

PILOT MONITORED APPROACH

INTRODUCTION

Significant changes to the Approach Ban will come-into-force December 1, 2006, which will affect commercial operators. The aim of this *Commercial and Business Aviation Advisory Circular* (CBAAC) is to describe Pilot Monitored Approach (PMA) procedures Operators, who are authorized through Operations Specification (Ops Spec) and whose operation meets the specified conditions that include PMA procedures, may conduct an approach in lower visibility conditions. The material in this CBAAC is referenced in CBAAC 0237, Changes to the Approach Ban.

APPLICABILITY

This CBAAC is primarily applicable to operators under Subparts 703, 704 and 705 of the *Canadian Aviation Regulations* (CARs) who may be authorized through Ops Spec 019, 303, or 503 respectively to conduct Instrument Approach Procedures (IAPs) at reduced approach ban visibility values using PMA procedures.

REFERENCES

- Section 101.01 of the CARs
- Parts 703/723(A), 704/724(A) and 705/725 of the CARs
- *Canada Gazette* I, Vol. 138, No. 7
- CBAAC 0237, Changes to the Approach Ban
- CBAAC 0238, Stabilized Constant Descent Angle (SCDA) Non-Precision Approach

TERMINOLOGY

- CARs - *Canadian Aviation Regulations*
- IAPs - Instrument Approach Procedures
- IFR - Instrument Flight Rules
- MEL - Minimum Equipment List
- NPA - Non-Precision Approach
- PF - Pilot flying
- PIC - Pilot-in-Command
- PM – Pilot Monitoring
- PMA - Pilot Monitored Approach
- PNF - Pilot not flying
- SCDA – Stabilized Constant Descent Angle
- SIC - Second-in-Command
- SOPs - Standard Operating Procedures

BACKGROUND

Many operators incorporate PMA procedures within their SOPs to improve the transition from instrument to visual conditions, as well as improve the PIC decision making ability in the high workload terminal approach and landing environment. PMA procedures may be useful to operators of older technology aircraft that are not equipped with autopilots capable of being coupled to approach guidance or do not have auto-throttles. Several operators continue to use PMA procedures on newer aircraft capable of Category II/III autoland. PMA procedures (as described below) are not normally applicable to left-seat Head-up display (HUD) equipped aircraft.

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During a PMA, the left seat pilot is normally both the PNF (or PM) and the PIC. The right seat pilot is normally both the PF and the SIC. The left seat pilot monitors the performance of the right seat pilot throughout the descent and approach phases of the flight. Once the left seat pilot has successfully transitioned to visual conditions for the landing, the left seat pilot takes control of the aeroplane from the right seat pilot for the landing, while the right seat pilot monitors the landing phase using the aeroplane instruments. The division of responsibilities described above can be reversed depending on crew qualifications and experience, and the instrumentation and control capabilities of the aircraft.

Proper use of the PMA permits the left seat pilot to improve the safety related to making the decision to transition from instrument conditions to visual conditions for the landing. During a PMA the left seat pilot has significantly more “heads-up” time for visual scanning outside the flight deck. This extra time permits the pilot conducting the landing to determine whether sufficient visual references exist to judge the position and rate of change of position of the aeroplane in order to decide to continue the approach visually to a safe landing. In addition, once the decision to continue visually has been made, the right seat pilot continues to monitor the aeroplane performance by remaining “heads down” on instruments during the landing phase.

The initial transfer of aircraft control to the right seat pilot would normally take place prior to the top of descent. The right seat pilot (PF) is responsible for control of the aircraft flight path through either the automatic flight control system or direct manual control. In some cases (i.e. no auto-throttles) the right seat pilot (PF) may delegate power or thrust control to the left seat pilot (PNF) for airspeed and descent rate performance prior to the final approach phase.

Prior to descent, the left seat pilot (PNF) would confirm the setup for the approach and brief the approach. The left seat pilot is free to take care of communications with Air Traffic Services and make decisions, while monitoring the right seat pilot’s flying performance. The right seat pilot (PF) would fly the descent and approach as briefed. (The approach may be flown with or without the engagement of autopilot or auto thrust

in accordance with the operator's SOPs.) Prior to or at minimums, the left seat pilot would either command a go-around or take control and land. If the left seat pilot commands a go-around, the right seat pilot (PF) flies the go-around procedure and missed approach as briefed. If the left seat pilot takes control for landing (now the PF), the right seat pilot (now the PNF) continues to monitor the aircraft performance on instruments and calls out deviations in accordance with SOPs. Standard calls should cover excess deviations in airspeed, pitch, bank, track, glideslope, altitude and vertical speed.

If a go-around is required after the left seat pilot has taken control, the left seat pilot normally retains aircraft control and flies the go-around and missed approach procedure to a point where control can be transferred back to the right seat for the next approach.

SUMMARY

PMA procedures may improve the transition from instrument to visual conditions, as well as improve the PIC's decision making ability in the high workload terminal approach and landing environment.

Although PMA procedures can be used by any operator; Subparts 703, 704 and 705 of the CARs operators may be authorized through Ops Spec 019, 303, or 503 respectively to conduct IAPs at reduced approach ban visibility values. These operators have the option of using PMA procedures, depending on their aeroplane equipment and flight crew qualifications. Refer to the material in CBAAC 0237, Changes to the Approach Ban for further information.

Operators should carefully consider the impact of the introduction of PMA procedures; because these procedures may have a significant effect on flight crew training and checking of PICs and SICs, SOPs, aircraft equipment and MELs.

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