

Mind the OEBs!



Operations Engineering Bulletins (OEBs) are temporary procedures published for flight crews. They must be applied only in specific conditions to ensure safe and efficient operations of the aircraft.

This article explains why OEBs are issued, the importance of communicating them to flight crews as soon as possible, and the importance for flight crews to comply with the OEB procedures. This article also stresses the importance of applying the available modifications that will cancel an OEB as soon as possible. Airbus provides support to Operators to assess and prioritize the implementation of service bulletin modifications that can remove applicable OEBs from their fleets.

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



WHAT IS AN OEB?

A Temporary Procedure

An Operations Engineering Bulletin (OEB) is a temporary procedure published for flight crews, which must be applied in specific conditions to ensure the safe and efficient operation of the aircraft. An OEB is applicable until a permanent corrective solution is installed on the aircraft.

Two Types of OEB

There are two types of OEB:

- **Red OEB**: Safety related OEB where non-compliance may have a significant impact on the safe operations of the aircraft
- **White OEB**: Non-compliance may have a significant impact on the efficient operations of the aircraft (e.g. diversions or delays)

Where to Find OEBs

OEBs can be published and made applicable to any Airbus aircraft with the exception of the A220 family.

OEBs can be found in the FCOM of A350 and A380 aircraft. OEBs are currently published in both the FCOM and the QRH for the A320 family and A330/A340 aircraft. From the end of 2020, OEBs for these aircraft will only be available in the QRH. A300/A310 aircraft OEBs can be found in both the FCOM and QRH. ■

Airbus Temporary Quick Change (ATQC) A350 and A380 aircraft

OEBs for A350 and A380 aircraft will only be issued to cover non-ECAM related procedures. An Airbus Temporary Quick Change (ATQC) will be issued to temporarily amend the existing ECAM procedure directly onboard these aircraft.



HOW FLIGHT CREWS MANAGE OEBs

When preparing for a flight, the flight crew must know the answers to the following questions:

- What are the OEBs applicable to this aircraft?
- What are the specific entry conditions for applying these OEBs?
- What are the cockpit effects and system effects of the OEBs when applied on the aircraft?

Know the OEBs that are applicable to your aircraft

It is essential that flight crews know precisely which OEBs are applicable to their aircraft before each flight.

Several events with the potential of negative outcomes have occurred when flight crews inappropriately applied an OEB that was not applicable for the aircraft they were flying. This risk is higher for Operators with diverse fleets of aircraft models and of different ages. Some flight crews may fly several aircraft over a short period of time with different OEBs that are applicable.

Review the OEBs before each flight

Airbus Standard Operating Procedures (SOPs) request flight crews to review all applicable OEBs during the preliminary cockpit preparation phase of each flight to mitigate this risk, even when in transit.

“It is essential that flight crews know precisely which OEBs are applicable to their aircraft before each flight.”

The LEOEB from the QRH: An Efficient Tool A300/A310, A320 family, and A330/A340 aircraft

The flight crew can use the List Of Effective OEBs (LEOEB) available in the QRH of the A300/A310, A320 family and A330/A340 aircraft to perform the review of the OEBs during the preliminary cockpit preparation. The LEOEB is representative of the aircraft configuration and displays only the OEBs that are applicable to that aircraft. It displays red OEBs first and mentions the associated ECAM entries, if any.

Know when to apply an OEB

OEBs only apply in very specific conditions. These conditions can be either an ECAM alert or another defined event.

Flight crews must be precisely able to recognize the defined conditions that will require the application of an OEB. Any ECAM entry conditions are defined in the OEB and are also described in the LEOEB. If an OEB does not have an ECAM entry condition, the conditions of a defined event that requires application of an OEB is provided in the OEB description.

Inappropriate application of an OEB can potentially impair safety

Events have occurred as a result of inappropriate application of an OEB following the misinterpretation of the aircraft parameters. Refer to the [“Overspeed event with crew take-over and OEB49 application” Safety first article](#) (June 2019) that describes an incident in which the flight crew improperly applied an OEB whereas the entry conditions were not met.

Understand the OEB procedure and its effects

Flight crews must fully understand the OEB procedure and the effects of its application. A well-prepared flight crew should already know the content of the applicable OEBs before entering the cockpit or take the time to review them during the preliminary cockpit preparation phase.

The explanation of each OEB is attached to the procedure (in the FCOM today for all Airbus aircraft, but from the end of 2020 only in the QRH for A320 family and A330/A340 aircraft). The explanation provides a concise description of the context and the reason for the OEB. Flight crews must refer to these explanations, and any other supporting materials provided by Airbus, or their flight operations department, to be confident in the correct application of the OEB procedures. ■



HOW TO IMPLEMENT OEBs

Airbus Decision to Create an OEB

Airbus may decide to publish an OEB when a situation is identified that could pose a potential risk to the safe operations of the aircraft and there is no existing procedure or technical solution to manage this risk. A published OEB is applicable until a permanent corrective solution is installed on the aircraft.

Airbus will closely coordinate with Authorities throughout the OEB decision-making process and publication of the relevant documentation. As in the case of a red OEB, Authorities will issue an Airworthiness Directive (AD) and Airbus will issue the associated update of the Airplane Flight Manual (AFM).

“Flight crews must be precisely able to recognize the defined conditions that will require the application of an OEB.”

Airbus OEB Publication

When the decision is made to issue an OEB, the goal is to make it available to Operators as soon as possible.

Notice of an OEB sent to Operators

Airbus Flight Operations will issue a Flight Operations Transmission (FOT) explaining the rationale for the OEB, the content of the OEB itself as an advance copy, and the AFM Temporary Revision text if required (for red OEBs).

Operational Documentation Update

An update to the FCOM and QRH will incorporate the new applicable OEBs published since the last revision. The AFM will also be updated if required (for red OEBs).

Continuous Support to Operators

Airbus provides Operators with supporting materials via the *AirbusWorld* portal and web conferences to well understand and manage the new OEB, which is key to safe application of the OEB.

Operator OEB Implementation

The objective for Operators is to deploy any new OEB as soon as it is available. It is best practice that all Operators have a defined process, which will ensure rapid implementation of the OEB and its content is fully understood by flight crews. This will contribute to ensuring that the flight crew is aware of any applicable OEBs and will reduce the risk of inappropriate application of an OEB. ■

“The objective for Operators is to deploy any new OEB as soon as it is available.”

The OEB Reminder: A Useful Function A320 family and A330/A340 aircraft

The OEB reminder function will advise the flight crew to apply the OEB procedure instead of the ECAM procedure when it is impacted by an OEB. This function inhibits the display of the procedure and/or status of an ECAM alert. A “REFER TO QRH PROC” message will be displayed in its place. Operators can activate the OEB reminder function by entering a code corresponding to the ECAM alert in the MCDU (AMM task 31-51-00-610-001-A for A320 family aircraft, AMM task 31-51-00-610-801-A for A330/A340 aircraft). Coordination between Flight Operations and Maintenance Engineering is necessary to ensure that:

- The OEB is available in the QRH when the OEB reminder function is activated
- The OEB reminder function is deactivated when the OEB cancellation modification is installed and the OEB is removed from the QRH.





BEST PRACTICE

Operators can use the OEB advance copy sent by Airbus with the FOT to make the OEB available in the cockpit for flight crews as soon as possible.



HOW OPERATORS REMOVE OEBs

When the decision is made to issue an OEB, Airbus takes the necessary actions at the same time to quickly find a solution to cancel this OEB. We must keep in mind that an OEB is only temporary pending the availability of a permanent solution.

Implementing an OEB Fix

As soon as a solution is found to cancel the OEB, Airbus will publish one or several Service Bulletins (SBs) with instructions to apply the modifications on the aircraft. A Retrofit Information Letter (RIL) is usually sent to Operators to inform them of the availability of the SB.



KEY POINT

As soon as the fix is available to cancel an OEB, it is important to implement it in a timely manner on affected aircraft. It is always better from a safety and operational perspective to operate aircraft with the minimum possible number of OEBs.

“We must keep in mind that an OEB is only temporary pending the availability of a permanent solution.”

Operational Documentation Update When SBs are Implemented

To prevent inappropriate application of an OEB, it is crucial that the aircraft configuration (SB installation) and the onboard operational documentation (list of applicable OEBs) are aligned. This requires close coordination between Maintenance Engineering and Flight Operations to confirm when modifications are implemented on the aircraft which will cancel an OEB. This is to avoid the risk of any significant impact to the safety of a flight if a flight crew were to attempt to apply an OEB procedure that is no longer applicable to their aircraft.

Report of Service Bulletin Installation to Airbus

Service Bulletin reporting is required to ensure that Airbus and Operators share the same view of the retrofit status for the fleet and to trigger the update of all operational documentation. Operators can also request operational documentation to be updated in advance of the standard revision cycle.

Reporting is done via the Service Bulletin Reporting Online tool. (Ref. ISI 00.00.00135 available on the *AirbusWorld* portal)



BEST PRACTICE

- Service Bulletin reporting should be done aircraft per aircraft and not only reported at the completion of the retrofit cycle for the entire fleet.
- Operators can manually remove the OEBs from their current versions of operational documentation pending the availability of the updated version.

Limiting the Number of Applicable OEBs

Limiting the number of OEBs applicable to an aircraft improves safety because it enables the Operator to resume standard aircraft operations. Operators should therefore install the OEB cancellation modifications as soon as possible after they are informed they are available.

Airbus Support for OEB Reduction Strategies

Operators should define and secure a retrofit strategy for their fleets with appropriate priority management, for example, any corrective actions mandated by an Airworthiness Directive or red OEBs.

Operators can ask Airbus Customer Support to provide them with a full status of the available solutions for their current list of effective OEBs, the retrofit priorities, instructions, and recommendations.

For Further Information

Operators can also access information on the *AirbusWorld* portal with the updates of the Technical Follow-Up (TFU) associated with an OEB and the latest "Digest of Available Safety Enhancements" brochure published annually. This brochure includes information on safety enhancements, which were developed in response to the in-service experience of the Airbus fleet. Many of these enhancements will also cancel an associated OEB. ■

"It is crucial that the aircraft configuration and the onboard operational documentation are aligned."

"Operators should install the OEB cancellation modifications as soon as possible after they are informed they are available."

Contributors :**Roger ARRAUD**

Technical
Documentation
Operations Support
Manager
Technical
Documentation
Configuration and
Revision Management

**Sara GARCIA
DELGADO**

Senior Flight Operations
Support Engineer
Flight Operations
Support and Training
Standards

Emmanuel JANSSEN

Flight Operations Pilot
Expert
Flight Operations
Support and Training
Standards

Olivier JOSEPH

SMS Officer Delegate
and Multi-Program
Manager
Programmes Support

With thanks to:

**Muriel DUCROZ,
Cesar GARCIA
CASTILLA, Yoan
HUDON and Marc
LE-LOUER**

Inappropriate or incorrect application of an OEB could cause potentially negative outcomes for the safety of a flight. Therefore, it is important that flight crews know which OEBs are applicable to their aircraft when preparing for a flight. The applicable OEBs can be quickly and efficiently reviewed by referring to the “*List of Effective OEBs*” (or LEOEB) in the QRH.

There are defined entry conditions for applying the OEB procedure when it is applicable to the aircraft. This can be an ECAM alert or other specific conditions. The flight crew must apply an OEB procedure only if the pre-defined entry conditions are confirmed as present. Flight crews must also ensure that they review the entry conditions of applicable OEBs during their flight preparation and know what the expected cockpit or system effects will be when the OEB is applied.

OEBs are temporary and Operators should limit the number of OEBs applicable to an aircraft by implementing the OEB cancellation Service Bulletins as soon as possible. The operational documentation must also be updated to reflect the aircraft's configuration so the flight crews have the most up to date list of applicable OEBs. This will prevent inappropriate application of an OEB if the OEB cancellation modifications are already installed.

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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.

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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

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