61-136B			
v)	Missed approach	V4 CHP 30) (AC) 61-136B			
(a)	Normal	V4 CHP 30) (AC) 61-136B			
(b)	With engine(s) inoperative (multiengine)	V4 CHP 30) (AC) 61-136B			

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			YES	NO	NA
e)	<b>Surface Operations</b>	V4 CHP 30 (AC) 61-136B			
1)	<b>AIRPLANE Surface Operations (Post Landing)</b>	V4 CHP 30 (AC) 61-136B			
i)	Approach and landing roll	V4 CHP 30 (AC) 61-136B			
ii)	Braking operation	V4 CHP 30 (AC) 61-136B			
iii)	Reverse thrust operation, if applicable	V4 CHP 30 (AC) 61-136B			
2)	<b>HELICOPTER Surface Operations</b>	V4 CHP 30 (AC) 61-136B			
i)	Landings	V4 CHP 30 (AC) 61-136B			
ii)	Landing area operations	V4 CHP 30 (AC) 61-136B			
f)	<b>HELICOPTER Emergency Operations</b>	V4 CHP 30 (AC) 61-136B			
1)	Power failure at hover	V4 CHP 30 (AC) 61-136B			
2)	Power failure at altitude	V4 CHP 30 (AC) 61-136B			
3)	System and equipment malfunctions	V4 CHP 30 (AC) 61-136B			
4)	Settling with power (optional)	V4 CHP 30 (AC) 61-136B			
5)	Low rotor RPM recovery (optional)	V4 CHP 30 (AC) 61-136B			
6)	Antitorque system failure	V4 CHP 30 (AC) 61-136B			
7)	Dynamic rollover (optional)	V4 CHP 30 (AC) 61-136B			
g)	<b>Any Flight Phase</b>	V4 CHP 30 (AC) 61-136B			
1)	<b>Aircraft and Power-plant Systems</b>	V4 CHP 30 (AC) 61-136B			
i)	Electrical, mechanical, or hydraulic	V4 CHP 30 (AC) 61-136B			
ii)	Flaps (airplane)	V4 CHP 30 (AC) 61-136B			
iii)	Fuel selector and oil temp/pressure	V4 CHP 30 (AC) 61-136B			
iv)	Landing gear (if applicable)	V4 CHP 30 (AC) 61-136B			

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			YES	NO	NA
<b>2)</b>	<b>Flight Management and Guidance Systems</b>	V4 CHP 30 (AC) 61-136B			
i)	Autopilot (if standard equipment)	V4 CHP 30 (AC) 61-136B			
ii)	Flight director (AATD only)/system displays (if installed)	V4 CHP 30 (AC) 61-136B			
iii)	Navigation systems	V4 CHP 30 (AC) 61-136B			
iv)	Stall warning systems avoidance (airplane)	V4 CHP 30 (AC) 61-136B			
v)	Multi-function displays (if applicable)	V4 CHP 30 (AC) 61-136B			
<b>3)</b>	<b>Airborne Procedures</b>	V4 CHP 30 (AC) 61-136B			
i)	Holding	V4 CHP 30 (AC) 61-136B			
ii)	Uncoordinated turns – slipping and skidding demo	V4 CHP 30 (AC) 61-136B			
iii)	Configuration and power changes and resulting pitch changes	V4 CHP 30 (AC) 61-136B			
iv)	Compass turns and appropriate errors (if installed)	V4 CHP 30 (AC) 61-136B			
<b>4)</b>	<b>Engine Shutdown and Parking</b>	V4 CHP 30 (AC) 61-136B			
i)	Systems operation	V4 CHP 30 (AC) 61-136B			
ii)	Parking brake operation (if installed) (airplane)	V4 CHP 30 (AC) 61-136B			
<b>h)</b>	<b>Can simulate engine failure, including failures due to simulated loss of oil pressure or fuel starvation.</b>	V4 CHP 30 (AC) 61-136B			
<b>i)</b>	<b>Can simulate the following equipment or system failures:</b>	V4 CHP 30 (AC) 61-136B			
1)	Alternator or generator failure.	V4 CHP 30 (AC) 61-136B			
2)	Vacuum pump/pressure failure and the associated flight instrument failures.	V4 CHP 30 (AC) 61-136B			
3)	Gyroscopic flight instrument failures.	V4 CHP 30 (AC) 61-136B			
4)	Pitot/static system malfunction and the associated flight instrument failures.	V4 CHP 30 (AC) 61-136B			
5)	Electronic flight deck display malfunctions.	V4 CHP 30 (AC) 61-136B			
6)	Landing gear (if retractable) or flap malfunctions.	V4 CHP 30 (AC) 61-136B			

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			YES	NO	NA
<b>j)</b>	<b>Independent Instructor Station Requirements (AATD Only)</b>	V4 CHP 30 (AC) 61-136B			
1)	Displays published airways and holding patterns.	V4 CHP 30 (AC) 61-136B			
2)	Displays aircraft position and track.	V4 CHP 30 (AC) 61-136B			
3)	Displays aircraft altitude and speed.	V4 CHP 30 (AC) 61-136B			
4)	Displays NAVAIDs and airports.	V4 CHP 30 (AC) 61-136B			
5)	Can record and replay aircraft ground track history for entire training session.	V4 CHP 30 (AC) 61-136B			
6)	Can invoke instrument or equipment failures.	V4 CHP 30 (AC) 61-136B			

