



Flight Operations Briefing Note Descent Management Being Prepared for Go-Around

I Introduction

Failure to recognize the need for and to execute a go-around and missed-approach when appropriate is a major cause of approach-and-landing accidents.

Therefore, the importance of **being go-around-prepared** and **being go-around-minded** must be emphasized.

To be **go-around-prepared** and **go-around-minded** the flight crew should:

- Have a **clear mental image** of applicable briefings, sequences of actions, task-sharing, standard calls and excessive-deviation callouts
- Be **ready to abandon the approach**, if:
 - Visibility (RVR) is below the required weather minimums, and/or
 - Criteria for a stabilized approach are not (or no longer) achieved, and/or
 - Doubt exists about the aircraft position, and/or
 - Confusion exists about the use of automation, and/or
 - Appropriate visual references are not obtained at MDA(MDH) or DA(DH), and/or
 - Appropriate visual references are lost below MDA(MDH) or DA(DH).
- Be fully **committed** to fly the published missed-approach procedure, after the go-around is initiated.

Operators should therefore establish and maintain a no-fault / no-blame go-around policy.

This Flight Operations Briefing Note provides an overview of operational recommendations starting from the descent preparation and approach briefing, and of training recommendations.

II Operational Recommendations

Task Sharing

Strict adherence to the PF-PNF task-sharing is the most important factor to conduct a safe go-around.

The following Flight Operations Briefing Notes provide expanded information on PF-PNF task sharing:

- **Operating Philosophy**
- **Operations Golden Rules**
- **Standard Calls**
- **Flying a Manual Go-around**
- **Acquisition of Visual References**

Descent Preparation

The chain of events resulting in a go-around often starts at the top-of-descent.

The flight crew should plan and conduct the descent preparation and the approach/go-around briefing in a timely manner, in order to prevent any delay in the initiation of the descent and any rush in the management of the descent profile.

Approach/Go-around Briefing

To be **go-around prepared**, the flight crew should include a detailed **go-around briefing** in the descent-and-approach briefing, highlighting the key points of the go-around maneuver and missed-approach, and the task-sharing under normal or abnormal/emergency conditions.

The go-around briefing should recall briefly the following key aspects:

- **Go-around callout** (i.e. a loud and clear **go-around/flaps** call)
- **PF-PNF task sharing** (i.e. flow of respective actions including use of AP, speed restrictions, go-around altitude, parameter-excessive-deviation callouts)
- **Intended use of automation** (i.e. automatic or manual go-around, use of FMS lateral navigation or use of selected modes for the missed-approach)
- **Missed-approach lateral navigation and vertical profile** (e.g. speed limitations, airspace restrictions, highlighting obstacles and terrain features, etc, as applicable)

- **Intentions** (i.e. second approach, or diversion):
 - In the case of a second approach, discuss the type of approach (i.e. if a different runway and/or type of approach is envisaged)
 - Confirm the minimum diversion fuel
 - Other aspects, as applicable.

It is recommended to briefly recall the main points of the go-around and missed-approach when established on the final approach course, or after completing the landing checklist (as deemed practical).

Also refer to the Flight Operations Briefing Note **Conducting Effective Briefings**, for expanded information.

Concept of Next Target – Descent Monitoring

Throughout the entire flight, the flight crew should define a *next target* at all times to *stay ahead of the aircraft*.

If the flight crew anticipates that one or more elements of the next target will not be met, they should perform the required corrective action(s) without delay.

Refer to the following Flight Operations Briefing Notes for expanded information:

- **Descent and Approach Profile Management**
- **Energy Management during Approach**
- **Flying Stabilized Approaches.**

Final Approach

When flying with the AP engaged, the flight crew should consider the following aspects, to *be ready to take over manually*:

- Seat and armrest adjustment (this is of primary importance for an effective handling of the aircraft in a dynamic phase of flight)
- Flying with one hand on the side stick (or control wheel, as applicable), and one hand on the thrust levers (throttle levers).

Transition from Visual References back to Instrument Flying

Once the PF has acquired appropriate visual references, the PNF must maintain instrument references and be ready to announce the appropriate callouts if one flight parameter deviates from the normal and safe value.

If a go-around is initiated, an immediate transition back to instrument flying must take place.

Instrument flying prevents illusions, which can lead to crew corrections that cause the aircraft to deviate from vertical or horizontal flight paths.

These illusions originate in:

- A sudden linear acceleration: Illusion that the aircraft is pitching too much up and can lead the pilot to pitch down (Somatogravic illusion).
- An angular acceleration: In a case of sustained movement in one direction, there is a sensation of moving in the opposite direction (Somatogyral illusion). For example, in right bank the pilot may continue to turn right.

Go-Around below the Minimums

When the need for go-around is identified, the decision should not be delayed.

Go-around can be decided until the selection of the reverse thrust.

If the go-around has been initiated, it must be completed. Reversing a go-around decision can be hazardous (e.g. F/O initiating a late go-around; Captain overriding and trying to land the aircraft).

Also refer to the Flight Operations Briefing Note **Bounce Recovery**, for expanded information.

III Training Recommendations

Training program should cover various go-around situations to enhance flight crew decision making and flying techniques.

Usually, go-around situations demonstrated during training are:

- No appropriate visual reference at the MDA(MDH) or DA(DH)
- Low height go-around (100 ft) called by the ATC (e.g. occupied runway)
- Windshear.

In operations, other go-around situations may also happen:

- Go-around from intermediate approach altitude:
 - High energy, rushed or non-stabilized approaches
 - Loss of required traffic separation (call by ATC).
- Go-around below minimums not called by ATC
 - Destabilization of the approach
 - Loss of appropriate visual references
 - Runway incursion.

- Missed approach during circling
 - Visual references lost while circling to land from an instrument approach.

Operators should ensure that various go-around situations are covered during the training.

Note:

The Airbus training program includes a go-around at 1000 ft to ensure that trainees are able to cope with a go-around above MDA, with rapid FMA changes.

For example, unlike a go-around at DA(DH), there are various go-around situations from intermediate approach altitude, and all these situations may not be reviewed during the approach briefing. Therefore, go-around situations with various aircraft configurations, speeds, unprepared horizontal trajectories, altitude close to the go-around altitude target, and/or TOGA thrust not required, should be discussed during the training, as well as the following common errors related to go-around from intermediate approach altitude:

- Go-around not properly announced and initiated, and/or
- Forgetting to retract the flaps and/or the landing gear, and/or
- Initiating the turn before the MAP or required turning point, and/or
- Thrust levers (throttle) mismanaged after leveling off, and/or
- Exceeding the go-around altitude target, and/or
- Exceeding the flaps speed limitations, and/or
- Etc.

The flight crew should use the FCOM and the FCTM as training materials.

Addressing considerations about go-around during training program ensures that the flight crew is better prepared to recognize the need for go-around, and to perform a safe go-around.

IV Summary of Key Points

Failure to recognize the need for and to execute a go-around and missed-approach when appropriate is a major cause of approach-and-landing accidents.

Therefore, the importance of **being go-around-prepared** and **being go-around-minded** must be emphasized.

If the criteria for a safe continuation of the approach are not met, the flight crew should be **go-around-committed**, should initiate a go-around and fly the published missed-approach.

Appropriate education and training should enhance the flight crew decision making and flying techniques to perform a safe go-around, in any situation.

V Associated Flight Operations Briefing Notes

The following Briefing Notes should be reviewed to complement the above information:

- **Flying a Manual Go-around**
- **Operating Philosophy**
- **Operations Golden Rules**
- **Standard Calls**
- **Conducting Effective Briefings**
- **Descent and Approach Profile Management**
- **Aircraft Energy Management during Approach**
- **Flying Stabilized Approaches**
- **Acquisition of Visual References**
- **Bounce Recovery**

VI Regulatory References

- ICAO – Annex 6 – Operation of Aircraft, Part I – International Commercial Air Transport – Aeroplanes, Appendix 2. 5.16, 5.18, 5.19
- ICAO – Procedures for Air navigation Services – Aircraft Operations (PANS-OPS), Doc 8168), Volume I – Flight Procedures
- ICAO – Manual of All-Weather Operations (Doc 9365).

VII Airbus References

- Flight Crew Operating Manuals (FCOM) – Standard Operating Procedures (SOP) – Go Around
- A320 Family, A330/A340 Family, A380 Flight Crew Training Manuals (FCTM) – Normal Operations - Go-Around
- A300/A310/A300-600 Flight Crew Operating Manual (FCOM) – FCOM Bulletin – Being Prepared for Go-Around

This Flight Operations Briefing Note (FOBN) has been adapted from the corresponding ALAR Briefing Note developed by Airbus in the frame of the Approach-and-Landing Accident Reduction (ALAR) international task force led by the Flight Safety Foundation.

This FOBN is part of a set of Flight Operations Briefing Notes that provide an overview of the applicable standards, flying techniques and best practices, operational and human factors, suggested company prevention strategies and personal lines-of-defense related to major threats and hazards to flight operations safety.

This FOBN is intended to enhance the reader's flight safety awareness but it shall not supersede the applicable regulations and the Airbus or airline's operational documentation; should any deviation appear between this FOBN and the Airbus or airline's AFM / (M)MEL / FCOM / QRH / FCTM, the latter shall prevail at all times.

In the interest of aviation safety, this FOBN may be reproduced in whole or in part - in all media - or translated; any use of this FOBN shall not modify its contents or alter an excerpt from its original context. Any commercial use is strictly excluded. All uses shall credit Airbus and the Flight Safety Foundation.

Airbus shall have no liability or responsibility for the use of this FOBN, the correctness of the duplication, adaptation or translation and for the updating and revision of any duplicated version.

Airbus Customer Services

Flight Operations Support and Services

1 Rond Point Maurice Bellonte - 31707 BLAGNAC CEDEX France

FOBN Reference : FLT_OPS – DESC – SEQ 01 – REV 04 – APR 2008