

## Re-thinking The Briefing – TIMELINE

### 1 – Department head stakeholders and SMEs gather to review data and discuss potential change.

#### A. The Data

- LOSA Data: Look at the briefing errors and associated narratives – we found the most glaring errors were omissions implying the current briefing items may have exceeded what crews deem necessary for a safe evolution and are selectively non-complying.
- ASAP Data: Review significant event narratives for links to poor briefings. A little bit of work but sure enough, we found several.
- FOQA: If applicable, perhaps significant FOQA event crew contacts will reveal a link to inadequate preparation.
- AQP: You can look at Instructor comments on LOFTs and LOEs but what helped more was simply asking IPs during their IP recurrent ground school what they thought about the company briefings...collect those comments and present them in whole. This was hugely effective in convincing stakeholders change was needed.
- Irregularity/Flight Crew Hazard Reports: Review significant event narratives for links to poor briefings.

#### B. The change

- Create a side-by-side comparison of current briefing items with a proposed draft.
- Key concept: At Alaska our new format had two parts and your initial gathering needs to decide what goes into which part:
  - o **The Set-up** – Here is where all the items that must be accomplished to safely depart or arrive at an airport BUT do not need to **verbally** cross-check or reviewed by both pilots. Ex. iPad setup, courses, frequencies, minimum bugs, flap selection, speeds, FMC crosscheck (legs pages for departure SIDs or Arrival points/speeds/altitudes, HUD panel setup, etc.... Crews silently set these items up...then they brief.
  - o **The Brief** – Start with a PM-initiated threat discussion in which **relevant** threats are identified and crew mitigation strategies/countermeasures are decided upon. Note: we found that crews do a good job of identifying relevant threats. What we must not have emphasized enough in the rollout and training, was the critical step of deciding on planned crew countermeasures for each relevant threat. Ex. LLWS advisories in effect = shift to max power, calculate a windshear Vr, review escape maneuver...

Then decide what components will go in ‘the plan’. The components must be determined to be those items that are critical to be discussed together as a crew to achieve the level of safety required. We chose taxi plan, route plan, return plan and performance. Key concept: Even these items aren’t mandatory but the crew must determine if something like the taxi plan even needs to be discussed as familiarity may be extremely high therefore talking about the taxi plan is not making the taxi evolution any safer. On the other hand one of the crew may not be familiar, or may point out a relevant hot spot that got overlooked...then the crew would brief that.

Finally, we wrapped up with any “considerations”. For most briefings, there simply aren’t any, but it’s a good habit to simply touch this step, for the day where the threats and plan were complex and a summary is warranted of the big ticket items.

**2 – Once a draft is decided upon, select reputable instructors to run a small group tryout to give you feedback.** You will need to spend some time explaining the draft and then have them give it a try in the sim. There is more work involved in this than you'd imagine in that you have to either build a scenario, with paperwork, etc... that they can use, or find one that has already been built up and use that for the demo. Once you get their feedback, incorporate improvements.

**3 – Develop a validation package for the entire IP corps to review.** We pushed it to their iPads in advance of their IP recurrent training and then went over it with each class. We put together a powerpoint that included pertinent information about the “why” are we changing, “how” are we changing (the draft) and perhaps a timeline. We had the original small group tryout instructors do a couple demo's on video of four different scenarios: a low relevant threat, high familiarity, high proficiency departure; a high threat, low familiarity and/or low proficiency departure; and the same for arrivals. Get feedback and incorporate improvements. To add a bit of humor we finished with this video to inspire them to lead the line in this change: <https://www.youtube.com/watch?v=fW8amMCVAJQ>

**4. Begin communicating to the line pilots that the change is coming.** Start out with a simple memo from someone important explaining **the why**. Tell the story. (See the “Why This, Why Now” point paper). If a timeline is drafted, give them an idea of what to expect and when. Air New Zealand was about as far ahead of us as we are of you and their lesson learned was that they totally under-estimated the how the line would respond to the change. If they could do it over again, they would've have over-communicated and over-prepared and over-trained. So we tried to do that and I think we succeeded.

**5. Develop a training package (ppt., video demos, etc...) for the line pilots.** This is a sizeable project but you will have already done something similar for the Instructors, so you build on that. We wanted to roll out the change Q1/ January 1<sup>st</sup> so we pushed the training module in Q4 prior and paid the pilots to take the extra training package per the contract. That was well received as the change is big enough that it warrants it. Hugely important that the training package reemphasizes the why. Line pilots appreciate the professional courtesy of explaining why you are doing this. We also collected a set of FAQs to help with some of the potential and already common questions that typically got asked throughout the IP validation.

**6. The rollout:** This presents some challenges if it involves new flight deck items such as QRC checklists as was the case for us. So, the week prior our tech pubs worked with the bases to preposition packets that would be placed in the flight decks the late evening of 12/31 and/or early morning of 1/1. We even had IPs prepositioned at domiciles to stop by departing flights, say hi and ask if there are any questions.

Note unique to Alaska: The briefing change was coupled with some long overdue normal checklist changes so it warranted this level of attention. If you are just rolling out the new briefings you might be able to forego this piece.

**7. The Follow-Up.** We started immediately having our IPs complete a survey after each LOFT, LOE and Line Check to get feedback on how the crews were adapting to the change.

**8. Survey.** After several months, we pushed survey to the pilot web page asking pilots to give feedback on the quality of communication and preparation, the quality of the training package and overall impression.

**9. Data.** Ask your ASAP group, FOQA group, and other folks monitoring data to alert your team of any significant events that may be a result of inadequate briefing and preparation.

Here are some examples of the Departure Setup and Brief and Arrival Setup and Brief as well as a Quick Reference tool....

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## DEPARTURE SETUP

**ATC Clearance (as required) ..... Requested and Copied**

For PDC-supported airports, the clearance is obtained during the ACARS/FMC Preflight Procedure. For those airports not equipped with PDC, both pilots must be on frequency to verify the clearance is properly understood and recorded.

**FMC Route..... Verified**

Both pilots must compare the flight plan and actual clearance to the FMC-programmed route (RTE page) to verify it is correct. If LNAV or VNAV is used for the departure, both pilots must crosscheck the FMC LEGS page waypoint names, speeds, altitudes and sequences against the appropriate chart.

This requirement is normally satisfied by both pilots independently accomplishing the verification. Alternatively as needed (i.e., departure change during taxi), one pilot may read from the source material while the other pilot verifies it in the FMC.

**Courses..... Set**

As desired, set the MCP course window as appropriate for the departure or emergency return. There is no need for the PF and the PM to have the same course set.

**Flight Directors ..... Set**

Normally both on. Ensure PF is master.

**Heading Bugs..... Set**

Set to runway heading or departure heading for turns immediately after takeoff, as desired. Verify correct bank angle set (normally 25°).

**Altitude..... Set**

Set to first assigned altitude or lower restriction from SID/Departure Procedure.

**EFIS Control Panel ..... Set**

**(NG):**

MINIMUMS Reference Selector – Set

    Select BARO and set to Engine Failure Acceleration Height (EFAH).

FLIGHT PATH VECTOR Switch – As Desired

METERS Switch – Not Pushed

BAROMETRIC Reference Selector – Set

    Select barometric altitude reference. Set local altimeter setting.

VOR/ADF Switches – As Desired

ND Mode Selector – As Desired (typically MAP)

CENTER Switch – As Desired (typically set to expanded display or VSD)

Range Selector – As Desired (typically set to minimum value that displays first nav waypoint)

Traffic Switch – Selected

**Normals**

**Before Start**

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- MAP Display Switches – As Desired
    - Select individual display options as desired. Select terrain display for both pilots. Verify TERR annunciates on display. Adjust display brightness as required. If weather will be required, select WXR prior to takeoff.
  - (400):**
    - EHSI Range Selector – As Desired (typically set to minimum value that displays first nav waypoint)
    - EHSI Mode Selector – As Desired (typically MAP)
    - MAP Switches – As Desired
    - DH Reference Indicator – Set to zero or lower
    - WXR Switch – ON
    - TERR Switch – ON
      - Select terrain display for both pilots. Verify TERR lights and TERRAIN ON lights illuminate. Adjust display brightness as required. If weather will be required, select WXR prior to takeoff.
      - Set appropriate scale and display mode (i.e., MAP)
  - (400) Altimeter..... Set**
    - Set local altimeter setting.
    - Set Baro Bug to Engine Failure Acceleration Height (EFAH).
  - (Captain) Standby Altimeter ..... Set**
    - Set local altimeter setting.
  - (Captain) HGS..... Checked, Set/Stowed**
    - RUNWAY DATA – Enter
      - Enter runway data, as desired.
      - If performing a Low-Vis Takeoff, enter runway data per the HGS Takeoff Briefing Card.
    - COMBINER – Set/Stowed
      - Lower combiner to flight position. Set HGS brightness control to AUTO or desired manual setting. Check for absence of “ALIGN HUD” message in VMC or IMC mode. CLR may be selected to blank display during taxi. Depress CLR again to restore display. If HGS will not be used, verify combiner is stowed with protective cover in place.
      - NOTE:** If available, HGS use on the 737-800/900 is mandatory for all takeoffs, approaches and landing for tailstrike warnings.
      - NOTE: (NG)** There is a Breakaway Reset lever that is used to release the combiner from the breakaway position. See the NG Systems Handbook, Chapter 10, for more information.

**Normals**

**Before Start**

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**Comm Radios ..... Set**

Set for departure. Typically, #1 radio is set on ramp or ground frequency as appropriate and #2 is set on company/ops frequency with guard frequency set in standby.

**Nav Radios (ADF / VOR / ILS) ..... Set**

**ADF / VOR Selector Switches..... Set**

**Transponder ..... Set**

Set the transponder code from the ATC clearance.

For flights into RVSM airspace (altitudes at or above FL290), select the transponder ALT SOURCE that corresponds to the primary altimeter referenced by the autopilot for flight (e.g., 1 for autopilot A, 2 for autopilot B).

**Takeoff Performance..... Verify**

Both pilots must verify takeoff data obtained from a Performance Report, AOC Datalink, or a manual ACARS data request. This verification has two steps. The first step is to verify the source material is valid. The second step is to compare the source material (i.e., the printed Performance Report, a printed copy of the ACARS data, or ACARS data CDU display) to the FMC.

Verify the takeoff data source material is valid by checking the following parameters:

- Aircraft number
- Airport
- Weather conditions
  - OAT – actual OAT not greater than planned OAT (POAT) or more than 5° cooler
  - Altimeter – if planned altimeter is below 29.70, actual altimeter setting must not be an lower than planned
  - Winds – min headwind or max tailwind must not be exceeded, no unplanned tailwind
- Runway conditions – not worse than planned

Verify the following FMC entries match the source material and note the required aircraft configuration:

- TAKEOFF REF page entries (flap setting, runway/modifier, thrust setting, V-speeds, SEL/OAT)
- Engine bleed and anti-ice configuration

This requirement may be satisfied in one of two ways:

1. Both pilots independently accomplish the verification.
2. One pilot reads from the source material while the other pilot verifies it.

**iPad Setup ..... Complete**

Select JeppFD-Pro departure charts, 10-7s, EO SIDS, as appropriate/desired.

**Normals**

**Before Start**

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## DEPARTURE BRIEFING – “TPC”

After the Departure Setup and prior to the Before Start Checklist, the PF initiates the Departure Briefing. The Departure Briefing should be interactive, concise and focused on the big picture. Pilots jointly identify any relevant threats, followed by the PF presenting the departure plan and any other considerations. Management strategies for the relevant threats identified are discussed as the threats are identified or during the rest of the briefing.

### **T – Threats (PM & PF)**

- PM identifies any relevant threats
  - Refer to threat list on the Normal Checklist Reference Card, if desired, and any airport-specific threats identified in the 10-7, when appropriate
- PF briefs any additional threats as needed

### **P – Plan (PF)**

- Brief the plan; focus on the relevant items of the following:
  - Taxi/Departure Runway
  - Route (PF will read the clearance/flight planned route while the PM crosschecks the FMC RTE page. Review any relevant SID altitude and/or airspeed constraints).
  - Return (emergency return, divert-T/O alternate, engine failure plan)
  - Takeoff data valid
  - Any performance/aircraft configuration considerations

### **C – Considerations (PF)**

- Any specific PM duties/responsibilities based on threats/plan
- Any other issues/considerations
- Recap critical threat/plan items as needed/desired

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## DESCENT / HOLDING

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### DESCENT – INTRODUCTION

The following should be accomplished prior to Top of Descent:

- Review available airfield information, including the latest ATIS
  - **(NG)** If destination altimeter is known, pilots should set it at this time. Turn the SET knob to set the altimeter. The altimeter will remain in STD (29.92) with the preselected destination altimeter shown in white below STD. If desired, the display can be decluttered by pressing STD twice.
- Make a PA approximately 200 nm from destination or 80 nm from Top of Descent to satisfy company policy requiring a 10-15 minute passenger warning prior to turning on the Seat Belt sign (See FOM guidance)
- Downlink the ACARS IN RANGE report or call the arrival station operations via radio
- Accomplish the Approach Setup
- Conduct the Approach Briefing
- Call for the Descent Check
- Read and complete the checklist

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### APPROACH SETUP

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Both pilots independently verify the following are set appropriately for the arrival:

**FMC Route..... Verified**

If LNAV or VNAV is used for the arrival/approach, both pilots crosscheck the FMC waypoint names, speeds, altitudes and sequences against the appropriate chart.

This requirement is normally satisfied by both pilots independently accomplishing the verification. Alternatively as needed (i.e., approach change during arrival, emergency return, etc.), one pilot may read from the source material while the other pilot verifies it in the FMC.

**Courses..... Set**

As desired, set the MCP course window as appropriate for the approach.

**EFIS Control Panel ..... Set**

MINIMUMS Reference Selector – If planning instrument approach, set DA/DDA/RA and MINS Ref Selector (BARO/RADIO) as appropriate for the approach.

**(Captain) HGS..... SET / Stowed**

Verify HGS in correct flight position. If combiner was previously stowed, check for absence of "ALIGN HUD" message in VMC or IMC mode.

MODE – PRIMARY or IMC

RUNWAY DATA – TDZE or Field Elevation and runway length

**Normals**

**Descent / Holding**

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Enter TDZE (if available) or field elevation, and Runway Useable Length Beyond Threshold.

**NOTE:** If available, HGS use on the 737-800/900 is mandatory for all takeoffs, approaches and landing for tailstrike warnings.

**NOTE: (400)** Allowable range is 7500 to 13,500 ft; for longer runways, set 13,500 ft. **(NG)** Allowable range is 5000 to 18,000 ft.

GLIDE SLOPE ANGLE – Set

BRIGHTNESS – Set

For night landings set combiner brightness high enough to ensure that the symbology will be visible over bright touchdown zone lights.

**Nav Radios (ADF / VOR / ILS) ..... Set**

**ADF / VOR Selector Switches ..... Set**

**(PF) Landing Performance Assessment ..... Accomplish**

**RADAR/TERRAIN DISPLAY ..... Set**

If weather radar is required, one or both pilots should select WXR unless terrain is a factor. If terrain is a factor on the arrival, at least one pilot must have terrain displayed.

**(PF) FMC Approach REF ..... Select**

Select landing FLAPS and  $V_{REF}$ . Input needed wind correction for target speed.

**iPad Setup ..... Complete**

Select JeppFD-Pro arrival/approach charts, 10-7s, as appropriate/desired.

**Normals**

**Descent / Holding**

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## **APPROACH BRIEFING – “TPC”**

After the Approach Setup and prior to the Descent Checklist, the PF initiates the Approach Briefing.

The Approach Briefing should be interactive, concise and focused on the big picture. Pilots jointly identify any relevant threats, followed by the PF presenting the arrival plan and any other considerations. Management strategies for the relevant threats identified are discussed as the threats are identified or during the rest of the briefing.

### **T – Threats (PM & PF)**

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- PF briefs any additional threats as needed

### **P – Plan (PF)**

- Brief the plan; focus on the relevant items of the following:
  - Route: STAR (as applicable), Approach, Approach Mode, Missed Approach
    - Review any relevant altitude and/or airspeed constraints and approach minimums
    - Fuel/route to alternate, as applicable
  - Runway/Landing Assessment/LTP/Exit/Taxi
  - Autobrakes
  - Approach flap setting with associated  $V_{REF}$  and target speed

### **C – Considerations (PF)**

- Any specific PM duties/responsibilities based on threats/plan
- Any other issues/considerations
- Recap critical threat/plan items as needed/desired

**Normals**

**Descent / Holding**

**▲ DEPARTURE BRIEFING**

Threats (PM, PF)

Plan

- Taxi, Dept Rwy
- Route (Clearance/Flight Plan – FMC RTE crosscheck)
- Return (emerg, T/O alt)
- T/O perf valid, perf/config issues

Considerations

- Any specific PM duties, other considerations
- Recap as needed

**▲ APPROACH BRIEFING**

Threats (PM, PF)

Plan

- Route (STAR, Approach, Approach Mode, M/A, Alt fuel-route)
- Lnd Rwy, Assessment, LTP, Exit, Taxi
- Autobrakes
- Flaps, VREF, Target Speed

Considerations

- Any specific PM duties, other considerations
- Recap as needed

**DEBRIEF**

To improve performance:

1. How do you think that went?  
**Note:** Debrief both excellent performance and areas to improve.
2. If we could do it again, what would we do differently?
3. Are there any reports to complete/submit?

**WHAT ARE OUR THREATS?**

<b>Airport/Runway</b>	<b>ATC</b>	<b>Aircraft</b>
Contamination	Cinc/Re-Routes	Systems
Construction	Arr/Dep amendts	MELs
Hotspots	R/W Changes	Automation
<b>Adverse WX</b>	<b>Airline/Ops/Dispatch</b>	Performance
Visibility	Sched Pressure	<b>Ground/Ramp/MX</b>
Deicing	Delays	Handling
Winds	Paperwork	Congestion
Precipitation	<b>Physiology</b>	Logbook
<b>Environment</b>	Fatigue onset	<b>Cabin</b>
Terrain	Stress	Passengers
Night	Hydration	Interruptions
Traffic	Nutrition	

**CHANGE TO THE PLAN?**

**See it? Say it!**