

Non-Engagement of the Go-Around Modes in CLEAN Flaps Configuration



There were several events reported to Airbus where the go-around guidance modes did not engage when flight crews initiated a go-around. The analysis of these events indicated that the aircraft were on approach in CLEAN flaps configuration. Some of these events led to a high-energy situation toward the ground at low altitudes.

This article explains why the go-around guidance modes do not engage on some aircraft if the go-around is initiated while the aircraft is in CLEAN flaps configuration. The article provides recommendations for flight crews if they face this situation. It describes the modifications that are planned to ensure that the go-around guidance modes engage when the flight crew initiates a go-around, even if the aircraft is on approach in CLEAN flaps configuration.

This article is also available on safetyfirst.airbus.com and on the Safety first app for iOS and Android devices.

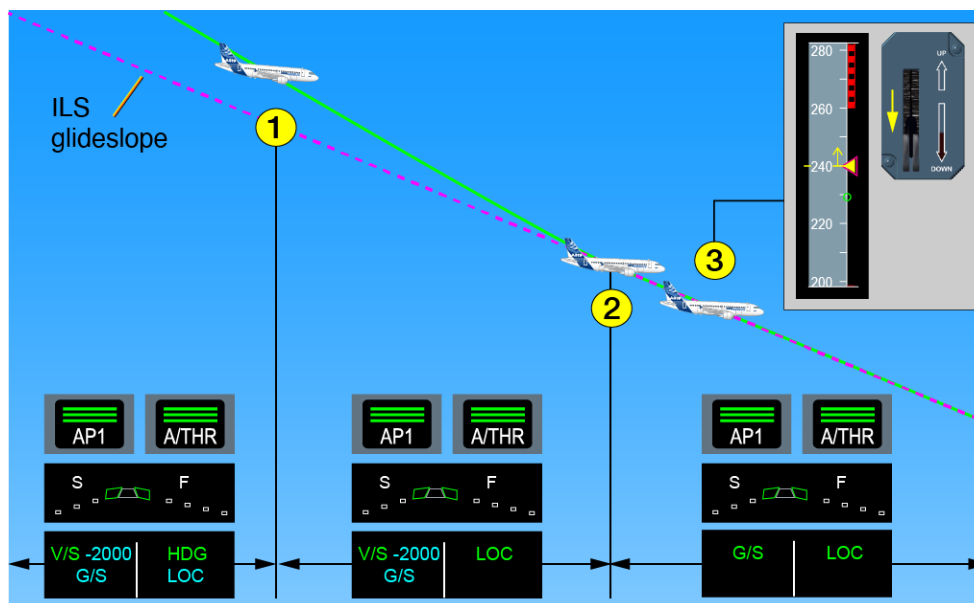


CASE STUDY

Event Description

An A319 aircraft was on descent with autopilot and autothrust ON. The flight crew was preparing to perform an ILS interception from above. The aircraft experienced moderate turbulence conditions during the approach phase. ① The aircraft captured the localizer 10 NM from the runway threshold. The aircraft was descending in **V/S** mode at 2 000 ft/min in CLEAN flaps configuration, and with a selected altitude of 2 500 ft QNH. ② The aircraft intercepted the ILS 3° glidepath from above at approximately 2 500 ft QNH, which was 7 NM from the runway threshold, at a speed of 225 kt.

③ Crossing 2 300 ft QNH, the aircraft speed was 236 kt increasing. The flight crew decided to extend the landing gear to reduce the speed.



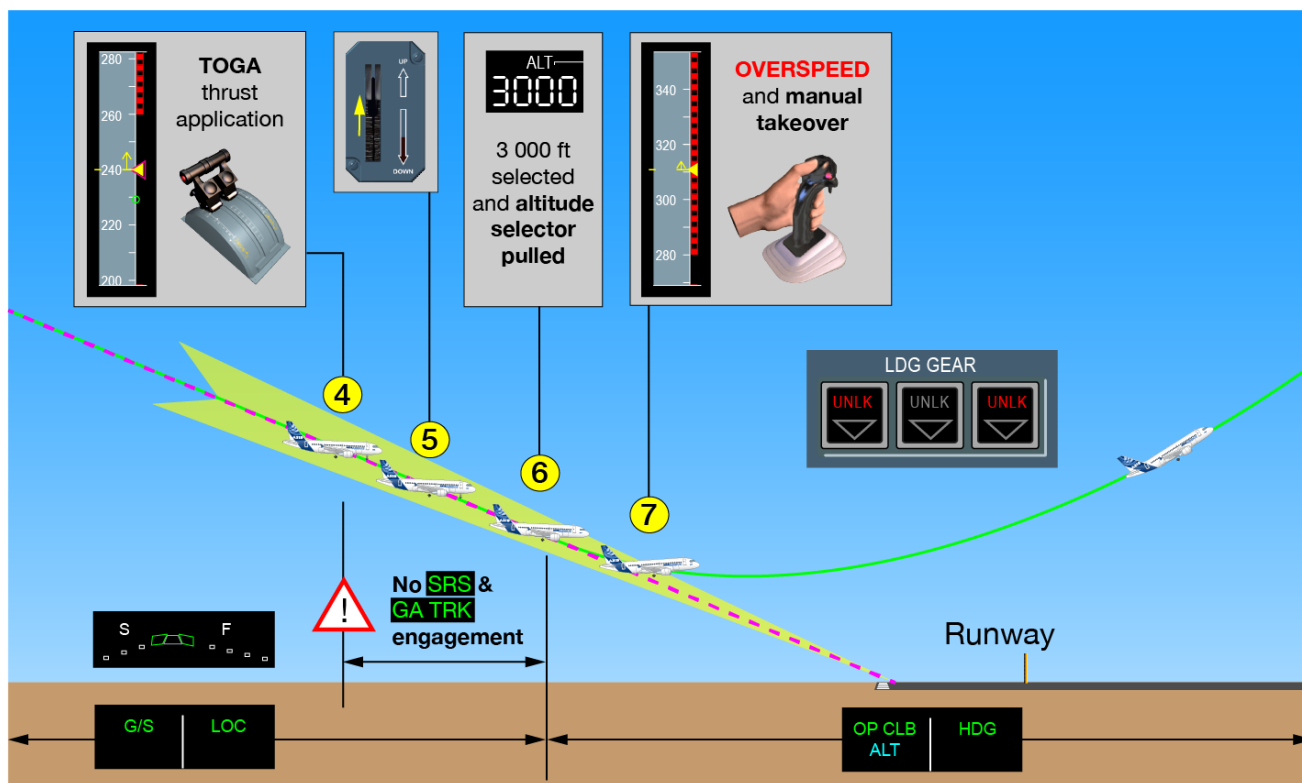
(fig.1) Description of the event - part 1

④ Crossing 1 300 ft QNH, the aircraft was still in CLEAN flaps configuration and its speed was 240 kt. The flight crew pushed the thrust levers to TOGA to initiate a go-around. The **LOC** and **G/S** guidance modes remained engaged and the aircraft started to accelerate toward the ground, along the 3° glideslope.

⑤ Crossing 1 130 ft QNH, the aircraft speed was 243 kt increasing. The flight crew selected gear up, but the VLO for retraction of 220 kt was already exceeded.

⑥ At approximately 800 ft, the flight crew selected a 3 000 ft target altitude and pulled on the altitude knob-selector. The **OP CLB** guidance mode engaged and sent a nose-up command to the autopilot. Aerodynamic forces meant that retraction of the landing gear was difficult. The nose landing gear retracted, but the left and right Main Landing Gear (MLG) remained extended.

⑦ The overspeed warning triggered due to the VLE (280 kt) exceedance. The PF disconnected the autopilot and applied nose-up inputs. The aircraft reached 312 kt at 600 ft before climbing back up to 3 000 ft where the PF reengaged the autopilot in **ALT** mode. The MLG fully retracted 2 min 30 s later while in level flight, with a speed of 205 kt at 3 000 ft. The flight crew eventually performed a second approach and safely landed the aircraft.



(fig.2) Description of the event - part 2

Event Analysis

High-energy approach

The aircraft started its glideslope interception from above in CLEAN configuration at high speed. As a result, the flight crew was not able to sufficiently slow down the aircraft to stabilize its speed and they decided to perform a go-around.

Non-engagement of the go-around guidance modes

On A320 family, the **SRS** go-around mode and **GA TRK** mode engages if:

- The flight crew sets a thrust lever at the TOGA detent, and
- The aircraft is airborne, or on ground for less than 30 s, and
- The slats or the flaps are extended.

Therefore, when the PF pushed the thrust levers to TOGA, the **SRS** and **GA TRK** modes did not engage and the autopilot remained in **G/S** and **LOC** final approach modes.

Crew reaction time

It took 30 s for the crew to react and disconnect the autopilot, leading to an overspeed condition (312 kt with main gear extended) near the ground (600 ft).

FLIGHT GUIDANCE BEHAVIOR DURING GO-AROUND IN CLEAN FLAPS CONFIGURATION

At the time of publication of this article, on all Airbus aircraft except the A220 and the A350 with PRIM P12 and subsequent standards, the flaps configuration must be selected other than a CLEAN flaps configuration in order to activate the go-around guidance modes. **Table 1** summarizes the slats/flaps condition for the activation of the go-around guidance modes applicable for each Airbus aircraft type. Full conditions for activation can be found in the FCOM description chapter for flight guidance on each aircraft type.

Table 1 : Summary of the slats/flaps condition for engagement of the go-around guidance modes

Aircraft	A300	A300-600/ A310	A320 family/ A330/A340 /A380	A350		A220
Guidance Modes	GO ARND	GO AROUND	SRS and GA TRK	SRS and GA TRK		VGA and GA
Slats/Flaps Condition*	≥ 8°	≥ 15/0	≥ CONF 1	up to PRIM P11	from PRIM P12	No slats/flaps condition
				≥ CONF 1	≥ CONF 1 or CONF 0 with aircraft below FCU altitude and below 2500 ft RA	

*The slats/flaps condition may be the flap lever position and/or the actual flap position depending on the aircraft type. Refer to the FCOM for more information.

Table 1 : Summary of the slats/flaps condition for engagement of the go-around guidance modes

A220 and A350 aircraft with PRIM P12 and subsequent standards

A220 aircraft are not concerned by this non-engagement of the go-around modes in CLEAN flaps configuration: the VGA and GA modes are activated when the flight crew presses one of the TOGA switches on the thrust lever regardless of the position of the slats/flaps.

On A350 aircraft with **PRIM computer standard P12 and subsequent standards**, the go-around modes are also engaged in CLEAN flaps configuration if the aircraft is below the altitude selected on the FCU altitude and below 2 500 ft RA.

OPERATIONAL CONSIDERATIONS

Flight crews must be aware of the potential for go-around guidance modes to not engage on some aircraft when the aircraft is in CLEAN flaps configuration.

Risk of high energy near the ground

The FCTM states that if the thrust levers are set to the TOGA detent (or the go levers are triggered on A300-600/A310) during approach with the FLAPS lever at 0, the following occurs:

- The AP/FD remains engaged in approach or landing mode (e.g. **G/S**, **LOC**, **LAND**, **FLARE** on the FMA)
- The FMS does not engage the go-around phase and remains in APPR phase
- **LVR CLB** flashes on the FMA (or the FMA displays **THR L** on A300-600/A310).

This means that when the thrust levers are set to the TOGA detent (or the go-levers are triggered on A300-600/A310), the aircraft energy will rapidly increase, but the aircraft will remain on its approach path. In this situation, the flight crew must take appropriate action without delay.

SOPs guidance for configuration on approach

Correct SOPs application should prevent the aircraft from being in a CLEAN configuration during final approach. The SOPs state that the aircraft should be **at least in CONF 1** at the start of the final approach in the case of a decelerated approach, or in landing configuration in the case of an early stabilized approach.



INFORMATION

For more information about the two approach speed techniques, decelerated and early stabilized, refer to the FCTM *Normal Procedures - Standard Operating Procedures - Approach - Configuration management* and the [“Control your speed...During Descent, Approach and Landing”](#) Safety first article.

Glideslope interception from above

When intercepting an ILS glideslope from above, the FCTM recommends that the flight crew should select **at least CONF 2** to ensure that the aircraft speed does not increase during the interception.

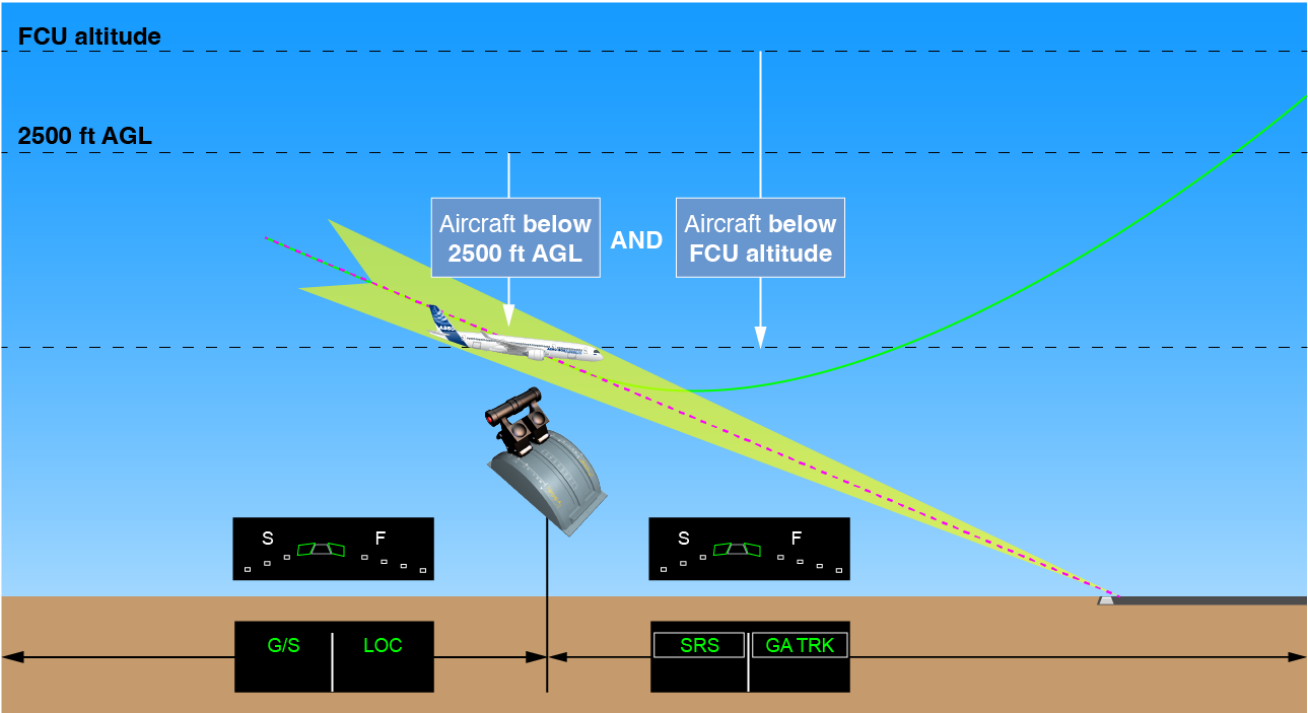
Check of the FMA

Constant monitoring of the FMA as per SOPs enables a quick detection of the non-engagement of the go-around modes, allowing a quick flight crew reaction.

SYSTEM ENHANCEMENTS

An update of the flight guidance mode was launched on A320 family, A330, and A380 aircraft to have a similar engagement logic as the A350 fleet fitted with the PRIM P12 or subsequent standards. The updated logic will enable the engagement of the SRS and GA TRK when in CLEAN flaps configuration, if the flight crew sets the thrust lever to TOGA and provided that the aircraft is **below 2 500 ft AGL AND is below the FCU altitude (fig.3)**. The planned availability of the flight guidance modification of each aircraft type is indicated in **Table 2**.

(fig.3) Go-around engagement logic on A350 aircraft with PRIM P12 and subsequent standards.



Aircraft	A300/ A300-600 / A310	A320 Family		A330	A340	A380	A350	A220
Computer standards	N/A	FG PI20 and PC22	FG C16 and I17	Standard not yet defined	N/A	from PRIM Batch 8	from PRIM P12	N/A
Availability	Not planned	mid 2026	2027	To be defined	Not planned	end 2026	Available	Available

Table 2: Planned availability of the engagement of the go-around modes in CLEAN flaps configuration.

Contributors:**Thierry BOURRET**

Flight Control
Development Expert
Design Office

Severine CHEVALIER

Flight Control
Development Engineer
Design Office

Dirk DE-WINTER

Flight Ops & Training Pilot
Expert
Customer Support

Maxime LANSONNEUR

Flight Operations
Standards Expert
Customer Support

Fabien ROZEN

Senior Flight Operations
Support Engineer
Customer Support

**With thanks to Marc
LE-LOUER from the
A300/A310 Flight
Operations Support
and Daniel LOPEZ
FERNANDEZ from the
Product Safety
Enhancement team.**

Today, on most Airbus aircraft (except the A220 and the A350 with PRIM P12 and subsequent standards), the flaps configuration must be different than CLEAN to activate the go-around guidance modes. The flight crew must be aware of the potential non-engagement of the go-around modes when initiating a go-around in CLEAN flaps configuration. If this happens, the flight crew must take appropriate action without delay to prevent them from being in a high-energy situation near the ground.

Application of the SOPs should prevent the flight crew from being in CLEAN flaps configuration during final approach as the SOPs recommend to be at least in CONF 1 at the start of the final descent.

As an additional safety net, an update of the flight guidance modes is planned on A320 family, A330, and A380 aircraft to enable engagement of the go-around modes in CLEAN flaps configuration. This is provided that the aircraft is below the FCU selected altitude and below 2 500 ft, as on A350 aircraft.

Safety first, 2023. Safety first is published by Airbus S.A.S. 1, rond point Maurice Bellonte - 31707 Blagnac Cedex/France.

Editor: Yannick Malinge, Chief Product Safety Officer.

Editorial team: Guillaume Estragnat, Vanessa Sadi, Gwyneth Duggan, Javier Martinez Marina, Tim Roach.

20192534. Reference: X00D16031905.

Photos by Airbus.

© Airbus S.A.S. 2023 – All rights reserved. Proprietary documents.

By taking delivery of this Brochure (hereafter "Brochure"), you accept on behalf of your company to comply with the following guidelines:

- No other intellectual property rights are granted by the delivery of this Brochure than the right to read it, for the sole purpose of information.
- This Brochure and its content shall not be modified and its illustrations and photos shall not be reproduced without prior written consent of Airbus.
- This Brochure and the materials it contains shall not, in whole or in part, be sold, rented, or licensed to any third party subject to payment.

This Brochure contains sensitive information that is correct at the time of going to press.

This information involves a number of factors that could change over time, affecting the true public representation. Airbus assumes no obligation to update any information contained in this document or with respect to the information described herein.

Airbus S.A.S. shall assume no liability for any damage in connection with the use of this Brochure and of the materials it contains, even if Airbus S.A.S. has been advised of the likelihood of such damage.

Safety first

The Airbus Safety magazine

The Airbus magazine contributing to the enhancement of the safety of aircraft operations by increasing knowledge and communication on safety related topics.

Safety first is published by the Product Safety department. It is a source of specialist safety information for the use of airlines who fly and maintain Airbus aircraft. It is also distributed to other selected organizations and is available on digital devices.

Material for publication is obtained from multiple sources and includes selected information from the Airbus Flight Safety Confidential Reporting System, incident and accident investigation reports, system tests and flight tests. Material is also obtained from sources within the airline industry, studies and reports from government agencies and other aviation sources.

All articles in Safety first are presented for information only and are not intended to replace ICAO guidelines, standards or recommended practices, operator-mandated requirements or technical orders. The contents do not supersede any requirements mandated by the State of Registry of the Operator's aircraft or supersede or amend any Airbus type-specific AFM, AMM, FCOM, MMEL documentation or any other approved documentation.

Articles may be reprinted without permission, except where copyright source is indicated, but with acknowledgement to Airbus. Where Airbus is not the author, the contents of the article do not necessarily reflect the views of Airbus, nor do they indicate Company policy.

Contributions, comments and feedback are welcome. Enquiries related to this publication should be addressed to:

Airbus - Product Safety department (W)
1, rond point Maurice Bellonte
31707 Blagnac Cedex - France
safetycommunication@airbus.com

Visit us at safetyfirst.airbus.com or install the Safety first app:

