



## Flight Operations Briefing Notes

### Standard Operating Procedures

### Normal Checklists

#### I Introduction

Strict adherence to suitable standard operating procedures (SOPs) and associated normal checklists is a major contribution to preventing and reducing incidents and accidents.

This Briefing Note provides an overview of:

- The scope and use of normal checklists; and,
- The factors and conditions that may affect the normal flow and completion of normal checklists.

#### II Statistical Data

The omission of an action or an inappropriate action is the largest primary causal factor in approach-and-landing accidents ( Source : Flight Safety Foundation – 1998-1999 ).

Omission of an action or inappropriate action is:

- A causal factor, along with other causal factors, in 45 % of fatal approach-and-landing accidents; and,
- A factor, to some degree, in 70 % of all approach-and-landing accidents.

#### III Use of Normal Checklists

SOPs should be accomplished by recall using a defined flow pattern for each cockpit panel; **safety-critical points** (i.e., primarily items related to aircraft configuration) should be cross-checked with reference to **Normal Checklists**.

Normal checklists enhance flight safety by providing an opportunity to confirm or correct the systems and aircraft configuration for critical items.

Normal checklists **are not read-and-do lists** and should be accomplished after performing the flow of actions defined in the standard operating procedures (SOPs).

The correct completion of normal checklists is essential for safe operation during all flight phases, particularly for takeoff and during approach and landing.

For an effective use of normal checklists, the following generic rules should be considered.

### III.1 Initiating Normal Checklists :

Normal checklists should be initiated (called) by the pilot flying (PF) and read by the pilot not flying (PNF),

If the PF fails to initiate a normal checklist, the PNF should suggest the initiation of the checklist (by applying good CRM practice).

Normal checklists should be called in a timely manner during low-workload periods (conditions permitting) to prevent any rush or interruption that could defeat the safety purpose of the normal checklists.

Time and workload management (i.e., availability of other crewmember) are key factors in the initiation and effective conduct of normal checklists.

### III.2 Conducting Normal Checklists :

Normal checklists are based on the **challenge-and-response** concept.

Critical items require response by the PF; some less-critical items may be both challenged and responded to by the PNF alone.

To enhance communication and understanding between crewmembers, the following standard rules and phraseology should be used at all times:

- The responding crew member should respond to the challenge only after having checked or corrected the required configuration;
- If achieving the required configuration is not possible, the responding crewmember should announce the actual configuration;
- In all cases, the challenging crewmember should wait for a positive response (and should cross-check the validity of the response, as required) before moving to the next item; and,
- The PNF should verbalize the completion of the checklist by calling loudly "**[ ... ] checklist, complete**".

**Note :**

*Some normal checklists feature a printed line that defines a logical hold point to allow partial completion of the checklist (i.e., down to the line) until further action is appropriate (i.e., completing the checklist below the line).*

A320/A330/A340 families feature electronic normal checklists (i.e., TAKEOFF and LANDING MEMO) that allow a positive identification of :

- Items being completed; and,
- Items still to be performed (blue color coding).

### III.3 Interrupting and Resuming Normal Checklists :

If the flow of a normal checklist needs to be interrupted for any reason, the PF should announce a formal and explicit hold such as " **hold (stop) checklist at [item]** ".

An explicit call such as " **resume (continue) checklist at [item]** " should be made.

Upon resuming the normal checklist after an interruption, the last known completed item should be repeated - as an overlap – to prevent another item from being omitted.

The SOPs, in the applicable FCOM and QRH, provide aircraft-type-related information.

## IV Training Aspects

Disciplined use of SOPs and normal checklists should begin during the transition training course, because **habits and routines acquired during transition training have a recognized lasting effect.**

Transition training and recurrent training also provide a unique opportunity to discuss the reasons for the rules and procedures, and to **discuss the consequences of failing to comply with them.**

Conversely, allowing a relaxed adherence to SOPs and/or a relaxed use of normal checklists during transition or recurrent simulator training may encourage corresponding deviations during line operation.

Line checks and line audits should reinforce strict adherence to **SOPs and Normal Checklists.**

## V Factors Affecting the Use of Normal Checklists

To ensure effective compliance with published normal checklists, it is important to understand why pilots sometimes omit partially or completely a normal checklist.

Pilots rarely omit the performance of a normal checklist intentionally; such a deviation from SOPs often is the result of operational circumstances that disrupt the normal flow of cockpit duties.

The following factors and conditions often are cited in discussing the complete or partial non-performance of a normal checklist:

- **Out-of-phase time scale**, whenever a factor (such as tail wind or a system malfunction) modifies the timescale of the approach or the occurrence of the trigger-event for the initiation of the normal checklist;

- **Distractions** (e.g., due to intra-cockpit activities);
- **Interruptions** (e.g., due to pilot / controller communications);
- **Task saturation** (i.e., inadequate multi-tasking ability or task overload);
- **Incorrect management of priorities** (i.e., absence of decision-making model for time-critical situations);
- **Reduced attention** (tunnel vision) in abnormal or high-workload conditions;
- **Incorrect CRM techniques** (absence of effective cross-check, crew coordination and/or backup);
- **Overreliance on memory** (overconfidence);
- Less-than-optimum **checklist content** and/or **task sharing** and/or format; and,
- **Insufficient emphasis on strict adherence to normal checklists during transition training and recurrent training.**

## VI Summary of Key Points

**Initiation and completing normal checklists in a timely manner** is the most effective means of preventing the omission of actions or preventing inappropriate actions.

**Explicit calls** should be defined in the SOPs for the **interruption** (hold) and **resumption** (continuation) of a normal checklist (i.e., in case of interruption or distraction).

**Disciplined use** of normal checklists should be:

- Highlighted at all stages of initial, transition and line training; and,
- Enforced at the opportunity of all checks and audits performed during line operation.

## VII Associated Briefing Notes

The following Briefing Notes may be reviewed in association with the above information to complete the overview of standard operating procedures:

- **Operating Philosophy - SOPs,**
- **Operations Golden Rules,**
- **Standard Calls,**
- **Intra-cockpit Communications - Managing Interruptions and Distractions.**

#### VIII Regulatory references

- ICAO – Annex 6 – Operation of Aircraft, Part I – International Commercial Air Transport – Aeroplanes, 4.2.5, 6.1.3 and Appendix 2, 5.10.
- ICAO – Procedures for Air navigation Services – Aircraft operations (PANS-OPS, Doc 8168), Volume I – Flight Procedures (Post Amendment No 11, applicable Nov.1/2001).
- ICAO – Preparation of an Operations Manual (Doc 9376).
- ICAO – Human Factors Training Manual (Doc 9683).
- FAR 121.315 – Instrument and Equipment Requirement - Cockpit Check Procedure (for normal and non-normal conditions).
- JAR-OPS 1.1045 and associated Appendix 1 – Operations Manuals – Structure and Contents.

This Flight Operations Briefing Note (FOBN) has been 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.

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