

## ATD EVALUATION AND SUBJECTIVE TEST CRITERIA GACAR PART – 60

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

### 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 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):

### E-1. PROCEDURES AND TASKS TEST CHECKLIST

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

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(a)	Normal and max. performance	(V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	One-engine-inoperative procedures (multiengine)	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii.	Cruise	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(a)	Performance characteristics (speed vs. power)	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	Normal and steep turns	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d)	In-flight engine shutdown (multiengine)	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e)	Fuel selector function	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f)	In-flight engine start	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii.	Approach	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(a)	Normal (with and without flaps) (check gear warning, if applicable)	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	Best glide no power	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv.	Landings	(V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2)	HELICOPTER In-Flight Operation	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i.	Hovering and air taxi	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(a)	Forward	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	Rearward	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	Sideward	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d)	Turns	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii.	Climb	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii.	Cruise	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(a)	Performance characteristics (speed vs. power)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	Turns	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(i)	Recovery	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii)	Skidding	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iii)	Slipping	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv)	Steep turns	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	In-flight engine shutdown and start (multiengine)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d)	Descents	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e)	Straight in and 180° autorotation	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f)	Landings	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Instrument Approaches	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1)	Non- precision	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	GPS and LPV	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	GPS-WAAS (optional)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii)	All engines operating	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv)	One or more engines inoperative	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2)	Precision	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	ILS	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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ii)	GLS (optional)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii)	Effects of crosswind	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv)	With engine inoperative (multiengine)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v)	Missed approach	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(a)	Normal	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	With engine(s) inoperative (multiengine)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Surface Operations	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1)	AIRPLANE Surface Operations (Post Landing)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Approach and landing roll	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	Braking operation	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii)	Reverse thrust operation, if applicable	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2)	HELICOPTER Surface Operations	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Landings	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	Landing area operations	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	HELICOPTER Emergency Operations	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1)	Power failure at hover	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2)	Power failure at altitude	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3)	System and equipment malfunctions	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4)	Settling with power (optional)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5)	Low rotor RPM recovery (optional)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6)	Antitorque system failure	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7)	Dynamic rollover (optional)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Any Flight Phase	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1)	Aircraft and Power-plant Systems	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Electrical, mechanical, or hydraulic	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	Flaps (airplane)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii)	Fuel selector and oil temp/pressure	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv)	Landing gear (if applicable)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2)	Flight Management and Guidance Systems	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Autopilot (if standard equipment)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	Flight director (AATD only)/system displays (if installed)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii)	Navigation systems	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv)	Stall warning systems avoidance (airplane)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v)	Multi-function displays (if applicable)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3)	Airborne Procedures	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Holding	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	Uncoordinated turns – slipping and skidding demo	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii)	Configuration and power changes and resulting pitch changes	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv)	Compass turns and appropriate errors (if installed)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4)	Engine Shutdown and Parking	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Systems operation	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	Parking brake operation (if installed) (airplane)	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h)	Can simulate engine failure, including failures due to simulated	V4 CHP 30) (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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	loss of oil pressure or fuel starvation.				
i)	Can simulate the following equipment or system failures:	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1)	Alternator or generator failure.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2)	Vacuum pump/pressure failure and the associated flight instrument failures.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3)	Gyroscopic flight instrument failures.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4)	Pitot/static system malfunction and the associated flight instrument failures.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5)	The electronic flight deck display malfunctions.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6)	Landing gear (if retractable) or flap malfunctions.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j)	Independent Instructor Station Requirements (AATD Only)	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1)	Displays published airways and holding patterns.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2)	Displays aircraft position and track.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3)	Displays aircraft altitude and speed.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4)	Displays NAVAIDs and airports.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5)	Can record and replay aircraft ground track history for entire training session.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6)	Can invoke instrument or equipment failures.	V4 CHP 30 (AC) 61-136B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Remarks

Inspection Result	
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Unsatisfactory

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