

EAAP April 2014 Issue 9

Ethiad Altitude Survey Results Part 1

الإتجاه
ETIHAD
AIRWAYS
FLIGHT OPERATIONS





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Introduction

A warm welcome to edition 9 of the EAAP (Etihad Altitude Awareness Program). As mentioned in previous editions, our main function in producing this digest is to monitor the trends associated with altitude deviations/level busts within Etihad Airways and to pro-actively remedy the causes and reasons behind such incidents. In disseminating this publication we hope to make the process an inclusive one, whereby you, the pilots, are actively contributing to the success of the program. We hope to continue doing this by continuing to produce these digests every 3 months and bringing the Etihad pilot community relevant and useful information that may be used to decrease the amount of altitude deviation occurrences that we currently experience.

In this edition, we discuss the results of the EAAP survey carried out amongst Etihad pilots in December last year. To make the results more digestible we have divided the results into two halves. In this issue we analyze and discuss the answers to questions 1-11; question 12-22 will be dealt with in the next edition of the EAAP digest. Once again a very big thank you to all that completed the EAAP survey; Hopefully you will find the results interesting and informative.

The statistical data contained within these documents is primarily derived from our own Flight Safety department and as such, is only as good as the information that is reported by you, the pilots. Again, we actively encourage you to report any altitude deviation, however insignificant it may seem at the time. Minor errors that have resulted from dynamic threats that we experience every day may be caught in good time to prevent an altitude deviation however the underlying reasons behind the initial error are of interest to us all. We employ a 'Just Culture' within the airline and this enables all pilots to report these occurrences without fear of retribution. All reports are de-identified when they are received by Flight Safety so only the Flight Safety department are fully aware of who files any report related to any altitude deviations and of course any other flight safety events.

Please continue to actively report all deviations. Your participation in this process is integral to the overall success of reducing the occurrences that we experience.

Any procedures mentioned in this document are purely for information purposes only. Pilots should review their own aircraft type specific procedures for complete and proper guidance and not use this document in any way as a source document for Etihad aircraft operations.

Review

This edition of the EAAP is the 9th in the series. The previous 8 EAAP digests have covered a broad range of topics that have proven to be instrumental as contributory causes to altitude deviations within Etihad Airways. These previous editions continue to be available for review by all pilots and can be found on your Skybooks under the Flight Safety tab.

- Issue 1 – Pilot/Controller Communication
- Issue 2 – Maintaining RTF standards
- Issue 3 – TCAS
- Issue 4 – Sterile Cockpits
- Issue 5 – Weather/Turbulence induced altitude deviations
- Issue 6 – Aircraft Energy Management
- Issue 7 – A Pilot's Tale
- Issue 8 – The Go Around

We strongly encourage all pilots to review these publications on a regular basis so that they can maintain a high level of awareness with regard to these associated threats. It is the responsibility of all pilots to stay up to date with the information contained within these publications. We have a common goal to manage our safety levels effectively and by reducing the number of altitude deviation occurrences; we can assist in achieving that goal.

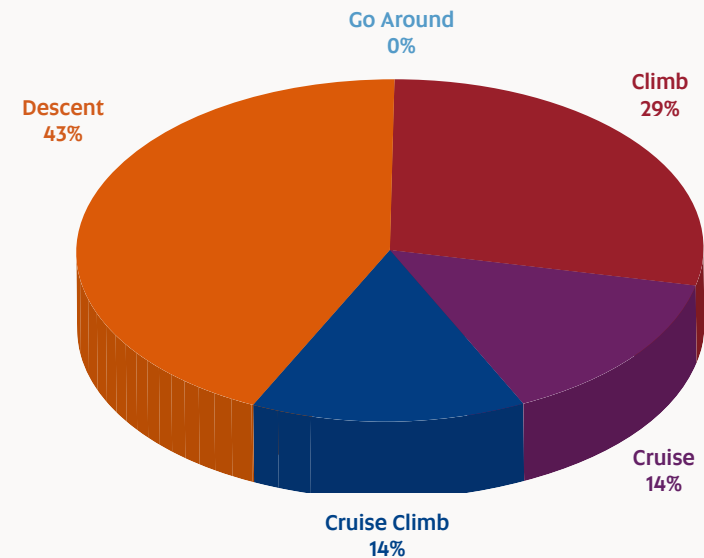
We also ask all pilots to offer their own feedback to this publication. Should you feel that an item of discussion is worthy of inclusion into the digest, please email EAAP@etihad.ae.

Latest Statistics (January 2014 - March 2014)

Drawing on the data that has been collected between the beginning of January 2014 and the end of March 2014 the company has experienced a total of 8 altitude deviations. On a pro-rata basis this is a large decrease in events per month compared to the period of the November – December 2013.

The chart below shows us the breakdown of which phase of flight the deviations occurred.

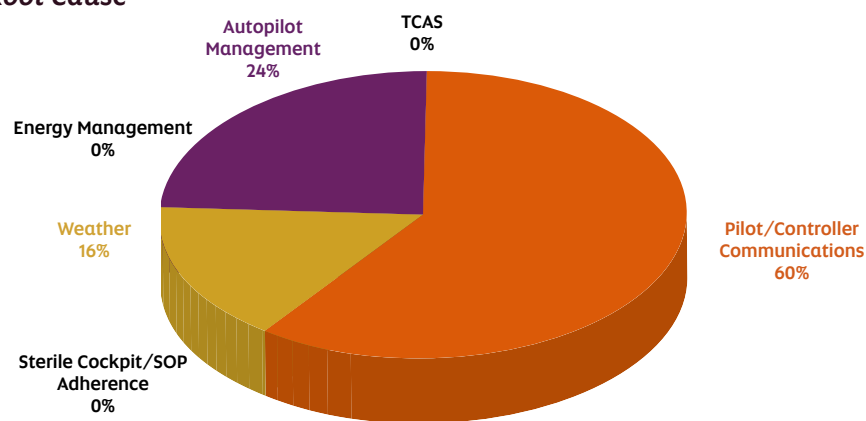
Phase of flight



Causes

The data presented to us for this quarter shows an increase in Pilot/Controller Communications events. Compared to the last period of data Pilot/Controller Communication issues have increased from 41% to 60% of Altitude deviations. This topic was discussed at length in Issue 1 of the EAAP back in August 2011. For those pilots who have joined us in the last 2 years we recommend you review the article in Issue 1. The information contained within it is just as relevant today as it was then. Pilots are reminded of the need to remain vigilant with their RT standards. Again, we ask you to file reports on cases where you may hear multiple radio call signs that have the same flight number. You may recall that EAAP digest No2 was directed at Communication error and how we can better maintain high RTF standards. Altitude deviations attributed to Weather have reduced slightly but this may be due to seasonal factors.

Root Cause



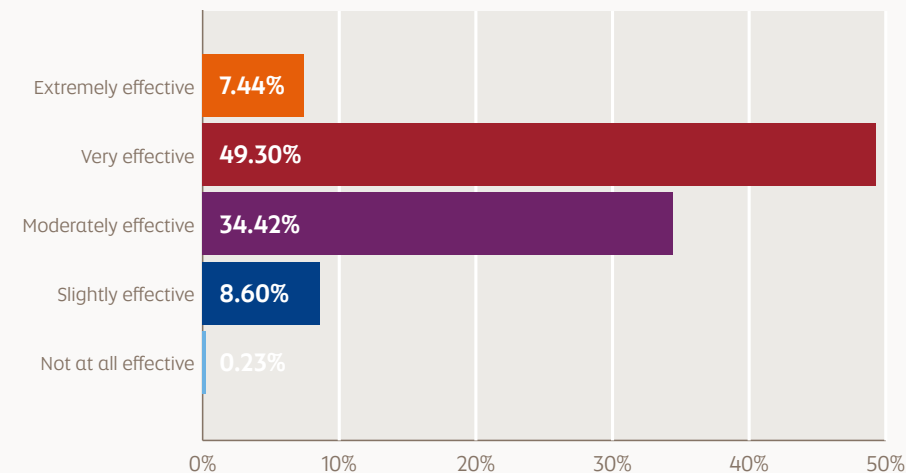
Pilots are encouraged to refresh themselves with the content of the 'All Clear EY Phraseology' guide that can be found on the Skybook under:

- TRAINING > Supplementary Training > RTF Training Guide.

You are encouraged to file reports on cases where by multiple radio call signs of a similar nature exist on the same frequency at the same time. Unless you advise the company of these situations, we are unable to tackle the problem.

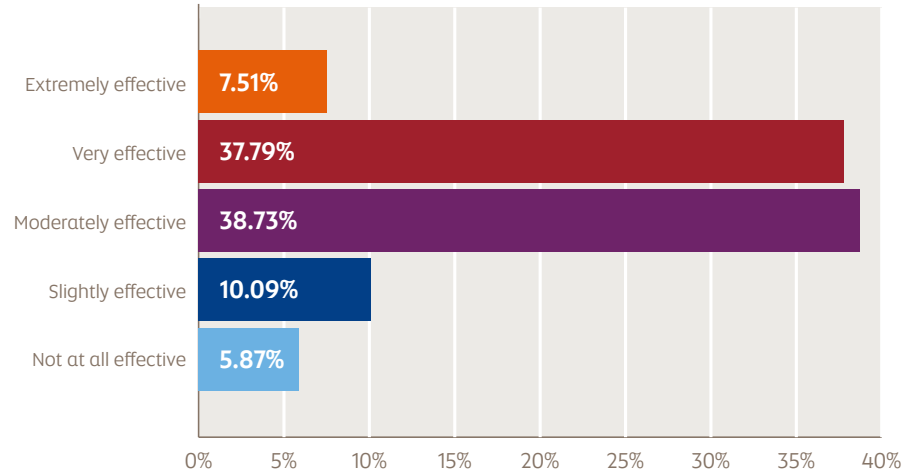
EAAP Survey Results and Analysis – Questions 1-11

1. How effective is Etihad's Altitude Awareness Programme (EAAP)?



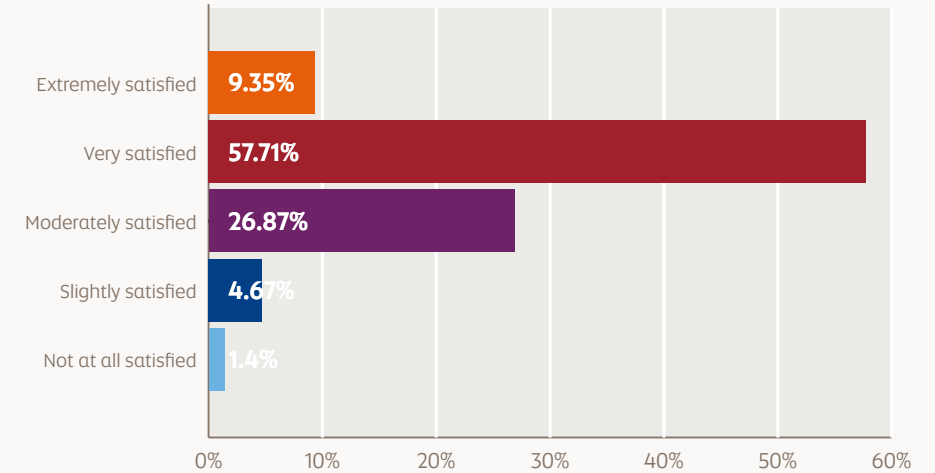
Q1. It is encouraging to see from the responses to this question that over 90% of those responding thought that Etihad's Altitude Awareness Programme was moderately effective or better with half of the response grading the programme as very effective. The majority of modern airlines across the globe now have Altitude Awareness Programmes as part of their Flight Safety culture and Etihad Airways is no exception. Through open and honest reporting, Etihad collects relevant data concerning altitude deviations and strives to identify and monitor trends in areas where improvements can be made. It may be that simply raising the awareness to operating crews on a particular route or arriving at a particular destination is enough to trap and mitigate against any potential errors.

2. How effective was the Altitude Deviation training you received from Etihad during your OPC/CCQ/STC?



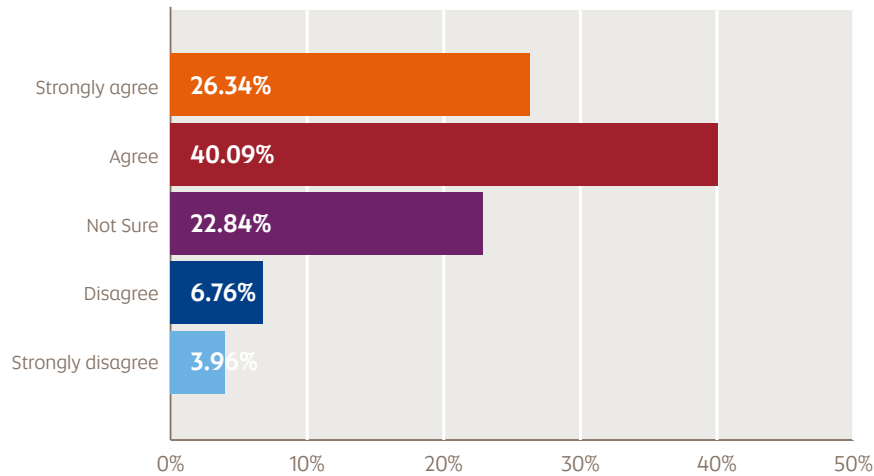
Q2. Almost 85% of the responses to this question rated the Altitude Deviation Training they received from Etihad as moderately effective or better, with over 45% of the responses rating the training as very effective to extremely effective.

3. How satisfied are you with the reporting process of Altitude deviation?



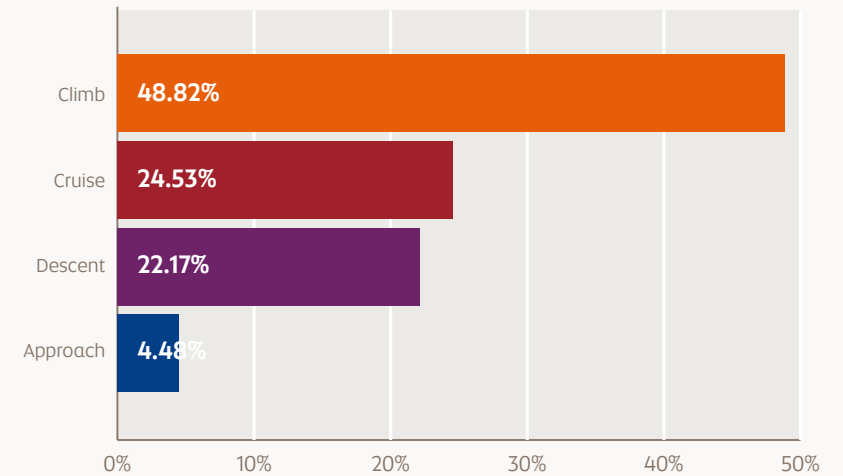
Q3. Almost 95% of the responses to this question were moderately satisfied or better, a very positive result. Of note, however, is that a small proportion of the responses were only slightly satisfied or not at all satisfied. As a reminder to all, we employ a 'Just Culture' within the airline and this enables all pilots to report any occurrences without fear of retribution. All reports are de-identified when they are received by Flight Safety so only the Flight Safety department are fully aware of who files any report related to any altitude deviations and of course any other flight safety events. Please continue to actively report all deviations. Your participation in this process is integral to the overall success of reducing the occurrences that we experience. Constructive feedback is actively encouraged at all levels in the company, without it we cannot improve and continue to move safely forward to be the best airline in the world.

4. When it comes to open and honest reporting, Etihad is committed to a non-punitive policy.



Q4. This is a subtly different question to number 3, however the response are very similar with over two thirds of the responses either agreeing or strongly agreeing that Etihad is committed to a non-punitive policy when it comes to open and honest reporting. Of concern is that one third of the responses were not sure or disagreed or strongly disagreed. Again it must be stressed that Etihad is committed to a non punitive policy with regard to open and honest reporting. This policy is pivotal to the airline’s flight safety culture and your participation in this process is integral to the overall success of reducing the occurrences that we experience.

5. Statistically, during which phase of flight are Deviation Altitudes more likely to occur?



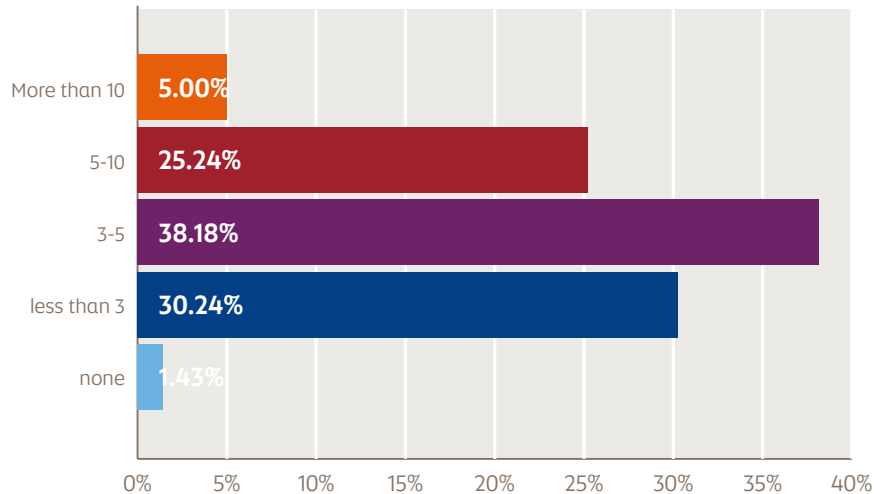
Q5. The figures below are to be found in the Airbus Safety Library – Flight Operations Briefing Notes – Supplementary Techniques – Preventing Altitude Deviations/Level Busts.

The distribution of level bust events by flight phase is provided below (source - British Airways, Eurocontrol and IATA STEADES – rounded figures) :

- Climb : 60 % - mostly caused by late altitude clearances;
- Cruise : 10 % - mostly caused by turbulence / windshear or autopilot operation;
- Descent : 30 %.

It is encouraging that almost half the responses indicated the climb phase in keeping with the statistics above. Whilst almost half of the responses plumped for the cruise or descent phase as most likely, in reality it appears that only 10% of events occur in the cruise and 30% occur in the descent, presumably including the approach phase. Irrespective of the statistics, it is clear that an altitude deviation may occur during any phase of flight and crews must maintain vigilance and employ their well-honed CRM skills when faced with changing altitude in the climb, cruise or descent.

6. On average, how many Altitude Deviations occur in Etihad Airways per month?

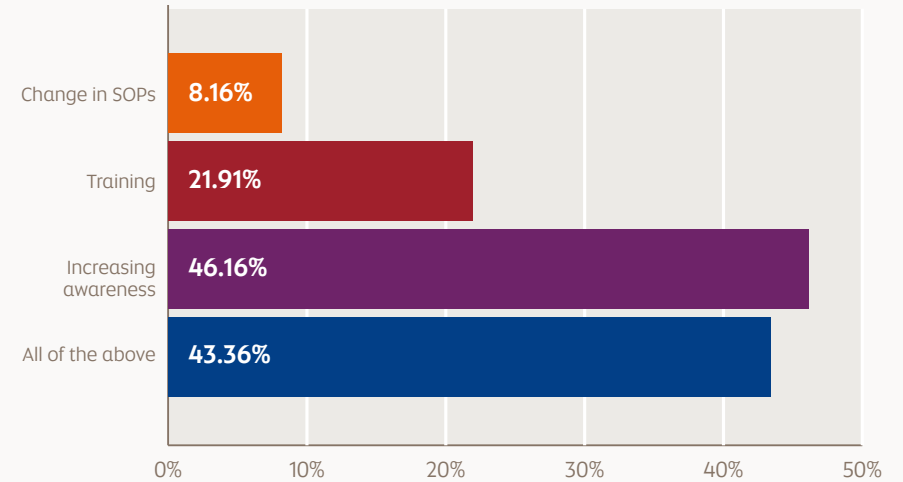


Q6. Statistically Etihad suffers from between 3-5 altitude deviations per month. One of the aims of the EAAP is to analyse these deviations, look for trends and recommend actions or changes to SOPs that may help prevent these events from reoccurring in the future.

Although impossible to eradicate entirely the EAAP aims to raise awareness amongst crews of events that have occurred in the hope that these threats to our normal line operations can be :

'detected, corrected or mitigated, before they can become cumulative, or lead to consequential errors' – CRM Training Manual .

7. What do you think is the most effective way of reducing Altitude Deviations within Etihad?



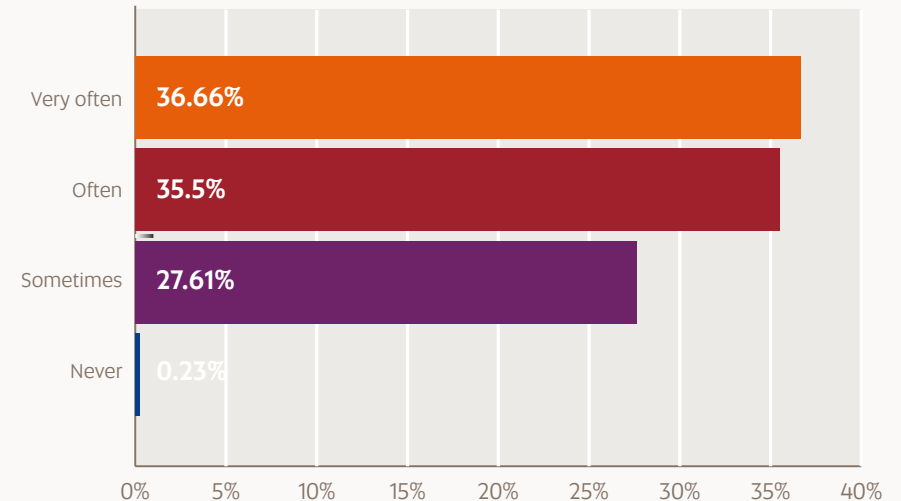
Q7. This positively identifies that the EAAP is an effective way in reducing the number of altitude deviations. The goal of the EAAP is to enhance the 'Sterile Cockpit' policy and raise awareness of our altitude status. Interestingly, greater cross-departmental co-operation may be the most effective way overall. Additionally, it is worth noting that any changes to SOPs is not taken lightly and involves a great deal of research, coordination and planning to ensure any change enhances the safety of our operation. Any deviation from an assigned ATC flight level or altitude poses a serious aviation hazard with an attendant risk of mid-air collision, CFIT, or jet-upset. To reduce the increasing trend of altitude deviations at Etihad we all need to play our part. By publishing the EAAP in co-operation with flight safety we aim to increase your awareness by bringing you the latest statistics and practices to tackle altitude deviations.

8. What changes, if any, would you make to Etihad SOPs to help reduce Altitude Deviations?

Question 8 was an open question inviting comments and suggestions with regard to changing SOPs to help reduce Altitude Deviations. These responses are being considered by Operations and the Training Department.

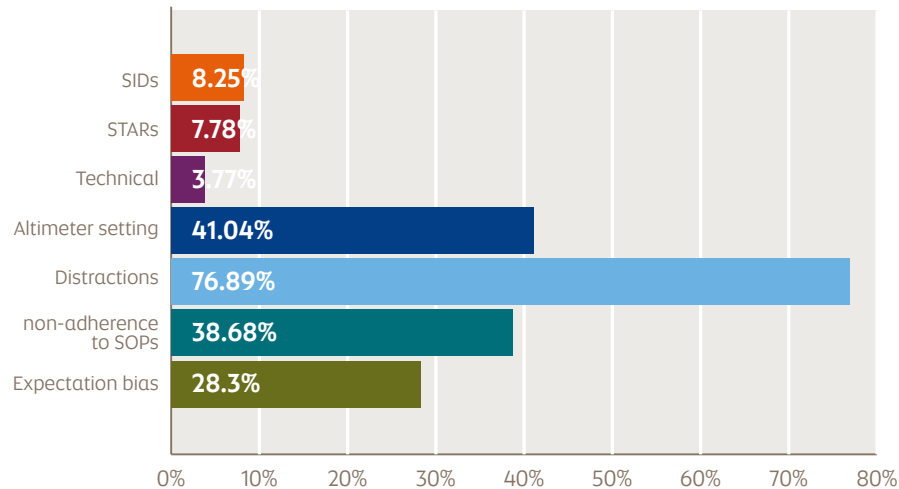


9. How often do you receive multiple clearance (more than 2 instructions) from ATC?



Q9. Over two thirds of responses indicate that multiple clearances from ATC appear to be received the majority of the time. This is certainly of concern as it puts crews at a much higher risk of confusing a clearance which could lead to a more serious consequential error such as an air-prox. Non standard RT or omission of key words may completely change the meaning of the intended message resulting in potential altitude deviations. The guidelines in the ‘EY All Clear Phraseology’ contribute to reducing risk. As highlighted in previous EAAP editions, when in doubt about a clearance always seek clarification. Always provide feedback to Flight Safety or Flight Operations via an ASR to help tackle the problem and raise awareness for all crews. The EAAP working group are currently exploring the possibility of regular meetings with local ATC management in an attempt to tackle this threat.

10. In your experience, which of the following elements pose a significant contribution to Altitude Deviations within Etihad operations?

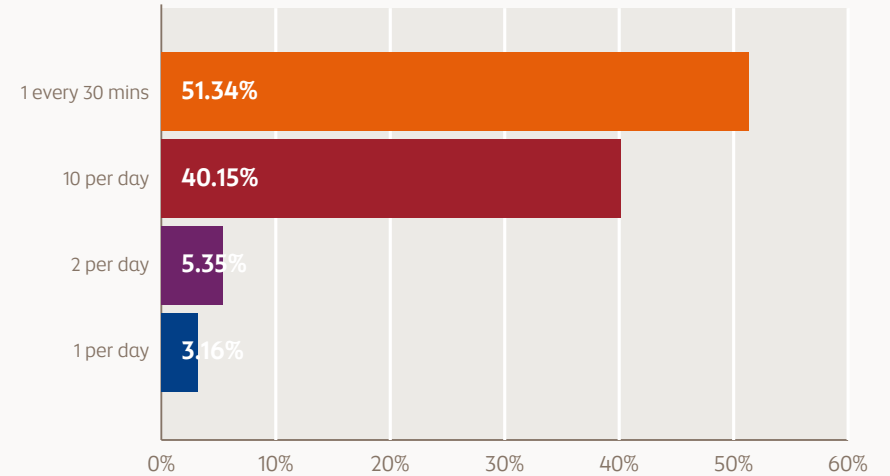


Q10. It is encouraging to see that departures, arrivals and technical issues are not considered to be significant issues. However, it is a concern that over 75% identified ‘distractions’ as contributing to level busts as well as a large percentage identifying non-adherence to Etihad SOPs and Expectation Bias.

Etihad has implemented a very useful strategy in reducing the number of distractions that we are exposed to. By following the ‘Sterile Cockpit’ policy we place ourselves in a much safer environment to guard against altitude deviations. Furthermore, Etihad goes to great lengths to ensure that we have the most effective SOPs in place to reduce the risk of altitude deviations. Your co-operation and professionalism in this regard is of the utmost importance. The reference below is well worth reading and is an excellent reference for crew when dealing with distractions:

Airbus Safety Library – Flight Operations Briefing Notes – Human Performance ‘Managing Interruptions and Distractions’.

11. Worldwide, how many Altitude Deviations occur per day?



Q11. It is reassuring to see that the vast majority are aware of the escalating problem of altitude deviations worldwide. With aviation growing so rapidly throughout the world, the airspace in which we operate is becoming extremely challenging. This safety problem is even more evident in our home base of Abu Dhabi, where the airspace in which we are allowed to operate is becoming busier with every passing day. With most of the carriers in the Gulf area expanding rapidly the airspace is under a great deal of pressure. This volume of traffic combined with limited airspace is a precursor for altitude deviations. Strictly following the ‘Sterile Cockpit’ policy and SOPs are proven measures in safeguarding against altitude deviations. R/T discipline and challenging confusing or vague ATC clearances should now be part of our everyday armoury in the battle against this growing threat.



Events

- ▶ Due light - mod turbulence we descended from FL380 to FL320. A/C still not able to maintain speed and alt in autopilot and we had some momentary altitude excursions of more than 200FT + and -.ATC was advised.
- ▶ Climbing to FL210 on course to KANIP as cleared by UAE approaching KANIP, frequency change to Muscat 124.7, initially no contact level off at FL210 then contact with Muscat reading 2 by 5 while suppressing squelch understood clearance to climb FL350 direct to LABRI FL350 selected on MCP and climb resumed in VNAV PM seeked confirmation of clearance to climb FL350 now or after LABRI and request FL330 for cruise as there was a doubt about the clearance, autopilot was disconnected to initiate level off and descent back to FL210 - max FL was 217 - no traffic in the vicinity Muscat confirmed clearance to climb after LABRI but as PM replied we were already at FL215, Muscat cleared us to continue climb to FL330 with no restriction.
- ▶ In cruise at FL390, approaching PURPA, speed began increasing rapidly towards MMO. Speed selected to a level value to prevent o/speed. As speed was reducing, the A/C alt began to increase with A/P engaged. As the A/P seemed unable to counteract the climb, V/S was selected to return to the cleared alt, FL 390. However the altitude deviation warning sounded as the A/C attained plus 250' deviation momentarily.
- ▶ Due to passing traffic beneath us at base leg the ATC kept us high on profile. Established from above but the speed deceleration and gs capture were not possible. Missed approach performed at +600ft. -Second approach normal no event.
- ▶ We were instructed by ATC to hold over position GURAS at 13500'. As we are turning left towards outbound leg, we encounter turbulence and the AP disconnect. Manual flying resumed immediately however aircraft climb to approximately 13800' before returning back to cleared altitude of 13500' manually. AP re-engaged and functions normally.

- ▶ During descent we received instruction to descend 10,000' on QNH 1018 after passing SODEX. 16,000 were preset on the MCP. At 16,500 PF by mistake set 13,000, the error was recognized immediately and push to level off pushbutton was used, resulting on V/0. The aircraft level off but undershoot FL160 by 150' leveling off at 15850 2NM before SODEX. After SODEX we continued descending at 10,000'. The Flight continued without any other events.
- ▶ IN stepped descent F/O PF radar cleared to descent to FL 10100 mPM read back cleared and read equivalent FL (FT) from chart China H/L 1,2 as FL 33100 PF x-checked and says he saw 31100 on the chart. 31100 set in alt window PM was then distracted and missed seeing the wrong "alt" set. On descent passing 33100 radar queried assigned altitude and as we passed around FL 32500 ATC re-cleared us to FL 31100 (9500 m) and handed the flight over to the next ACC Flight continued with no further events.
- ▶ During descent into Abu Dhabi we were given clearance to descend to 13000 ft. After crossing BOPIT, F/O selected 10,000 on the FCU after crossing BOPIT, which I did not cross check. Passing through 12,300 FT, radar controller called to know the altitude. I announced 12,300 FT and immediately took corrective actions,climbed to 13,000 FT and informed the controller. I also apologized for the mistake committed by us.



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