



**Airworthiness Standards Department**  
**APV/Baro-VNAV Airworthiness Approval Process Form**

<b>• Name of the Operator</b>			
<b>• Address</b>			
<b>• Applicant Focal Point</b>	<b>Name</b>	<b>Telephone No.</b>	<b>E-Mail</b>

Aircraft Manufacturer, Model and Series	Aircraft Registration	List(s) of APV/Baro-VNAV equipment by make and model attachment(s)

I	Airworthiness application's attachments	Attachment no./ref.	Submitted		Inspector comments
			Yes	No	
(a)	<p><b>Airworthiness documents showing aircraft eligibility for APV/Baro-VNAV.</b></p> <p>AFM, AFM revision, AFM supplement, or Type certificate data sheet (TCDS) showing that the navigation system is eligible for APV/Baro-VNAV; or</p> <p>Manufacturer statement; Aircraft with a manufacturer statement documenting compliance with the performance and functional requirements of the ICAO PBN Manual.</p> <p>If Aircraft is modified/or in process to be modified to to meet APV/Baro-VNAV standards. Submit the documentation and records of modification of aircraft systems.</p>				
(b)	<p><b>Baro-VNAV system Requirements</b></p> <p>RNAV equipment that automatically determines aircraft position in the vertical plane using inputs from equipment that can include:</p> <ol style="list-style-type: none"> <li>1. FAA TSO-C106, Air Data Computer;</li> <li>2. air data system, ARINC 706, Mark 5 Air Data System;</li> <li>3. barometric altimeter system, DO-88 Altimetry, ED-26 MPS for Airborne Altitude Measurements and Coding Systems, ARP-942 Pressure Altimeter Systems, ARP-920 Design and Installation of Pitot Static Systems for Transport Aircraft; and</li> <li>4. type certified integrated systems providing an air data system capability comparable to item (2).</li> </ol>				
(c)	<p><b>Maintenance program</b></p> <ol style="list-style-type: none"> <li>1. For aircraft with established maintenance procedures for APV/Baro-VNAV systems, the list of references of the</li> </ol>				



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	document or program, 2. For recently installed APV/Baro-VNAV systems, the maintenance procedures for review.				
(d)	<b>Minimum equipment list (MEL) if applicable</b> showing provisions for APV/Baro-VNAV systems. <i>Note:</i> Any unique MEL revisions necessary to address baro-VNAV for approach provisions must be approved. Operators must adjust the MEL, or equivalent, and specify the required dispatch conditions.				
(e)	<b>Training</b> Training program for maintenance personnel (CAMO and AMO)				
(f)	<b>Policies and procedures (P&amp;P)</b> Continuing Airworthiness <b>P&amp;P</b> (CAME) sections and checklists attached to the application corresponding to APV/Baro-VNAV configuration and eligibility.				
(g)	<b>Navigation database (if carried)</b> Details of the navigation data validation program				

II	Assessment of Aircraft Eligibility for APV/Baro-VNAV	Reference paragraphs ICAO Doc 9613 Vol. II Attachment A	Operator submitted compliance document/ attachment	Inspector review/comments
(a)	<b>Aircraft and System eligibility for APV/Baro-VNAV</b>			
	VNAV barometric capability; An aircraft is eligible for Baro-VNAV operations when the AFM or AFM supplement indicates that the VNAV system has been approved under AC 20-129 or equivalent.	4.3.1		
(b)	<b>Continuing Airworthiness (CA)</b>			
	1. Continuing airworthiness instructions applicable to the aircraft configuration and the aircraft qualification for APV/Baro-VNAV.			
	2. Maintenance program, including reliability program for monitoring the equipment.			
(c)	<b>Aircraft and system requirements</b>			
	<b>Lateral navigation</b>			
	1. <ul style="list-style-type: none"> <li>• GNSS navigation system certified for approach; or</li> <li>• Multi-sensor system using IRS/GNSS; or</li> </ul>	4.6, Notes, 5		



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	<ul style="list-style-type: none"> <li>RNP systems approved for RNP 0.3 or lower</li> </ul>			
2.	<p><b>Vertical navigation</b></p> <ul style="list-style-type: none"> <li>Serviceable VNAV equipment;</li> <li>VNAV system certified for Barometric VNAV approach operations;</li> <li>Equipped with integrated LNAV/VNAV system with accurate source of barometric altitude; and</li> <li>VNAV altitudes and procedure information from a navigation database with integrity though quality assurance</li> </ul>	4.6, Notes, 5		
<b>(d)</b>	<b>Functional requirements</b>			
1.	<b>Required Functions</b>			
	The navigation system must provide the capability to continuously display to the pilot flying, on the primary flight instruments for navigation of the aircraft, the aircraft position relative to the vertically defined path. The display must allow the pilot to readily distinguish if the vertical deviation exceeds +30 m/-15 m (+100 ft/-50 ft).	4.14		
	User Interface (Displays and Control)			
	Display resolution (readout) and entry resolution for vertical navigation information	4.13		
	Altitudes and/or speeds associated with published procedures must be automatically extracted from the navigation database upon selecting the approach procedure.	4.8		
	The navigation system must have the capability to load and modify the entire procedure(s) to be flown, based upon ATC instructions, into the RNAV system from the on-board navigation database. This includes the approach (including vertical angle), the missed approach and the approach transitions for the selected airport and runway. The navigation system should preclude modification of the procedure data contained in the navigation database.	4.10		
	The aircraft must display barometric altitude from two independent altimetry sources, one in each pilots' primary field of view.	4.15		
2.	<b>Recommended Functions</b>			
	Temperature compensation: Capability to automatically adjust the vertical flight path for temperature effects	4.19		

<b>Applicant Declaration:</b>		
I confirm that the information contained herein is correct and complete		
<b>Organization CAMO Manager Name</b>	<b>Signature</b>	<b>Date</b>

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III	CARC Survey and Inspection	Inspection Report Ref.	Corrective Actions (CA) Ref.	CA Acceptance Ref.
	If necessary, a formal inspection is arranged with the operator. During the inspection, the operator is required to demonstrate how the requirements are being met.			

<b>CARC/AWSD Recommendation</b>			
<b>Issue Airworthiness Approval Letter</b>		<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>Airworthiness Inspector</b>			
	<b>Name</b>	<b>Signature</b>	<b>Date</b>