



Flight Operations Briefing Notes Standard Operating Procedures Standard Calls

I Introduction

Standard phraseology is essential to ensure effective crew communication, particularly in today's operating environment, which increasingly features:

- Two-crewmember operation; and,
- International and worldwide contexts involving crewmembers with different native languages.

Standard calls are intended and designed to enhance the efficiency of crew coordination and update the flightcrew situational awareness (e.g., including aircraft position, altitude, speed, status and operation of aircraft systems, ...).

Standard calls may vary among:

- Aircraft models, based upon flightdeck design and systems interfaces; or,
- Airlines, to suit their operating philosophy (SOPs).

II Statistical Data

Insufficient horizontal or vertical situational awareness or inadequate understanding of prevailing conditions is a causal factor in more than 50 % of approach-and-landing accidents (Source – Flight Safety Foundation – 1998-1999).

III Use of Standard Calls

Standard calls should be defined to be **alerting**, in order to be :

- Clearly identified by the PF or PNF; and,
- Distinguished from other intra-cockpit or ATC communications.

Use of **standard calls** and **acknowledgements** reduces the risk of tactical (short-term) decision making errors (e.g., in selecting modes, setting targets or selecting aircraft configurations).

The importance of using **standard calls** increases with increasing workload or flight phase criticality.

Standard calls must convey the required information with a minimum of words that have the exact same meaning for all crew members.

Standard calls should be practical, concise, unambiguous and consistent with the aircraft design and operating philosophy.

Standard calls should be included in the flow sequence of company' **SOPs** (or summarized at the end of the SOPs) and should be illustrated in the **Flight Patterns** published in the company' AOM or QRH (as applicable).

Command and response calls should be performed in accordance with the defined PF / PNF task sharing (i.e., task sharing for hand flying and for autopilot operation, task sharing for normal operation and for abnormal / emergency condition).

Nevertheless, if a call is omitted by one crewmember, the other crewmember should perform the call, per good crew resource management (CRM) practice.

The other crewmember should accomplish the requested command or verify the requested condition and respond accordingly.

Standard calls may be generated automatically by aircraft systems (i.e., auto callouts) using synthetic voice messages (e.g., radio-altimeter callouts, GPWS/TAWS alert messages, reactive or predictive windshear alert messages, ...).

In the absence of such auto callouts (i.e., due a system malfunction), the PNF should make verbally the appropriate standard call.

The absence of a standard call at the appropriate time or the absence of acknowledgement may :

- Result in a loss of situational awareness for the other crewmember;
- Be an indication of a system or indication malfunction; or,
- Indicate a possible incapacitation of the other crewmember.

Standard calls are used to:

- Give a command (i.e., task delegation) or transfer an information;
- Acknowledge a command or an information transfer;
- Give a response or ask a question (i.e., feedback);
- Callout a change of indication (e.g., a mode transition or reversion); or,
- Identify a specific event (e.g., crossing an altitude or a flight level).

IV Defining Generic Standard Calls

The following generic standard calls often are used to express a command or response:

- **Check (or Verify):**
 - a command for the other pilot to check an item;
- **Checked:**
 - a confirmation that an item has been checked;
- **Cross-check(ed):**
 - a call (response) confirming that an information has been checked at both pilot stations;
- **Set:**
 - a command for the other pilot to set a target value or a configuration;
- **Arm:**
 - a command for the other pilot to arm an AP/FD mode (or to arm a system);
- **Engage:**
 - a command for the other pilot to engage an AP/FD mode (or to engage a system);

- **ON / OFF:**
 - ON or OFF following the name of a system is either:
 - a command for the other pilot to select / deselect the related system; or,
 - a response confirming the status of the system.

V Specific Standard Calls

Appropriate standard calls should be defined, based on instrument indications or observation of cockpit effects, for the following events:

- Flightcrew/ground mechanics communications;
- Engine start sequence;
- Thrust setting;
- Specific event-markers along the takeoff phase;
- Landing gear and slats/flaps selection (retraction or extension);
- Initiation, interruption, resumption and completion of normal checklists;
- Initiation, sequencing, interruption, resumption and completion of abnormal and emergency checklists (paper or electronic checklist);
- Autopilot or flight director engagement (i.e., FMA annunciation);
- Mode engagement (i.e., FMA annunciation);
- Mode transitions and reversions (i.e., FMA changes);
- Target selections confirmation (i.e., on PFD and/or ND scales);
- Capture phases (e.g., navigation leg, radial, localizer, glide-slope, ...);
- Changing the altimeter setting;
- Approaching the cleared altitude or FL;
- TCAS / TA or RA events;
- PF/PNF transfer of controls;
- Specific points / targets along the instrument approach procedure;
- Excessive-deviation from a nominal flight parameter;
- Unstabilized approach when reaching the applicable stabilization height or if becoming destabilized below the applicable stabilization height;
- Approaching and reaching minimums;
- Acquisition of visual references;
- Loss of visual references;

- Landing or go-around decision; and,
- Specific event-markers during the landing roll.

Use of standard calls is of paramount importance for optimum use of automation (i.e., for awareness of arming or engagement of modes by calling FMA changes, target selections, FMS entries, ...) :

- The standard calls should trigger immediately the question “ what do I want to fly now? ”, and thus clearly indicates :
 - which mode the pilot wishes to arm or engage; and/or,
 - which target the pilot wishes to set.
- When the pilot’s (PF) intention is clearly transmitted to the other pilot (PNF), the standard call will also:
 - facilitate the cross-check of the FMA and PFD/ND, as applicable; and,
 - facilitate the cross-check and backup between both pilots.

Standard calls should be defined for cockpit crew / cabin crew communications in both:

- Normal conditions (departure and arrival); and,
- Abnormal or emergency situations (e.g., cabin depressurization, on-ground emergency / evacuation, crew incapacitation, forced landing or ditching, etc).

VI Harmonization of Standard Calls

The harmonization of standard calls across various aircraft fleets (from the same or from different aircraft manufacturers) is desirable but should not be an overriding demand.

Standard calls across fleets are only essential for crewmembers operating different fleets (i.e., for communications between cockpit and cabin or between cockpit and ground).

Within the cockpit, pilots need to use standard calls appropriate for the flightdeck and systems design.

With the exception of aircraft models with cockpit commonality, cockpit layouts and systems are not the same and, thus, similarities as well as differences should be recognized alike.

When defining standard calls, standardization and operational efficiency should be balanced carefully.

VII Summary of Key Points

The **Standard Calls** ensure effective crew interaction and communication.

The **Call / Command** and the **Response / Acknowledgement** are of equal importance to guarantee a timely action or correction.

VIII Associated Briefing Notes

The following Briefing Notes can be reviewed along with the above information in order to expand a particular topic:

- **Operating Philosophy – SOPs,**
- **Optimum Use of Automation,**
- **Operations Golden Rules,**
- **Use of Normal Checklists,**
- **Effective Pilot / Controller Communications,**
- **Intra-cockpit Communications - Managing Interruptions and Distractions.**

IX Regulatory references

- ICAO – Annex 6 – Operation of Aircraft, Part I – International Commercial Air transport – Aeroplanes, Appendix 2, 5.13.
- ICAO – Preparation of an Operations Manual (Doc 9376).
- JAR-OPS 1.1045 and associated Appendix 1 – Operations Manuals – structure and contents.

X Other References

- U.S. National Transportation Safety Board (NTSB) – Special Report NTSB-AAS-76-5 – Special Study: Flightcrew Coordination Procedures in Air Carrier Instrument Landing System Approach Accidents.

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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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Airbus Customer Services
Flight Operations Support and Line Assistance

1 Rond Point Maurice Bellonte - 31707 BLAGNAC CEDEX FRANCE

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