AIRBUS

A320 Family/A330/A340/A350/A380 FCTM changes for new Briefings

This document highlights the FCTM changes associated with the new flight crew briefing. It provides advanced information that Airbus may modify before its publication in the operational manuals end of 2020.
It consists in a new FCTM chapter, and changes in FMGS preparation (changes are highlighted in yellow).

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New Chapter *FCTM/Airbus Operational Philosophy/Tasksharing Rules and Communication/Briefing:*

HOW TO CONDUCT BRIEFINGS

OBJECTIVE OF OPERATIONAL BRIEFINGS:

Operational Briefings are an integral element of the Threat and Error Management process for each mission. Briefings should focus on the identification of threats that affect the intended operations and agreement on mitigation (avoidance, management) of those identified threats.

The second purpose of the operational briefings should be the identification of significant differences or deviations to "routine" operations.

At the end of the briefing the crew should have a shared mental model of the intended operations, the identified threats, its mitigations and on the deviations from routine operation.

The operational briefing should provide the pilot monitoring (PM) the expected monitoring framework.

The briefing should create more capacity in thinking and acting. It should enable team confidence building and minimize the startle effect when non-standard situations are encountered. This increases resilience of the flight crew.

Operational briefings are complementary to SOP's, they should not be a repetition of SOP items. A briefing is not to be confused with setting and checking of the aircraft systems for the intended flight phase. In order to perform these tasks the flight crew must follow the SOPs.

BRIEFING TECHNIQUE:

Briefing requires out-of-the-box thinking, beyond the pure reflection of standard operations and routine. It should have a threat-focused view and identify and prioritize likely threats to the intended operation. It should then provide the way of action to mitigate these threats.

Source of the briefing are the facts gained in the flight crew pre-flight preparation, aircraft operation, but also the overall knowledge and experience of all involved flight crewmembers.

A briefing should be conversational, interactive and use open questions that involve all flight crewmembers to share their experience and expectations.

There should be a variation in the amount of detail and in the length of a briefing. A longer, more detailed briefing may be necessary and adapted to the flight crew experience, if one or more of the following items apply (examples):

- A flight crew not familiar with the airport or the approach
- Complex Airport (e.g. CAT C)
- Procedures or techniques that are rarely flown or applied

A shorter briefing, restricted to the minimum items will be possible in the case of all of the following (examples):

- Operating at a well familiar airport
- Repetitive operations by the same crew
- No or limited threats identified.

A long briefing is not necessarily a good one.

A review of Memory Items or Operating Techniques should normally only be part of the briefing when they may be potentially required for threat management (e.g. Windshear reported in ATIS – a review of [MEM] WINDSHEAR); briefing the techniques for REJECTED TAKEOFF and/or for ENG FAILURE AFTER V1 is normally not required on a routine basis for each takeoff.

THREATS:

Threats are all of the following:

- Events or errors that occur beyond the influence of the flight crew and

- Increase operational complexity and

- Situations that must be managed to maintain the margin of safety.

There is no limit to the possible number of threats that may occur. Using a checklist-style tool to identify threats creates an obstruction to the open-mind setting and out-of-the-box consideration. To help with threat identification (not-exhaustive) memory aids may be of help, provided they are not used in a checklist style manner. For example:

AIRPORT	ATC	AIRCRAFT	ENVIRONMENT
• Congestion • Construction • Hotspots • Infrastructure • Runway Condition	• Challenging Restrictions • Language • Phraseology • Short term changes of clearance • Similar Callsigns	• MEL OPS • Aircraft Defects • Supplementary Procedures that are not Routine	• Low Visibility • Approach/RWY Lighting • Runway Contamination
WEATHER	**OPERATIONS**	**CREW**	**TERRAIN**
• Windshear • Convective WX • Cold Weather • Precipitation • Weather Reports that are not reliable	• Schedule Pressure • Delays • Late Crew • Load issues	• Fatigue • Low Experience • Complacency • Distraction • Training • Crew that is Non-standard	• High Terrain • Environment not familiar with • Complex Visual Approach

TYPES OF OPERATIONAL BRIEFING:

The following operational briefings should be performed for each flight:

- **DEPARTURE BRIEFING** during Cockpit Preparation
- **ARRIVAL BRIEFING** during Descent Preparation.

A **DEBRIEFING** should be considered at the end of each flight. This is in order to check how the plan and the management of expected and not expected threats and errors worked. In addition to see if it is possible to enhance next time in a similar scenario. In case of time constraints this debriefing should be performed not later than at the end of flight duty. Debriefing is a powerful tool for long-term safety management.

Other operational briefings:

- **CRUISE BRIEFING** when the aircraft reaches cruise level and the flight crew expects specific operational threats (e.g. high terrain enroute, weather awareness and avoidance) or before the aircraft enters areas with special operational rules (e.g. NAT, POLAR)
- **RELIEF CREW BRIEFING** when flight crew members change seat in augmented crew operation
- **RE-BRIEFING** in the case of any new identified threats or changes to the planned flight strategy (e.g. whenever the DEPARTURE CHANGES checklist must be applied. Also in case of major delay since the Briefing was performed or in case of a major deviation from the original flight plan).

PREPARATION FOR BRIEFING

Preparation of the flight crew members for every briefing starts with the preparation for the flight mission. Preparation continues throughout the dispatch briefing with the collection of data on all of the following:

- Technical condition of the aircraft
- Route Planning
- Weather
- NOTAM

- Load planning
- Company operational requirements
- Fuel planning.

Flight preparation is done partly independent by PF and PM, partly shared by both pilots (B/P).

At the aircraft the following items of the SOP flight preparation contain items to be discussed and agreed on by B/P:

- Aircraft Acceptance
- Preliminary Performance Calculation
- Last part of Cockpit Preparation after FMS preparation by PF.

For details refer to SOPs. These SOP items are intended to prepare a shared mental image by both pilots. They assure that the following operational briefings are concise, effective and focus only on essential items.

DEPARTURE BRIEFING:

Structure and minimum items of the Departure Briefing are:

Step	PF	PM
1	Cockpit Door Closed – Set Distraction Free Environment[1]	
2a		PLAN [2] • T/O RWY (Intersection) • SID Designator • First cleared ALT • MSA/MORA for climb trajectory • Extra-fuel & -time
2b	PLAN [2] • Hotspots of planned taxi route • Stop-margin for RTO • EOSID • Return/Diversion Considerations • Special Operation • Non-standard operation	
3a		Identified THREATS [3]
3b	Identified THREATS [3]	
4	MITIGATIONS [4]	

5	MISCELLANEOUS [5)

Explanation/Notes:

1) For the briefing to be of good quality it is important to minimize interruptions. The cockpit door should be closed. It should be the task of the Commander **(CM1)** to anticipate potential disturbances and to manage this step.

   In case of interruption of the briefing it should be resumed at the beginning of the step where the interruption has occurred.

2) The **PM** should start to brief the main items of the **PLAN**. This ensures that both pilots share the same mental image of the flight trajectory after the FMGS preparation (by PF) and check (by PM) according SOP. The **PF** then briefs the Hotspots of potential taxi-routes if any. He then considers at least the following items:

   - Consideration for RTO (stop margin if available)
   - The EOSID/Engine-Out trajectory
   - The considerations for a return landing or diversion if so required (weather/weight).

   The **PF** recalls any Special Operations or Supplementary procedures to be applied.

   Briefing the **PLAN** should normally only be a high-level description. It should normally not be a repetition of the detailed setting and checking of the flight trajectory in the FMS performed in the respective SOP items.

3) The **PM** should brief the **THREATS** identified throughout the preparation for the mission. The **PF** will highlight additional threats if required.

4) The **PF** and **PM** will discuss and agree on the **MITIGATION** of the threats identified.

5) **MISCELLANEOUS** is intended to take into considerations additional e.g.:

   - Intended use of automation after Take Off
   - Supplementary procedures if not yet briefed
   - Observer safety briefing and duties
   - Dangerous Goods on board etc.

ARRIVAL BRIEFING:

Structure and minimum items of the ARRIVAL Briefing:

Step	PF	PM
1	Set Distraction Free Environment [1)	

2a		PLAN [2] • MORA/MOCA/MSA for planned trajectory • STAR • Type of APP • MINIMUM • G/A TRAJECTORY • Extra-fuel & -time
2b	PLAN [2] • Guidance for APP • Landing FLAP setting • Stop-margin • Use of Reverse • Use of Autobrake • Planned RWY Exit • Hotspots for taxi-in • Special operation • Non-standard operation	
3a		Identified THREATS [3]
3b	Identified THREATS [3]	
4	MITIGATIONS [4]	
5	MISCELLANEOUS [5]	

Explanation/Notes:

1) For the briefing to be of good quality it is important to minimize interruptions. Allocating the right time before top of descent mitigates potential disturbances. It should be the task of the Commander (**CM1**) to anticipate potential disturbances and to manage this step. In case of interruption of the briefing it should be resumed at the beginning of the step where the interruption has occurred.

2) The **PM** should start to brief the main items of the **PLAN**. This ensures that B/P share the same mental image of the flight trajectory after the FMGS preparation and check according SOP. The **PF** briefs his considerations for landing. Briefing the **PLAN** should normally only be a high-level description. It should not be a repetition of the detailed

setting and checking of the flight trajectory in the FMS performed in the respective SOP items.

3) The **PM** should brief the **THREATS** they have identified. The **PF** will highlight additional threats if required.

4) **PF** and **PM** will discuss and agree on the **MITIGATION** of the threats identified.

5) Step **MISCELLANEOUS** is intended to take into consideration additional e.g.: special operations and Supplementary Procedures if not yet briefed.

CHANGE   Chapter   *FCTM/Normal Procedures/SOP/Cockpit Preparation:*

FMGS PREPARATION

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FMGS ~~DATA~~ CROSSCHECK

When the PF finishes the FMGS preparation, the PM must check the PF's entries. The PM performs   this check via a check of the different FMGS pages, in the same order as the FMGS preparation. By checking the setup, the PM should achieve the same mental image as the PF of the intended departure procedure, trajectory, and constraints. The PM should check with the PF if anything is not clear.

~~When the PM reviews the PERF T.O page, he/she compares this page with his/her EFB TAKEOFF application results page to crosscheck the performance data. For more information on the   content of performance crosscheck, *Refer to PR-NP-SOP-PRELIMINARY COCKPIT PREPARATION-EFB Preparation.*~~