CONVERSATION AVIATION

#02 2023

STARTING POSITIVE CONVERSATIONS ABOUT SAFETY

EASA
European Union Aviation Safety Agency

together 4safety

#02
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Contributors

Collaborative Partners

Conversation Aviation is a collaborative safety promotion initiative that involves organisations from across Europe and beyond.

We would like to thank all of those airports, airlines, manufacturers and other organisations who worked with us to develop the material.

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Image credits

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Foreword by Patrick Ky

EASA Executive Director

Welcome to this 2nd Edition of Conversation Aviation. My team has been overwhelmed by the support received for the first issue. We hope Conversation Aviation will become a go-to safety resource for the whole commercial fixed-wing community.

As I approach the end of my 10-year term as the Executive Director of EASA, I would like to take this opportunity to reflect a little on some of the significant challenges that our aviation domain has faced during my time and look ahead to the immediate challenges this summer. 7

Throughout my time at the Agency the safety of our passengers has been the primary driver for everything we do. In the early part of my tenure as Executive Director, I spoke to families of the victims of the Germanwings accident that occurred in 2015. Following the investigation into this tragic event, the Agency established a task force that led to a number of changes to the aviation system; most notably, the regulation that introduced pilot peer support programmes and other support for the mental health and well-being of aviation professionals.

In 2019, the grounding of the Boeing 737 Max following the accidents in Indonesia and Ethiopia also led to many improvements in the aviation system. EASA continues to identify improvements, particularly to the reporting of human factors events from the front-line workforce.

While such events have shown how the aviation system can respond swiftly and reactively following major occurrences, at the heart of my time at EASA has been the drive to establish a more data-driven, risk-based decision-making process. We have introduced new Regulations on occurrence reporting and just culture, while establishing the Data4Safety programme to harness the power of big data to identify safety challenges as early as possible. Additionally, the changes to the EASA Advisory Bodies and Collaborative Groups have helped the whole European aviation industry work together more effectively to identify the top safety issues and drive the action priorities for the European Plan for Aviation Safety (EPAS).

In 2020, the COVID pandemic brought perhaps the biggest challenge in the history of our industry; the skies had not been as quiet for decades. I am proud of the way EASA and all the other stakeholders worked together to deal with the situation and kept the industry moving as much as was possible.

With the summer approaching, the signs are that bookings are up and, finally, we should start to move ahead of the pre-COVID levels of traffic and capacity in many parts of the industry. Undoubtedly, this is great news, but it also brings challenges for us all. Whatever role we play in our industry, we need to come together as the organisations and individuals who make up the aviation system and rise to the challenge that our passengers have set for us. And we can only meet these challenges by learning, communicating and working together.

Above all else, we must rely on the rules that govern our system; despite the challenges we face, there can be no compromise on safety.

Those in leadership positions must always remember that they set the tone for the culture and mindset with which your organisation will approach this busy period. It is not feasible to push our people, their equipment and the wider system to the limit for the whole summer. We have a marathon to run between now and October and we cannot sprint for that long.

This edition of Conversation Aviation is focussed on the summer challenges and will link closely to: the summer SIB; the Safety Week that took place at the end of May; and the Safety Promotion materials produced collaboratively with our various stakeholders. I encourage you to make maximum use of all the material available. My teams will continue to work with you throughout the summer to monitor the operational situation and act to support when necessary.

Finally, may I wish you a healthy, prosperous and enjoyable summer 2023. ■

EASA Introduction

Summer is here, aircraft are filling up and the airports are crowded with passengers exciting to visit friends and family, carry out their business trips and explore new places. Together, as an industry, we make that happen. Since COVID, however (perhaps before that), as an industry, something is missing.

Our industry is something special. There aren't many workplaces that are as exciting as a maintenance hangar, an airport ramp, an air traffic control centre or a flight deck. People used to come to work, proud to be in this industry - amazed at what could be achieved by thousands of parts hurtling though the sky at high speed. Together we are all part of that. That missing feeling is our Mojo, and we need to get it back.

Maybe you have your own definition for that special feeling. The smell of aviation fuel in the morning. The joy of a team coming together to complete a flight in challenging circumstances. A tough component change under pressure in bad weather.

This summer, there are two goals.

1. The first is to ensure that we have the summer recovery we have been hoping for since the first days of lockdown, while making sure we never compromise on safety.
2. The second - and perhaps most important of all - is we want everyone to figure out what their Mojo is. Where it has gone. And then, to work together to get it back. So, be sure to share your photos of your teams finding their mojo with the #wefoundourmojo.

These two goals will run throughout this edition of the magazine and all the safety promotion work we will do over the summer. Come join us in the hunt for the missing mojo.

Welcome from the EASA Team

On behalf of the whole team at EASA and our different collaborative partners, we would like to welcome you to the 2nd Edition of Conversation Aviation - The Magazine. We would really like to thank you for all the positive comments and support we received for the first edition that we launched at the end of March.

Like everything in aviation, creating this magazine and the associated content is very much a learning process. The more we write, make videos, record podcasts and design posters the more we understand about what you find interesting and what you don't. We try to pack a lot of content in. Some of it will be useful and relevant for your organisation and your operation; some won't. Feel free to use what helps and ignore what doesn't. If there is anything you would like us to talk about, or you would like to collaborate with us, drop us an email to safetypromotion@easa.europa.eu .

Sometimes, you might disagree with what we have to say. Honestly, that's fine (and healthy), the world would be very boring if we all agreed continually. How would we learn, develop and grow if we always agreed? The main thing is that it made you think about different aspects of safety in your day-to-day operations, hopefully sparking some debate and conversation. Hopefully, it helped you to talk about safety with your colleagues - we ask no more than that.

Our Together4Safety mission

This leads nicely to what we try to achieve with Together4Safety, the safety promotion brand that EASA created back in 2019 as a way to work collaboratively with the whole industry to create material that wasn't just from EASA, but from a range of industry partners.

Our mission is to engage the whole industry in positive conversation about the most important safety issues we face today. We aim to create interesting and engaging content that is not only straight-talking, but also easy to use.

We have a small safety promotion team in the Agency (there 7 of us in the core team), and we cover all aspects of aviation, from commercial fixed-wing operations to rotorcraft, general aviation and even drones. Within the Agency, we work with subject matter experts from across all specialisms and activities. In our Safety Intelligence Department, we have accident investigators, safety analysts and cyber security experts. We also work closely with the rulemaking and standardisation team in Flight Standards and the engineers and experts in Certification. It really is a team effort and, most importantly, we learn about different facets of our industry.

Our work is also supported through collaboration across the industry. From associations like ACI, CANSO, EBAA (Business Aviation Association), ERA (Regional Airlines Association) and IATA to airlines, airports, ground handlers, ANSPs and other expert companies - thanks to everyone who helps make all this possible.

A reminder of the format and what you can do with the magazine

Now that you have the magazine in your hands (well, on your screen) again, it's worth perhaps reminding you about the format and how it works. Obviously, the main thing is this magazine itself, available as a digital PDF document.

We know how much effort it takes to make a safety magazine and that many organisations are trying to do the same thing, we, therefore, make the whole magazine freely available as an Adobe Source file. We encourage you to adapt the format to suit your organisation and part of the industry. Articles may be reprinted without permission, except where copyright source is indicated, but with acknowledgement to the organisation named as providing the source material.

The magazine, however, is just the start. We also publish the individual articles on our Air Ops Community Site. We make posts on LinkedIn, especially in our new LinkedIn Group "Safety Manager Club". Additionally, there are videos on our Together4Safety's YouTube Channel and Conversation Aviation podcasts on Spotify (...other podcasting services are also available...).

Lots of get excited about for the summer ahead...

The summer is approaching, and signs are that bookings are up and, finally, we should start to move ahead of the pre-COVID levels of traffic and capacity in many parts of the industry.

As Patrick offered in his opening remarks, this is great news, but not without its challenges. Whatever role you have, or whatever part you play in our industry, we need to come together as the organisations and individuals who make up the aviation system and rise to the challenge that our passengers have set for us. We can only do it by finding our mojo (individual and organisational), working together and being fully functional.

Above all else, we must rely on the rules, processes and procedures that govern our system and, despite the challenges we face, there can be no compromise on safety.

Ahead of the summer, ask yourself difficult questions to ensure that you are indeed "Ready, Resilient and Responsive" enough for the challenges ahead. Rules provide the baseline, thereafter, it is important to continually identify and manage risks in and to your operation. Then collaborate effectively with the organisations you rely on to keep the whole system moving. Throughout the summer, make sure to look out for your people and do everything you can to help them achieve their personal and professional capabilities and effectiveness.

At the heart of our safety activities this summer is the concept of being Ready, Resilient and Responsive with redundancy built into your processes and operations. Great, we hear you say, but what does this really mean?

Being Ready means having enough competent people and all the resources to manage risks effectively, so that you can ensure safe and effective operations. Plan and be realistic in your scheduling.

Consider how resilient your organisation is and make sure you have redundancy built into your processes and activities. Are you prepared for any operational challenges and external threats you might face? Do not push the boundaries of the rules, and always be on guard for risk transfer. We should also be alive to one solution or mitigation creating new risks somewhere else in your organisation.

Finally, know that things can and will change over the summer. There will be differences between what you planned for and the operational reality, which means it's vital to be responsive to changing scenarios. Have a mindset that encourages collaborative safety conversations, so your staff trust you enough to tell you when there are challenges or new risks. Then, react positively and quickly, taking clear action and communicating clearly with all involved.

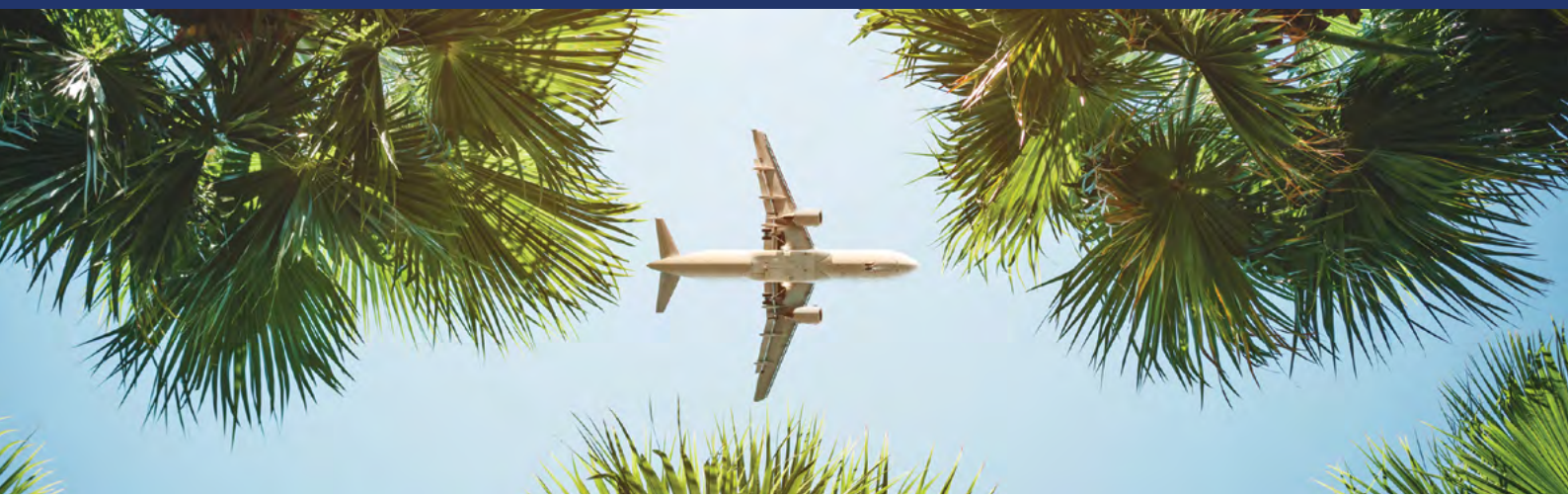
Our preparations are over. We are ready.

Now it's up to us as an industry to find that mojo and show our passengers that their summer travel plans are safe in our hands. ■

Finding our Mojo this Summer

From the Safewings CEO – Milena

Temperatures are rising and the summer holiday season is almost here. Here at Safewings, we've had a great surge of bookings and it looks like we will have more passengers than we did in 2019 before the COVID pandemic. That's great news for all of us. The challenge now is to make sure we can meet our passenger's expectations while ensuring that we are able to operate safely right through the summer despite the inevitable pressures that will come our way.



Both the leadership and the safety team are committed to providing all the tools and resources you need to make this the best ever. It's easy to say that safety is our number one priority but when things get really busy and the pressure is on, it takes a special team to work together, talk about the challenges, understand the risks and make the right decisions. It's important to find our mojo this summer – this means leveraging our teamwork and strong relationships so that we can achieve amazing things together.

Here at Safewings, we live to be "safe by name and safe by nature."

How we can be prepared for the summer ahead?

Together, we have prepared tirelessly for the summer, which will certainly make things much easier for us as the pressure builds. Our goal is to be "Ready, Resilient and Responsive" over the summer period. I know that sounds like a bunch of fabulous management buzzwords, so I'm going to try and explain what this actually means and how these things can shape everything that happens here at Safewings this summer.

Ready - Having enough competent people and the resources we need to manage the risks we face.

Our preparations for the summer have been going on since our post summer review in October. Every department came together with their key challenges and lessons learned. There were lots of familiar topics.

In some departments we identified particular staffing gaps that we hadn't been able to solve and we have put a lot of effort into both recruiting new staff and then training up these new people early enough so they are ready for the summer. Please make your new colleagues feel welcome and support them in becoming part of our fabulous team.

We also learned a lot about how we can better set up our schedules so they are as realistic as possible. The challenge

over the summer will to make sure that we have the right, trained staff in all the right places to keep the operation moving. This is where your continually feedback and reporting over the summer will be particularly important.

You can review the top risks in the SafeSMS system online any time and they will be updated continually throughout the summer. The safety team will support all the operational departments in keeping you informed so we are ready for anything the summer has to throw at us.

Supporting your Wellbeing and helping you to perform to your best.

In February we held our first review of psycho-social risks in the company. This helped us to identify things that make working life more difficult and stressful for us all. Based on your occurrence reports and the follow on discussions we identified challenges such as excessive and unrealistic workload, lack of clarity in your job role/ function, lack of involvement in routine decision making, poor communication and lack of trust between workers and the management. We continue to learn in these areas. They are all important things for us to continually discuss in our teams throughout the summer.

Being Ready for Every Day

Being ready also applies on a day-to-day basis. Hopefully we have provided everyone in the company with a little time to think about what they are going to do each flight, each shift or each day so that you can be mentally and physically prepared.

At the end of each work period, take the time to reflect on how things went and how we can improve. All managers are encouraged to discuss challenges with their team and use SafeSMS to report anything that needs to be captured formally and shared throughout the company as a learning opportunity.

Resilient – We are prepared for any operational challenges and external threats, we support each other to perform to our best. We don't push the boundaries of our rules or procedures.

When it comes to being resilient, it is all about thinking ahead, following our procedures, working together and communicating effectively. Every Department now has easy access plans for all the major operational/ external challenges that we expect to face over the coming months. If anything happens, these plans will help us keep on top of things.

I encourage everyone to follow the procedures we have and, if situations arise that the procedures don't cover or aren't prepared for, discuss these with your managers at the time so we can update and improve things quickly. We have empowered all team leaders to make any operational decisions needed to keep things moving safely. They can also say stop if needed to keep everyone safe.

We would rather take a delay to make a good decision than feel the need to rush and then have a problem. You will have our full support for the decisions you make. We appreciate that you will all come under pressure this summer and making mistakes is a part of being human. Please, no blame – just learning.

Being resilient is about supporting each other when things are challenging and communicating effectively.

Responsive – We talk continually about how to ensure safety of the operation and report occurrences or hazards when we need to. All of us (especially management) react positively and quickly when a challenge or changing situation is identified and communicate effectively.

Things will change a lot over the summer. Although we have done a lot of planning, things will happen that we didn't expect. This isn't bad, just something we need to deal with. Being responsive means being constantly aware that things will change. Talk continually in your teams about what is happening and make changes when they are needed to respond to operational situations.

I encourage you to report not just safety occurrences but also anything else we could learn from to improve something. Even if you have news or information that we might not like, your report is vital to the success of our operation. For managers, embrace the messenger. Knowing we have a challenge is the most important thing. We all need to be able to trust each other, every day.

If needed, the learning team will contact you to find our more information to help us improve things. I know a lot of people laughed when we changed investigations to learning opportunities at the start of the year but it totally changes the mindset of how we approach situations we might find difficult or uncomfortable. Our reporting has increased by 35% since then so it obviously works and our on time performance has also improved.

No one really knows what a Mojo is – if you see it, share it.

As we said at the start, our success this summer will rely on our ability to work together as a team with a common goal. No one really knows what a Mojo is or what it looks like. But nothing beats the feeling of a team of amazing people coming together to connect families and help our passengers get to their destination. When great things happens, congratulate yourself, congratulate each other and share it with the rest of us.

Fly safe and let's have a wonderful summer. ■

Finding our **Mojo** this Summer

View from the Flight Deck
Rachel's take on the summer

In case you don't know her, Rachel is one our Captains on the Airbus A330 and fleet training manager.

Summer is coming! A summer clear of Covid (well, of the main challenges we've seen in the last few years), filled with people eager to fly - to reconnect with friends and family, discover new places, go on new adventures.

Of course, for the pilots, this means some "new" challenges (a whole load of "complaints) that we are likely to be faced with. And that that means a whole load of readiness and resilience will be required to meet those challenges/complaints.

We so often hear 'Be Ready!' or 'Be Resilient!' – see the last article as an example, but actually seeing practical tips on how to do those? Not so much. So here are some to help not just the pilots but hopefully some of these will help everyone.

First up, pilots like to complain!

That we do, and here is the first top tip in building resilience - it is actually ok to vent once in a while. Yup, it really is. The real trick is to do it the right way.

What is the 'right way' to complain? Constructively. Science says there are actually different types of complaining and of course there is a pretty important balance between complaining in a constructive, productive way that leads to solving problems, versus wallowing in a swamp of murky frustration or simmering negativity. But we can (and should) "complain" now and then. It helps our mental wellbeing and it often helps solve problems. It is also, sometimes, completely necessary.

- **Look after your own mental health and well-being.** This is a key message which a lot of folk have been shouting out about since Covid really brought to light how bad the industry can be sometimes at supporting wellbeing. It is also something a lot of pilots tend to be terrible at. But talking about things you need to talk about isn't "complaining", it isn't being negative, and it sure ain't a sign of weakness. So if something is bothering you then talk about it, seek out support and help.

  There are a lot of ways to do this - peer support, connecting with a more experienced colleague, mentor or coach, seeking professional support. There are many resources out there as well so reach out if you need to. Operators - make sure your pilots have good access to proper support in the work place, and that your company culture promotes well-being.

- **If it is a safety thing, speak up!** Again, not complaining, but doing something we are all responsible for - looking after safety! Don't let things slide because you think you'll be thought of as a "complainer". Of course, there can be ways to do this right - find out what your operator's safety reporting procedures are, including confidential reporting, and find out who you need to talk to in certain situations. Operators - ensure your staff are all aware of their responsibilities, and the procedures you have in place to help with this.
- **Talk about our company culture.** Make sure you are all contributing to our company culture to help support improvement, ownership and kindness. Raising concerns should not be dealt with in a punitive or pathological way, here at Safewings we take a generative approach. And that means everyone needs to have the same attitude. People often say "the culture is poor" but we make our own culture so let's change it – this is part of finding our mojo.
- **Look after each other.** We are one big team and listening to others can help spot when someone is struggling, or has an issue they need support with. A simple "How are you, really?" can go a long way at the start of a briefing. Our pilot briefings and SOPs have often been whittled down to remove all the 'human' from them, but you, your co-pilot, your team still are human. So try and inject a bit of humanness back in.
- **If there is a problem, solve it.** We often complain for the sake of it, but used right it can help us organise our thoughts, identify problems and start to solve them. "Complain" with that plan in mind, and suddenly your complaining can be so much more productive, leading to ideas and solutions and ways to solve the problems.
- **What's your circle of influence?** As pilots, we are used to TDODAR-ing, FORDEC-ing, GRADE-ing... whatever method it is you use. That bit of the decision making process where you diagnose the problem and look at options - that is when, really, you are thinking about what you have, what you can do, what you can control. If the weather suddenly turns to a total soupy swamp we don't sit in flight discussing how we might somehow clear the air, we consider what we can do (with what we have got). We should apply the same process to our personal issues and concerns.

So, what are some of the things this summer we might need to 'complain' about? (And what can we do about them)

Complaint #1 Fatigue

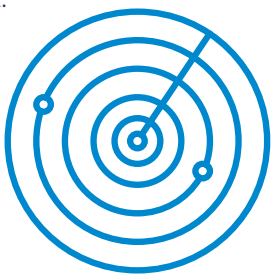
Things are continuing to pick up, which is awesome - new routes, more connections, busier schedules, but with it comes the risk of fatigue.

Managing it: CRM courses might lecture us on circadian rhythms and sleep stages, but that doesn't really help us when we are up there at 36,000' trying not to nod off and head butt the centre console...

- **If you are fatigued, file a fatigue report.** These are as necessary as any safety related report and they do get read and reviewed to help us see how we improve our rostering and other factors that impact things.
- **Don't fly if you are fatigued.** We all know this can be difficult at times - operational pressures, wanting to get home, or just judging whether you might be fatigued in several hours create additional challenges. But flying fatigued puts you and your passengers safety at risk. We would rather you call in fatigued and you will have our support if you do.
- **Look after yourself.** Eat well, rest well, exercise, drink water - you've heard it all before, but it does help prevent or mitigate fatigue.
- **Take controlled rest.** Take it before you reach that head nodding, eyelids dropping stage. Having a caffeine drink before your nap might also help. Check your operator's policy on it, but in general, 45 minutes with a 15 minute wake up period works well.
- **Talk to your Department Management or the Safety Team.** If your fatigue concerns are going unheard, speak up. FTLs are important but do not always take into account 'real life' factors so talking to fleet manager or the safety team, raising fatigue reports, and finding ways to manage fatigue is critical.

Complaint #2 New routes, new airports, new risks

New routes, new airports, mean new risks, threats and hazards and sometimes these are hard to spot.



Managing it: We say think about STMKY - stuff that might kill you. Don't rely on "finding out when you get there", see what you can spot and mitigate in advance. Share what you learn about new routes within SafeSMS so others can learn.

- **Familiarise yourself.** Review airport charts, AIPs and route information so you have an idea of the procedures, regulations and known risks to think about.
- **Talk to people.** Talking with other colleagues who have operated there before can help build up a better picture of what to expect - the real, practical 'gotchas' that might not show up on charts.
- **Manage the threats and errors.** A proper threat and error briefing when heading in can keep you and your co-pilot on the same page and build up better SA.
- **Know the procedures.** Airport with a circle-to-land? Refresh yourself on how to fly that. New route? Think about what weather you might encounter, if there are any airspace warnings, different contingency or comms procedures to know about.

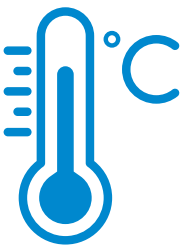
Complaint #3 Everything is busier

Summer means events, holidays, more people, more airplanes, and that means slots, congested airports and more traffic flying about the airspace.

Managing it: Plan, prepare, be ready, be resilient.

- **Keep it standard.** Good RT, good procedures, briefing things like taxi routes to avoid incursions or conflict, monitoring TCAS - all this helps.
- **Plan in advance.** Know the alternate planning requirements, check weather, know what your options are so you don't get caught out when a big summer storm builds up and suddenly everyone is heading to the same diversion airport...
- **'Own the clock'.**
- **Refresh yourself on 'protecting FRSV'.** The (new) EASA fuel management really focuses on this so know the definitions for suitable and adequate, safe landing, minimum fuel and mayday fuel. And monitor proactively to try and avoid getting into a fuel situation in the first place.

Complaint #4 It's hot outside



We only just breathed a sigh of relief at the de-icing trucks rolling back into their sheds, and at no longer having to worry about cold temperature corrections... and suddenly it is getting hot.

Managing it: Hot weather may have less challenges, but it still brings some.

- **Think about your brakes.** Hot brakes cause delays so start thinking about your energy management on the ground, particularly in places with long taxi routes.
- **Think about your passengers.** And yourselves for that matter. A lot of airports have APU restrictions - but not when it's too hot. If you can't use an APU, ask for ground air cooling, and make sure everyone has access to water.
- **Think about your performance.** Know your aircraft's limits, hot weather procedures for things like engine start, and know what hotter temperatures might mean for takeoff and climb performance, especially if it's a spot that is not just a hot spot, but a high one too.
- **Think about your energy in the air.** Hot means less dense air, higher speeds, thermals and sometimes big storms. Think about how to manage your energy on approaches, and how to handle your aircraft in turbulence.

Complaint #5 Strikes

Strikes are often planned for when they will hit the hardest, and they can have a big impact on flight operations.

Managing it: Keep up to date on planned strikes and how they might impact your operation.

- **Be aware of FTLs.** Strikes can lead to closures of airspace which can mean longer routings (and longer days for you). Know your FTLs, and think about fatigue management.
- **Be flexible.** Help us by remaining flexible – the whole flight ops team are here to support you.
- **Think about travel time.** Plan for ground strikes impacting your commute, or which might cause delays heading through airports.
- **Be ready for disruption.** Busier summer schedules will be having an impact on everyone in the aviation team. Treat your colleagues with respect, but also be ready for disruption.

Complaint #6 Work Life Balance

Aviation is picking up, which is awesome (I think I said that before), but it does mean busier rosters and that can mean missed family holidays, harder to manage home lives and all the stresses which that brings.

Managing it: I don't have a solution for this, other than to say it is important for you, your family and your well-being (and so your safety at work as well) to make sure you have a good work life balance.

Summer means sun and fun, and maybe a little chaos too. The whole aviation industry is still ramping up from Covid, as are a lot of folk in the world in general. This summer is going to busy and exciting and that is great - for the airlines, for the staff benefiting from a strengthening industry, and for all the people we provide a service too. It also means there might be some chaos in the mix as well, and we can't stop it, but we can try our best to plan and prepare for it, and to support each other through it. Here's wishing you all a sunny summer season from all of us in the front of the aircraft. ■

Leadership in Action:
Driving Safe and Efficient Operations

"A commitment to safety and operational integrity begins with management. But management alone cannot drive the entire culture. For a culture of safety to flourish, it must be embedded throughout the organization"

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Improvements in safety across all aviation disciplines - no matter how seemingly small - have contributed to the high level of confidence that we have today in the safety of flight, because continuous learning and incremental improvements matter. Our industry, however, has been and will continue to go through large-scale changes due to innovation, growth, and crises.

The COVID-19 pandemic has had a strong impact on the aviation industry. Many highly knowledgeable people have retired or transitioned to another industry, with limited opportunities to provide in-depth and gradual handovers. As a result, aviation organizations and the entire industry have lost invaluable experience and knowledge and some of its safety DNA. Today, many organizations are facing challenges recruiting staff with required skills and experience; with rapid integration of new technologies, these difficulties look set to remain.

As aviation professionals, how do we continue to sustain and improve our industry's record as an ultra-safe mode of transportation?

Having the right resources, policies, processes and equipment in place is crucial for safety, but it is not enough, and compliance alone will not create a safe and sustainable safety-conscious business. No manual will ensure that all staff consistently think "safety" even when no-one is watching.

In response to these challenges and to support industry in rebuilding its safety DNA and strengthen its safety culture, IATA has incorporated Safety Leadership in its 3-pillar safety strategy.

Safety Culture

Accident investigations have identified a poor safety culture as a factor that increases the probability and severity of accidents. An understanding of an organization's approach to safety culture and its drivers to continuously evolve a positive safety culture are prerequisites to the successful and effective management of safety risks.

Every organization has a safety culture, but at varying degrees of maturity. Evolving safety culture is not an easy task, it is an organizational change that requires time to develop but will foster long-term benefits. Safety culture not only requires buy-in and continual application by all employees at every level, but also commitment and leadership from the board and top executives.

When a positive safety culture exists:

- Collaboration, information exchange and learning flourish.
- The organization is interested in the "Why has this happened?" and "What can we do better next time?" and not the "Who's fault was it?" or "Who needs to be punished?"
- Acceptable and unacceptable behaviours are clearly defined in the organization and understood **and** recognized by employees.
- Employees at every level:
  - o Take full responsibility for their decisions and actions.
  - o Feel comfortable reporting safety issues without fear of negative consequences; prioritizing safety is always viewed positively, even if addressing the issue causes short-term disruptions, delays, or cost.
  - o Are trained effectively and have the right resources to do their jobs properly.
  - o Understand what safety means to them and how their role impacts safety or contributes to keeping operations safe, even if their role is far from the frontline.
  - o Are encouraged to speak up about safety and discuss challenges openly, to facilitate learning and improvement.

Safety Leadership is critical to nurture such an environment and achieve this success.

Safety Leadership

> *"A commitment to safety should not be a priority, but a value that shapes decision-making all the time, at every level"*

Leaders influence the safety culture of an organization through the priorities they establish not only through the behaviours and values they demonstrate, but also the decisions they make and how they celebrate success. For a safety culture to work, commitment is required from the entire organization, but especially at the executive level. Leadership thoughts and beliefs cascade down through the way an organisation's leaders communicate and act, impacting the actions of employees.

Leadership commitment (or its absence) to safety cannot be missed. What leaders value is normally what gets done, shaping organization's core values: safety attitudes and behaviours in teams at every level. If the values are positive, they will deliver continuous improvement in safety performance and operational resilience.

It is commonly understood that safety leadership can have many faces and is influenced, for example, by the personality of the leaders, their cultural background(s) and the professional and national cultures they operate in or come from. There are, however, common elements that have supported successful safety leadership efforts to enable a positive safety culture and build safety excellence:

Vision

A leader has a clear picture of how safety will look like in the organization and is able to convey this vision in a convincing and compelling way to get everyone on-board with it: what will be different from how things are done today; what will be the drivers behind these decisions; and how will they be measured.

Credibility

Trust lays at the core of safety leadership, be it with peers, direct reports, the board, the front line or the entire organization. Trust is built through consistency between a leader's words and their actions. Each leader's style is different, but credible leaders are authentic and act with integrity.

Action

Leaders must be prepared to act for safety, when appropriate, and aim, where possible, to be proactive. When a safety issue arises, is the decision to shut the process down or continue with it? When a safety hazard is identified, is the decision to address the root cause of the hazard, or go with a temporary solution? Leaders must convey that they are serious about achieving safety results.

Collaboration and empowerment

Safety is a team effort that involves all areas of the organization, at all levels, and requires understanding and buy-in from all employees through participation and collaboration, rather than isolated decision-making. Effective safety leaders engage employees in the safety process, investigating accidents and near-misses, developing safety risk assessments and establishing safety barriers.

Communication

Effective safety leaders communicate regularly to every part of their organization about why safety matters to individuals and the organization. Effective safety leaders show why safety has its high profile in the organization, is weaved into the fabric of all meetings and where leaders encourage a genuine conversation to take place. In return, staff are confident to report safety issues and hazards knowing that such issues/hazards will be investigated and the results communicated to evidence a learning mindset.

Recognition, feedback

Consistently reward positive behaviours as it provides examples of what is valued by the organization and its leaders; such an approach aligns organizational culture and how a common understanding of safety values is key. Safety will be seen as a valued and important aspect of work.

Feedback at all levels is essential, and leaders need honest and accurate feedback too. Anonymised safety culture surveys are a great way to keep the finger on the pulse of the organization.

Consistency and accountability.

In practice, establishing the boundary between acceptable and unacceptable behaviour is not an easy task - treat it with caution and be transparent you're your staff. Some organizations use tools, such as culpability decision-making trees, to support them in conducting objective assessment of the situation and focus on what when wrong (not who made the mistake).

Consistency and competent and independent resources to conduct such assessments are key.

Why is it important?

Reports and information on safety-related issues are the main source for discovering an organization's safety vulnerabilities and deficiencies. A comprehensive analysis of these reports and related information enables decision-makers to determine potential risk areas and supports leadership taking the right actions to mitigate such risks.

Sharing safety information enables continuous learning and improvement by fostering proactive, risk-based safety thinking. "Zero incidents" is an honorable goal, but not realistically achievable: incidents will always happen. What we learn from them, and how we adapt our safety barriers following these incidents, is what counts.

The flow of information within the organization is critical in this process, especially the flow of information upwards.

The extent to which employees have confidence to share their feedback openly, to report errors, near-misses, safety hazards and safety concerns, within a "Just" Culture framework, has a direct impact on an organization's safety performance.

The main factor that determines whether safety reporting and learning takes place, whether employees go beyond the "call of duty" for safety, is the way management reacts to employees' safety reporting, including employees' admissions to errors with potentially serious consequences.

What does Safety Leadership look like in practice?

To raise awareness on these critical topics, IATA, in consultation with its members and the wider aviation community, has developed the IATA Safety Leadership Charter.

The Charter supports industry executives in evolving a positive safety culture within their organizations. The Charter is geared toward strengthening organizational safety culture through highlighting this critical element as a driver for continuous improvement in safety performance, by proposing commitment to key leadership principles and supporting practical actions.

Guiding Principles:

1. Lead obligation to safety through words and actions.
2. Foster safety awareness with employees, the leadership team, and the board.
3. Guide the integration of safety into business strategies, processes, and performance measures.
4. Create the internal capacity to manage safety proactively and achieve organizational safety goals collectively.
5. Create an atmosphere of trust, where employees are encouraged and confident to report safety-related information.
6. Establish a working environment in which clear expectations of acceptable and unacceptable behaviors are communicated and understood.
7. Create an environment where all employees feel responsibility for safety.
8. Assess and improve organizational Safety Culture regularly.

To bring these principles to life, in Q4 2022, IATA launched its Safety Talks, an initiative that features industry leaders across geographies and cultures who share their unique perspectives and highlight the key role of Safety Leadership and Safety Culture in delivering a safer, more efficient, and resilient business. In 2023, the Safety Talks initiative will continue with more talks from industry executives and staff across hierarchies.

There are many pockets of safety excellence across the industry; so, let's join our efforts and learn from each other.

We invite you to incorporate the IATA Safety Leadership Charter in your safety activities and share your story with us. How does your organization demonstrate Safety Leadership principles in practice? Contact the IATA team by email at safety@iata.org ■

People Part
of the Summer Campaign

As the busy summer season approaches its important to think about how organisations can prepare their staff. In this article we look specifically at how the EASA Summer Campaign pillars of "Ready, Resilient, and Responsive" applies specifically to our people. As an industry, we have a marathon to run this summer. We cannot run it as a sprint.

Being Ready:

Being ready means helping your staff through comprehensive training programs to refresh and enhance skills and emphasising the importance of safety protocols and procedures. Also think about the resources you provide staff to do their jobs every day. Are they in place? Are staff trained to use the IT tools and equipment? Do people know where to ask for help? Promote a safety-first mindset and instilling a sense of responsibility in employees. For management, set the tone and act the way you expect your staff to, always. For many organisations there are lots of new staff, make them feeling welcome, supported and part of the team.

Being Resilient:

Resilience is going to be vital this summer if staff are going to navigate the challenges that may arise during the summer season. While disruptions and unforeseen circumstances can occur, it is essential to build resilience by promoting flexibility and adaptability. Encourage staff to anticipate and proactively address potential issues, ensuring that they are equipped to handle any situation that may arise. This can be achieved by fostering a learning culture, providing access to the right resources and tools. Encourage open communication among team members. By empowering employees to make informed decisions, you will enhance their overall resilience and ensure a safe and efficient operation.

Being Responsive:

Responsiveness is crucial in maintaining safety and efficiency. Establish clear lines of communication and use your organisations SMS so that staff can report safety concerns promptly. Hold regular safety briefings, where employees can freely express their concerns without fear of reprisal. Furthermore, you should establish effective feedback mechanisms to ensure that concerns raised by staff are acknowledged and addressed promptly. By actively responding to employee feedback, you will demonstrate your commitment to safety and foster a culture of continuous improvement that will you have a successful summer.

Psychological Safety: A Vital Component

Certainly! Here's an updated version that emphasizes the management of psychosocial risks:

Managing Psychosocial Risks: Ensuring Psychological Safety

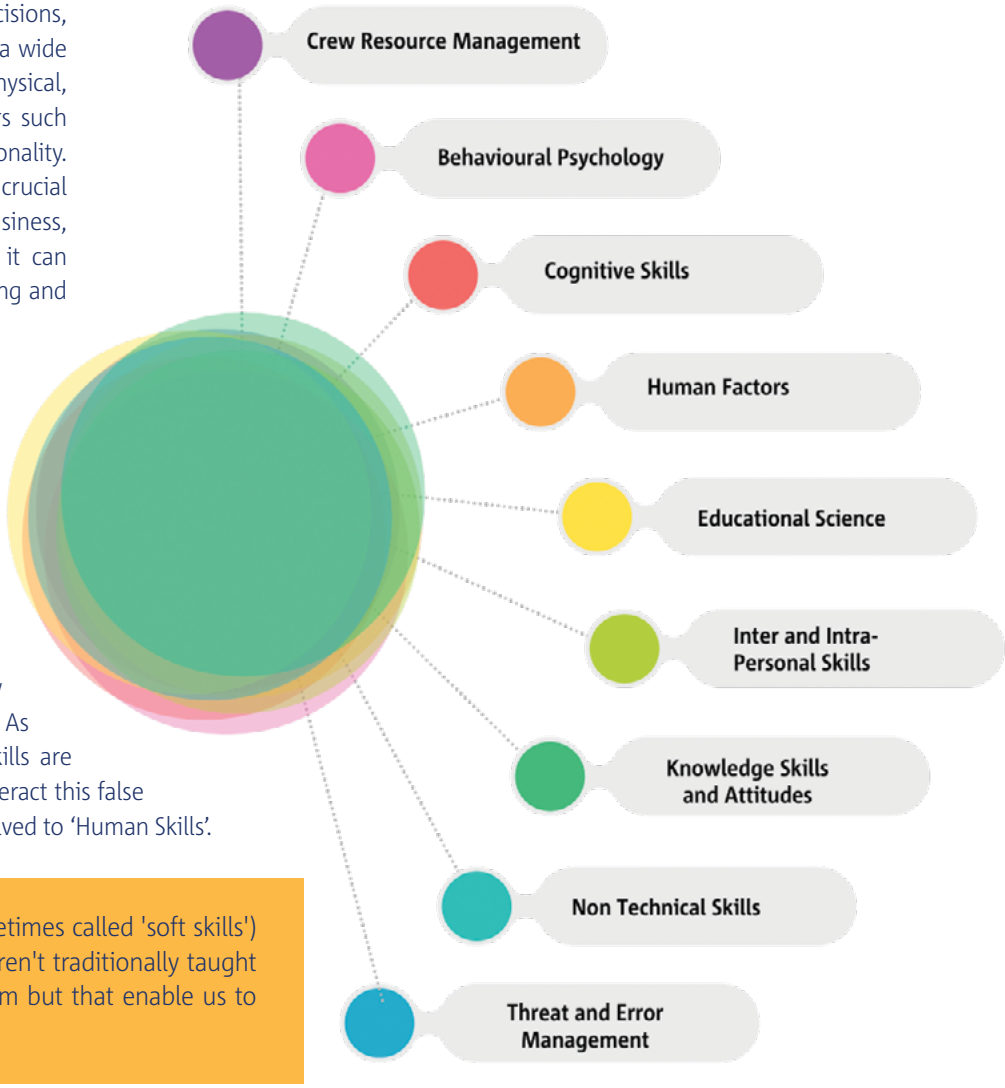
You should also be prioritising psychosocial risks during the busy summer season. These are factors in the work environment that can adversely affect the mental health, well-being, and performance of employees. Managing these risks is crucial to having a safe and healthy workplace and ensuring staff can perform to their best.

You should actively assess and address these risks. Things like high workload, time pressure, role ambiguity, and interpersonal conflicts, among others. When you identify these risks, you can implement appropriate measures to prevent or mitigate their impact on staff members. You should be promoting work-life balance and employee well-being by offering support programs and resources. These may include stress management workshops, access to counselling/ peer support services for all staff, and initiatives promoting physical health and resilience. When you invest in your people you will have a much better chance of success this summer. ■

Introduction to human performance

This article is the introduction to a series on human performance which has been developed by the CAE human performance excellence (hpX) council, comprised of experts internal and external to CAE working on human performance issues affecting the aviation, maritime, defence and security and medical domains. Specifically aimed at the CAE community of flight instructors and examiners, the hpX team has developed a series of human performance guidance material. This guidance will also be shared with wider industry over the coming months.

Human performance refers to the way in which individuals carry out tasks, make decisions, and accomplish goals. It encompasses a wide range of abilities, including cognitive, physical, and emotional skills, as well as factors such as motivation, attitude, and personality. Understanding human performance is crucial in many fields, such as sports, business, medicine, education, and aviation as it can impact productivity, efficiency, well-being and most importantly, safety.



It is important to understand the terminology and concepts that underpin human performance. In the past, non-technical skills have often been referred to as 'soft skills', in comparison to 'hard skills' which are those required to do a task or job. However, this has created a misconception where 'hard' technical skills are seen in opposition or mutually exclusive to 'soft' non-technical skills. As a result of this misconception, soft skills are often seen as less important. To counteract this false impression, the preferred term has evolved to 'Human Skills'.

Human Skills: Human skills (sometimes called 'soft skills') are the non-technical skills that aren't traditionally taught as part of an education curriculum but that enable us to function at our optimum.

Human Skills include a range of aviation topics such as: Crew Resource Management (CRM), Knowledge Skills and Attitudes (KSA), and Threat and Error Management (TEM) and more, and integrates these operation elements with behavioural psychology, and educational sciences.

Behavioural psychology is at the centre of our everyday experience; it shapes our lives and the lives of those around us. Behaviour and its consequences influence what we learn, who we become, and what we will do. This is the essence and primary goal of education.

Competency Based Training and Assessment (CBTA) is an educational method targeted on specific characteristic traits to achieve holistic human performance. It focusses on both the skills required to do the job, and the attributes of the individual doing the job. The qualities of a pilot good are grouped into 'competencies'. In terms of industry guidance, these competencies have been specified by ICAO, IATA and EASA as the following:

Application of knowledge

Demonstrates knowledge and understanding of relevant information, operating instructions, aircraft systems and the operating environment

Application of Procedures and Compliance with Regulations

Identifies and applies procedures in accordance with published operating instructions and applicable regulations.

Communication

Demonstrates effective oral, non-verbal, and written communications, in normal and non-normal situations.

Leadership & Teamwork

Demonstrates effective leadership and team working.

Problem Solving & Decision Making

Accurately identifies risks and resolves problems. Uses the appropriate decision-making processes.

Situation Awareness

Perceives and comprehends all the relevant information available and anticipates what could happen that may affect the operation.

Workload Management

Manages available resources efficiently to prioritize and perform tasks in a timely manner, under all circumstances.

Flight Path Management: Automation

Controls the aircraft flight path through automation, including appropriate use of flight management system(s) and guidance

Flight Path Management: Manual

Controls the aircraft flight path through manual flight, including appropriate use of flight management system(s) and flight guidance systems.

Each competency maps to a list of observable behaviours (OBs) which describe what good looks like for each one. The OBs exist to further define each competency and can be adapted by operators to suit their specific needs.

As illustrated in the following diagram, ***Behaviour*** is everything a person does, including overt behaviour, such as moving and speaking, as well as covert behaviour such as thinking, feeling, and decision-making. What happens before behaviour are termed the ***Antecedent***, which are the situation, events and/or conditions that were present when an action occurred. What happens after the behaviour are termed the Consequence, which are manifested as the events produced by the action. Ultimately, any training intervention aims to influence positively the before state, to ensure the chosen behaviour results in safe and reliable consequences.

Technical training is generally well understood due to the visible feedback from a behaviour. For example, if a pilot flies a stable approach, this will have a high likelihood of this ending in an acceptable landing. The more visible mistakes that are made, however, then the more likely it is that this will result in an unacceptable landing. In this instance, the environment for learning is termed 'kind', where the quality of an individual's input has direct correlation to the success of the output.

However, when teaching and assessing human skills, the situation is far more complex. Consider the following

- **Antecedent:** The crew are CBTA trained but the captain has simply played along during training and has embraced the concepts. During today's flight the FO recognizes a risk worth reporting to the captain.
- **Behaviour:** The FO advises the captain of the risk.
- **Consequence:** The captain tells the FO to mind their own business and stop worrying.
- **Future Behaviour:** The FO may choose not to report risks to the captain.

In this situation, although the behaviour of the FO was appropriate, they received a negative response from the captain. This situation is termed a 'wicked' learning environment and may result in negative training. Wicked environments should be treated with cation as they are less predictable and therefore give a variable educational outcome.

In summary when CBTA focusses upon human skills and human performance aspects it will be holistic in nature. CBTA is a methodology and framework to train and assess human performance for top quality learning. The frameworks aim to provide instructors with the information and tools they need to recognise positive and negative behaviours, accurately identify the root cause(s) and deliver a well facilitated debrief. When these three aspects are performed effectively, human performance will most likely be enhanced and thus the objectives for learning will be successfully met. ■

Understanding what people do

It's not just Bags

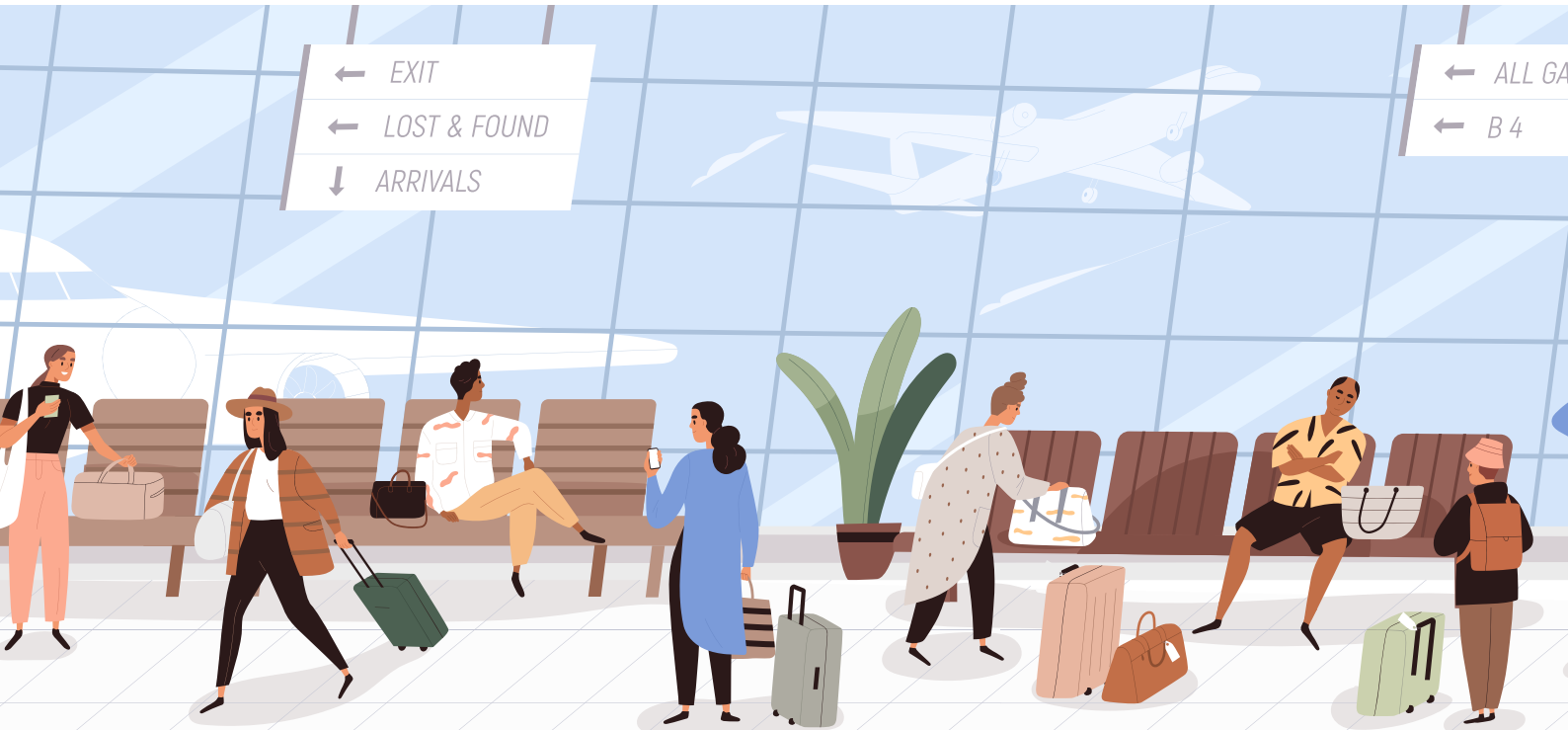
Here at Safewings we think its really important to understand what we all do. The more we know about the challenges we face every day, the better we can support each other in ensuring safe and effective operations, always.
My name is Val and I work in Ground Ops and I would love to share more about what we do and the challenges we face. We live to support the safety and security of our passengers, and also all our crews as well.

Perhaps it is easier to think about what we do by imagining you're at the airport. You just arrived with your family: 2 kids, one baby and your pets, two bodyboards (kids love the ocean), a pram and a car seat. Before your life isn't complicated enough, you also brought your young cousin, Lucy, who is going back home to her parents, in Berlin.

You are welcomed with a smile at the check-in counter. Baggage is weighed. Pets are carefully checked. Bodyboards are to be delivered to the oversized luggage belt, but a nice colleague comes to your aid and helps you get it there. Someone else comes to get Lucy, who's flying alone, so she can wait safely for boarding.

All is set and it's time to go to the boarding gate, while you read some last minute mails or take a close look at our the aircraft on stand 78 which is undergoing maintenance. Something is happening with the pitot tubes, it's not so easy switch off and get into vacation mode.

While you wait for boarding there are a huge chain of activities taking place. The aircraft is loaded, pets are kept safe, the pram is delivered to the aircraft, all while your baby Mary sleeps comfortably in the shade of the steamy summer that awaits you. Your luggage takes its long ride through the airport with a tag that allows everyone to know about it (worldwide).



The invisible team in the baggage terminal screen each tag, sometimes twice, doing what is called baggage reconciliation: what bag, from whom, to where, what weight, in which container, to what bulk, of which aircraft, parking where? All carried out according to the specific aircraft loading procedures and sometimes, with extra procedures for security or safety purposes. These people handle not just Safewings aircraft but for many other airlines with lots of different aircraft and processes to be following. They need to know it all.

Once the boarding gate opens, passengers are called. Documents are crosschecked. At the same time, you watch a bunch of people moving near the aircraft, some with baggage dollies, others on loaders, baggage belts, even the push-back tractor. All these people guarantee and oversee the safe arrival of the aircraft onto stand, its unloading and then loading. Lots of information is also "uploaded" onto computer systems that ensure the correct weight & balance of the aircraft: loadcontrol is the ultimate controller of the flight.

To make things more complicated there might be a no show at the gate. There are then so many things that must be done, involving many different people to the find and offload of bags from an aircraft about to leave?

There are lots of other ground ops activities we do, most which people never see:

1. Ground Support Equipment is controlled by both maintenance and management, to make sure everything is checked and ready for use every day;
2. Everything feeds back to the team at Ops Control who manage and solve problems and challenges, coping amazingly with the disruptions that always happen;
3. Lost and Found: helping reunite people with the things they lose;
4. Cargo, which is a very important area that supports our every country's economy despite almost never being seen. From live animals, pharma, perishables, digital, tech and human remains, you name it they move it and carry it. All while making that nothing gets onto the aircraft than could cause a risk like fire from lithium batteries;
5. To support all this, ground ops have all sorts of other people in Safewings head office, finances, human resources, communications, safety, quality, training etc – they are the glue that brings everyone and everything together helping everyone to do their job.

All of this is part of our ground handling operation. So many amazing, resilient people are doing all the things that you just read (and much more), so that our flights can happen safely.

Now you are on the plane, seated and happy. Doors are armed and the cabin crew cross check is done – you are now in the hands of our fabulous cabin crew. All that is left is for the team with the pushback tractor to send you on your way. You can be happy that when you land you, your loved ones and all your belongings are once again in the safe hands of the ground handlers. Plane starts moving.

As you can see, it's not just bags. ■

Maintenance Check Flights
Doing Things out of the Ordinary

While you will be very familiar with the normal day-to-day operations, what about the more obscure activities that don't happen so often? Things like delivery flights to the operator, moving aircraft from one operator to another at the end of a lease, or even flights after maintenance.

What are the more common types of operation that do not involve the carriage of passengers and/or cargo and under what regulations are they operated? This article will tell you everything you need to know about Maintenance Check Flights (MCF).

When are they needed and who does them?

MCFs are required on aircraft in various circumstance such as after extensive maintenance, periods of storage period or when moving from one operator to another. Such flights can be as simple as testing the normal operation of the landing gear of an aircraft after a period of storage, or as complex as the In-Service Aircraft Technical Flight profile mandated by some manufacturers, where ground checks and air checks are conducted by specially trained crew on a dedicated flight.

Types of Maintenance Check Flights

Regulations covering the conduct of maintenance check flights are detailed in EASA Air Operations Annex VII (Part-SPO) regulations, specifically under Part SPO.SPEC.MCF. Under these regulations there are two types of maintenance check flights:

- A "Level A" maintenance check flight is one where the use of abnormal or emergency procedures, as defined in the aircraft flight manual, is expected, or where a flight is required to prove the functioning of a backup system or other safety devices.
- A "Level B" maintenance check flight may be required to check the normal operation of an aircraft where a "Level A" maintenance check flight is not needed.

Most Part-CAT operations comply with the regulatory requirements by having trained and current crew available to conduct level A and/or level B maintenance check flights. Additionally, Part NCC compliant operations (Non-Commercial Complex) with their principal place of business within an EASA member state, can also conduct maintenance check flights once they meet the requirements of both Part NCC and Part SPO.SPEC.MCF regulations.

Why the regulations are important?

Regulations on how to carry out maintenance check flights came into existence in 2019 following an extensive period of consultation with organisations and operators. The regulations were precipitated by an accident in 2008 involving an aircraft undergoing an acceptance flight after a period of maintenance, for validation of the airworthiness of the aircraft prior to hand-over to its owner.

"The Investigation noted that end-of-lease airworthiness check flights, although not exceptional, were not included in the list of non-revenue flights detailed in the EU-OPS 1.1045 and that there was no extant overall framework for non-revenue flights either within the EU or outside it which could be used to set constraints on these flights or establish the skills required of the pilots involved in them. It was noted that Operators therefore have to define for themselves the programme and operational conditions for these flights in their Operations Manual and may not have fully evaluated the specific risks that these flights may present." (Skybrary, A320, vicinity Perpignan France, 2008).

The Part SPO.SPEC.MCF regulations have raised the standards in safety for maintenance check flights in the following ways:

- Flights must be conducted under the operational control of either a Part CAT or a Part NCC organisation.
- Part CAT and Part NCC organisations have management and safety systems in place to ensure correct oversight of maintenance check flights.
- Crew need to be trained and qualified to conduct maintenance check flights.
- Briefings must be completed between flight crew and maintenance staff before the flight takes place.
- Only flight crew or specific task specialists may be on board during the flight.

How do you conduct a maintenance check flight if you are not an Airline?

If an aircraft is not under the control of an airline, i.e., not on an AOC, a check flight can be conducted under the control of a Part-NCC organisation. There are, however, several items to be considered before such an operation can take place.

Principal Place of Business:

If a maintenance check flight is to be carried out on an aircraft where the operation falls outside the control of an airline, it

may be conducted by an EASA Part NCC compliant organisation. The organisation conducting the check flight is required to maintain a head office or registered office in an EASA Member State where the principal financial functions and operational control of the operator are exercised.

The core operational control and financial functions need to be tangible, visible and, capable of being overseen and monitored by the competent national authority. The obligation under Principal Place of Business enables oversight of the operation by the national authority where the principal place of business lies.

Organisational Structure:

An EASA Part-NCC operator must have a company structure consisting of an Accountable Manager, a Safety Manager, a Nominated Person Flight Operations (NPFO) and a Nominated Person Flight Training (NPFT) as a framework for the organisation with outlined roles, responsibilities, procedures, and policies.

Company manuals consisting of Ops Manual A, B, C, D, Safety Management Manual, Emergency Response Plan and MCF Operations Manual are needed to ensure safety and compliance with EASA regulatory standards. As part of safety management, the Operator is required to utilise a safety reporting system by encouraging and enabling incidents, safety concerns and hazards to be documented.

Operational Considerations:

A Part NCC operator should consider the following before conducting a maintenance check flight, demonstration flight or delivery flight:

- An agreement needs to be in place with the owner of the aircraft giving permission to operate the aircraft.
- Insurance will be required to be in place for the flight.
- Crew should be trained, appropriate to the level of flight. The basic requirement is that an Operator's Conversion Course has been completed to enable pilots to conduct flights on behalf of the specific operator. Annual recurrent training is also required.
- The organisation needs to have their own Maintenance Check Flight Operations Manual, giving details of crew requirements, briefings, and safety reporting considerations.
- A 'Declaration' needs to be filed with the national authority of the principal place of business of the operator detailing the operation that is to take place. The declaration is to acknowledge the organisation's capability and means to discharge the responsibilities associated with the operation of the aircraft to the competent authority.
- A mechanism needs to be in place where specific approvals such as RVSM can be requested as per Part SPA of the regulations.

The intent of the Declaration is for the operator acknowledge its responsibilities under the applicable safety regulations and that it holds all necessary approvals, which will enable the competent authority to fulfil its oversight responsibilities in accordance with EASA regulation ARO.GEN.300 and 305.

Considerations for Pilots carrying out Maintenance Check Flights:

Pilots engaged in non-commercial operations, such as maintenance check flights must be aware of the following:

- Pilots must have undergone an Operators Conversion Course specific to the operator.
- Be type rated with a valid medical certificate.
- If conducting a maintenance check flight or demonstration flight, be trained to the level required to conduct the check flight.
- Be aware of the requirements of Part SPO.SPEC.MCF regulations, specifically in relation to crew briefings and safety reporting.

Aircraft Owners, Lessors & Maintenance Organisation Considerations:

Aircraft owners and maintenance organisations also have obligations to ensure the flights are conducted safely:

- Appropriate aircraft insurance must be in place.
- Under EASA Continuing Airworthiness regulations (EU 1321/2014), any CAMO involved with the preparation of an aircraft should verify that any check flight is conducted in compliance with Part SPO.SPEC.MCF regulations.
- Aircraft owners/maintenance organisations should ensure that the operator and pilots are qualified and compliant to conduct the planned operation.

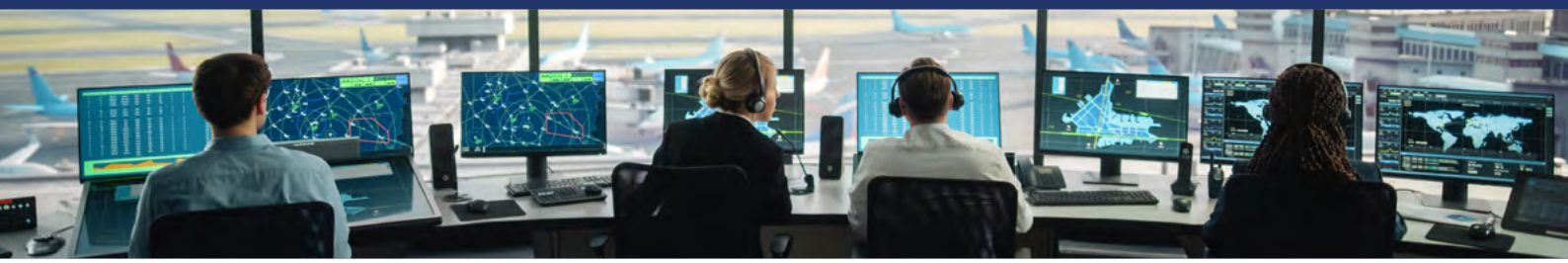
Summary

EASA Part NCC and Part SPO.SPEC.MCF regulations were introduced to increase safety standards in an area of aviation activity that has previously had limited oversight. As a result it is acknowledged that the complexities involved in maintenance check flights, demonstration flights and delivery flights are generally higher than those in 'routine' commercial operations.

The better you understand the Part NCC regulations, apply the relevant rules with trained and competent staff the greater the chance of a successful outcome. ■

Misunderstanding of CPDLC Uplink Messages

CPDLC (Controller-pilot data link communications) allows flight crews and air traffic controllers to exchange non-urgent messages as an alternative to voice communications. Some CPDLC dialogues based on UM79 'CLEARED TO [position] VIA [routeClearance]' and UM148 'WHEN CAN YOU ACCEPT FL[XXX]' have been misinterpreted in EU airspace leading in some cases to incidents that have required controllers to intervene so that more serious negative safety impacts are avoided. This article will talk about the risk of misunderstanding UM79 and UM148 then explain how they should be interpreted.



UM79 - CLEARED TO [position] VIA [routeClearance]

There have been incidents after the air traffic controller (ATCO) sent the uplink message UM79 - CLEARED TO [position] VIA [routeClearance]' to an aircraft. Flight crew have misinterpreted the end point [position] as DCT (DireCT route) and this confusion, mainly due to similarity between UM79 and UM74, has led to incidents. UM79 is typically used by ATC to ensure aircraft do not enter active military areas or ATC sectors where they are not expected.

It is important to clarify how UM79 'CLEARED TO [position] VIA [routeClearance]' and UM74 'PROCEED DIRECT TO [position] should be understood by the flight crews.

In both UM79 CLEARED TO [D] VIA [A B X Y] and UM74 PROCEED DIRECT TO [D], the position [D] is already planned on the original route of the aircraft. UM79 always provides intermediate point(s) that are displayed on the same page as part of the full message or on another page in some aircraft HMIs (human machine interfaces). This may increase this confusion as only the position [D] may be displayed on the first page.

Figures 1 and 2 provide examples of usage for UM79 and UM74.

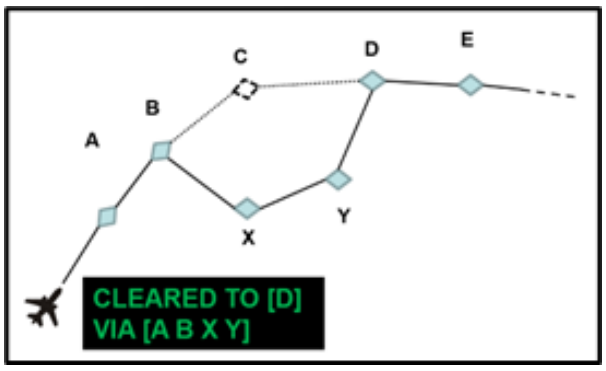


Fig.1 – Reception of UM79

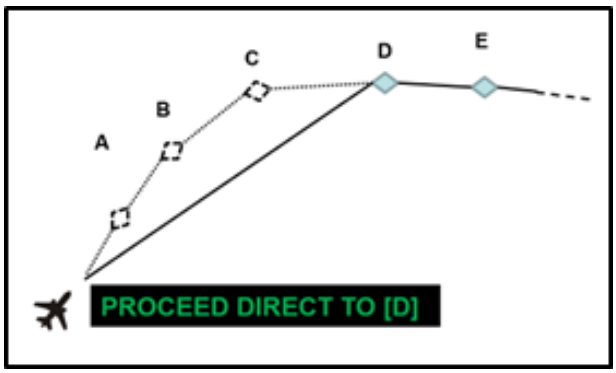


Fig.2 – Reception of UM74

UM148 'WHEN CAN YOU ACCEPT FL[XXX]'

Increasing number of incidents have occurred after the ATCO sent the CPDLC uplink message UM148 'WHEN CAN YOU ACCEPT FL[XXX]' to an aircraft. The flight crews have misinterpreted this message as a clearance instead of a *'request for the earliest time at which the specified level FL[XXX] can be accepted'.*

Consequently, having received UM148, some flight crews have deviated from the approved flight level to the FL[XXX] indicated in UM148. If there is no subsequent action from the controllers, such an unauthorised manoeuvre may lead to loss of separation.

CPDLC uplink messages can be divided into 6 categories (Transfer of Communications, Level Changes, Instructions, Route Changes, Speed Changes, Heading Changes) and UM148 'WHEN CAN YOU ACCEPT FL[XXX]' is clearly considered as an instruction that requires following pilot responses:

either **WE CAN ACCEPT [**level**] AT [**time**]** via CPDLC downlink message DM81,

or **WE CANNOT ACCEPT [**level**]** via CPDLC downlink message DM82.

ICAO PANS-ATM Doc.4444 makes a difference between an ATC clearance, defined as "an authorization for an aircraft to proceed under conditions specified by an ATC unit for expediting and separating air traffic" and an ATC instruction, defined as "a directive issued by ATC unit for the purpose of requiring a pilot to take a specific action". Consequently, an instruction is not a clearance.

It is important to highlight that some avionics HMIs provide the capabilities to accept FL[XXX] referred in UM148 with the preformatted response "WE CAN ACCEPT [level] NOW", however, this case is not considered as a clearance either. A clearance must first be initiated by ATC.

Note: ATC clearances providing a 'Level Change' can be conveyed using a set of different CPDLC messages such as UM19 MAINTAIN [level], UM20 CLIMB TO [level], UM21 AT [time] CLIMB TO [level], UM23 DESCEND TO [level], UM26 CLIMB TO REACH [level] BY [time], UM27 CLIMB TO REACH [level] BY [position], UM28 DESCEND TO REACH [level] BY [time], etc.

Figure 3 provides an example of usage for UM148.

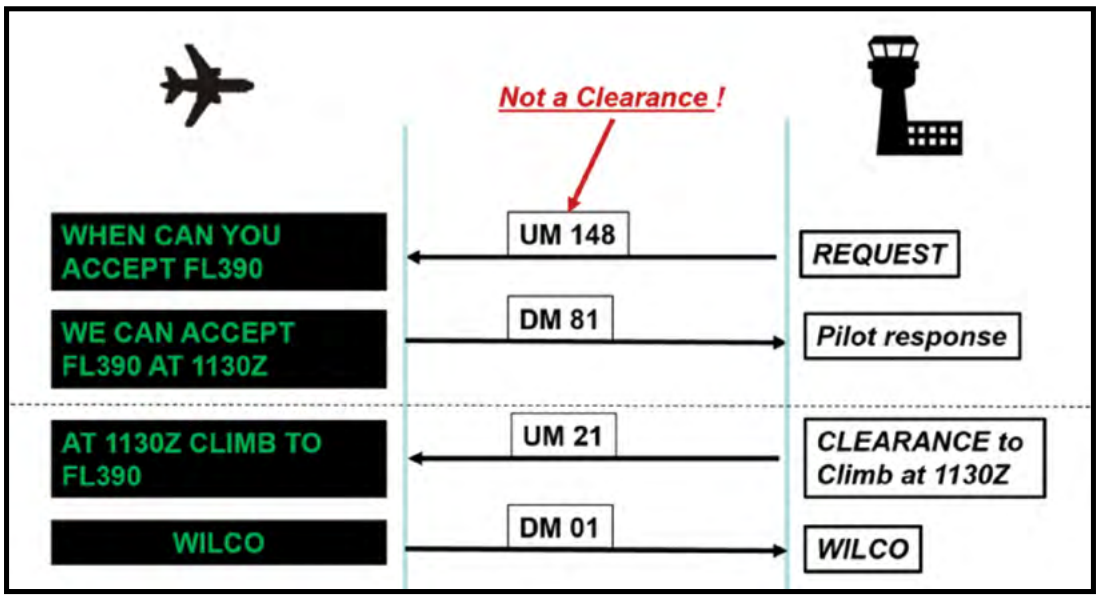
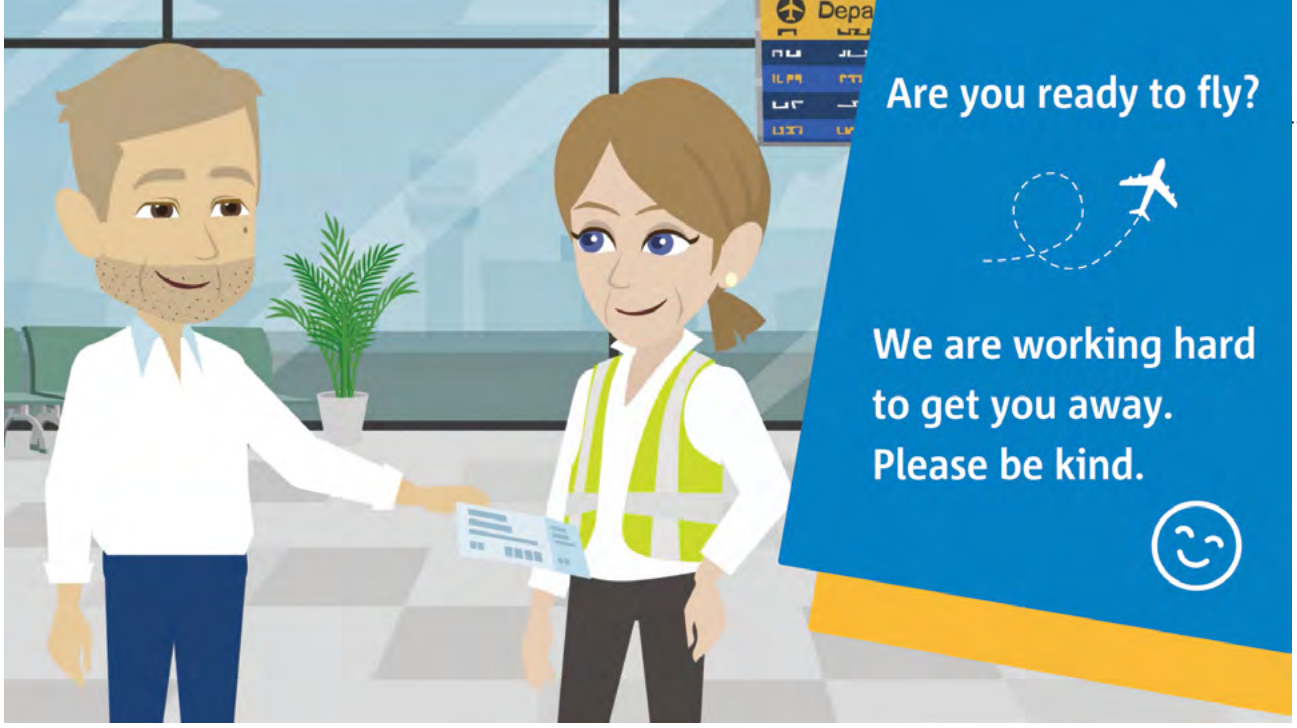


Fig.3 – Example of UM 148 usage

Recommendations:

As flight crew you must be aware of how to interpret UM79 - CLEARED TO [position] VIA [routeClearance] and UM148 'WHEN CAN YOU ACCEPT FL[XXX]'. If you are a Safety Manager, share this information with your flight crews to help raise awareness.

Most particularly, the training programmes and subsequent training manuals should refer to the CPDLC dialogues supported by UM79 and UM148 and should highlight the risks of misunderstanding of these messages. Your flight manual should also refer to UM79 and UM148. ■



The Menace of Unruly Passengers
Fly Right this Summer

Here at Safewings the safety and security of both passengers and crew is our top priority. With the introduction of mask requirements during COVID we saw a considerable increase in the number of unruly passenger events. This was something impacting the whole industry not just us. More recently, the whole industry has seen continued challenges with unruly passengers. We have joined forces with other airlines, airports and handling companies to be part of EASA's campaign to encourage passengers to "Fly Right this Summer".

This article provides some information on the key challenges, what we are communicating to our passengers and what you can do as individual staff members.

The threat unruly passengers pose to the safety of our flights

First it's useful to be clear what we are talking about. Unruly passenger incidents encompass a range of disruptive behaviours, including verbal and physical altercations, non-compliance with crew instructions, and intoxication. There are many ways such incidents can jeopardize the safety of our flights:

- ***Crew Distraction:*** Disruptive passengers divert the flight crew's attention from their main task of flying the aircraft, communicating with air traffic control, and managing in-flight emergencies. This distraction can hinder their ability to respond effectively to critical situations.
- ***Physical Altercations:*** Acts of violence or aggression among passengers can escalate quickly, posing risks to the safety of both individuals involved, other passengers and particularly crew members. Altercations also compromise atmosphere of the cabin – we want all our passengers to enjoy their flights with us.
- ***Interference with Equipment:*** Unruly passengers may tamper with safety equipment, including emergency exits, smoke detectors, or life-saving equipment, endangering the safety systems designed to protect passengers and crew in the event of an emergency.
- ***Flight Diversion:*** In extreme cases, when unruly behaviour poses an immediate threat to the safety of the aircraft and its occupants, the crew are forced to divert the flight to the nearest suitable airport. This diversion incurs significant costs and causes a huge knock-on effect to the operation, definitely something we want to avoid.

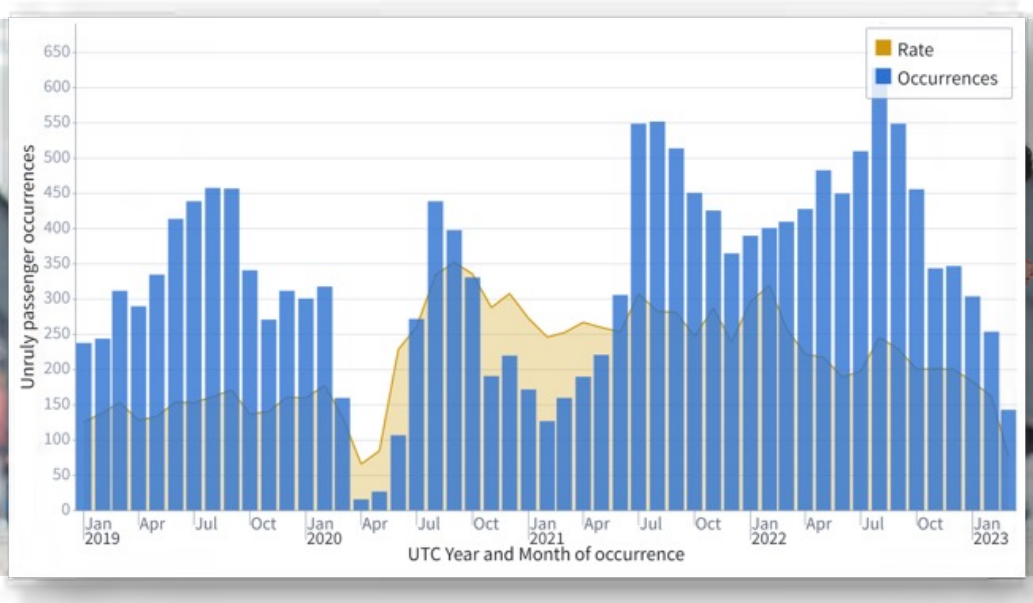
The risks to passengers and staff

The risks associated with unruly passenger behaviour extend beyond flight safety. They also pose threats to your safety when you come to work, as well as the risk to passengers.

- ***Physical harm:*** Unruly passengers put people at risk of physical harm – we want you to be able to come to work and feel safe at all times.
- ***Emotional distress:*** It should also be recognised that unruly passengers create a stressful and unsettling environment for everyone. Being involved in such a situation naturally impacts the wellbeing of staff involved. We are here to support you so please reach out to our Wellbeing support team at any time.
- ***Ground incidents:*** It is important to know that unruly passengers are also a problem on the ground. From check-in and security to the departure lounge and gate area. Our ground teams are working closely with all our airports and particularly local law enforcement to help identify situations and take early action to de-escalate any potential disruptive behaviour.

Increasing numbers and an increase in severity

Data from EASA shows that the number of unruly passenger events has increased over recent years, particularly since the COVID-19 pandemic. The rate of events (number of events per 1,000 movements) increased during the pandemic but has since reduced. What is most worrying is that the severity of the incidents appears to have increased considerably. Having discussed this with a number of police services in different countries, this matches what they see happening in the general population. Flying, combined with alcohol and prescription/ illegal drugs can be a dangerous mix that creates risks that we must manage collectively as an industry.



Communication and promotion to our passengers

One of the biggest things we are doing is to use the material from EASA's "Fly Right this Summer" campaign to help educate our passengers. We must strike a fine balance in the tone we take with our passengers. The vast majority of them behave perfectly so we don't want them all to think we are accusing them of being terrible people before they even set foot on the aircraft.

We have 3 key messages that we will be communicating to our passengers throughout the summer. The information will be provided via our social media, on our website and we will also be using screens around the airports in our network wherever we can to influence the passengers' behaviour. Under each message there are additional tips and useful information to help passenger to be ready and "Fly Right".

- Ready for Flight: Follow our tips for a smooth journey.
- Be Polite: Be nice to staff and other passengers.
- Don't Fight: Bad behaviour will not be tolerated.

The legal situation:

At a global level, the International Civil Aviation Organisation (ICAO) and a UN organisation that governs the world of aviation. When it comes to unruly passengers, ICAO developed something called ICAO Montreal Protocol 14 (MP14) that provides a framework for countries to enact or enhance legislation that explicitly criminalises unruly behaviour on aircraft.

This helps to serve as a deterrent and provide a legal framework to punish offenders appropriately. In Europe, EASA is working with the different National Aviation Authorities (NAAs) to help them ratify MP14. Without MP14 in place it is very difficult for police to take action against unruly passengers on aircraft either registered outside their country or operated by an airline in their country so its pretty much a no brainer.

From our side, the situation regarding MP14 in different countries shouldn't impact the decisions we take in the cabin. It might make the follow up more difficult, but the safety team will support you with any follow up and you will receive full pay for any time outside your normal duty period you spend dealing with unruly passenger follow up.

What you can do?

Here are the key actions that you can take to help manage the risk of unruly passengers:

- ***Unite for success:*** Collaborate, communicate, and conquer. Collaborate with each other in your crews/ teams. Also work closely with staff in the other organisation we work with around the airport. Identify and manage unruly passengers together and support each other in deescalating difficult situations.
- ***Empowering you:*** As crew/ staff members, we appreciate that you have to take difficult operational decisions based on the situation you are facing. Hopefully you will have received all the training you need to handle difficult situations in your specific job role. If you are unsure of your role regarding unruly passengers or require support with training, please contact your team's training lead – they are there to help you.
- ***Standing by you:*** You will have the full support of the company for any decision you make concerning unruly passengers.
- ***Encouraging reporting:*** Please report any situations involved unruly passengers. When you are part of a crew or team, discuss together who will make the report. When you report, please provide as much information as possible. This information helps use work out how to best mitigate the risks in different situations or locations. We will also communicate any follow up information as quickly as possible, so you get feedback on your reports.
- ***Help our passengers to Fly Right:*** Support our passengers whenever you can. For many people it will be the first time they have flown since 2019 so they may be a lot more nervous to fly. Communicate with passengers whenever you can and go the extra mile to make their journey memorable.
- ***Walk in Their Shoes:*** Finally, walk in our passengers' shoes by thinking about things from their point of view. If you spot a passenger pinch point, please tell someone so any challenging situations can be solved. ■

Managing Unstable Approaches

Unstable approaches have been a problem since the very beginning of commercial aviation. Even so, they are still one of the most common contributing factors to many of the incidents and accidents that occur during landing. Regardless of the changes our industry faces, this article is an important reminder of the importance of effective preparation for the final approach and landing phase of flight including anticipating last minute changes and the need for cooperation between flight crews and air traffic controllers.

This article was initially published in the Airbus Safety first magazine in October 2020. It provides tips to detect a potential unstable approach in advance so that corrections may be applied long before the stabilization height. It also discusses respecting stabilized approach criteria and being prepared to "go-around" in the case destabilization occurs in the later stages of the approach.

MANAGING CHANGES IN AVIATION

New challenges

A global pandemic, such as COVID-19, has had many ramifications for the aviation industry, not least of all is the challenge for pilots to maintain recency in the face of an unprecedented drop in air traffic. Ongoing concerns about the effects of the pandemic can also be distracting for flight crews. Flight crews must remain focused on their tasks throughout the flight, but especially during the very dynamic and variable phases of flight such as arrival, approach, and landing.

Modified ATC guidance

In congested airspace, ATC sequences large numbers of aircraft arriving at their respective destination airport by providing speed and trajectory guidance. When traffic levels are low, ATC may not transmit such guidance. In usually congested airspace, flight crews should not expect ATC to provide such guidance and must always be aware of the need to monitor and control their energy.

Shortened approach trajectories

As we saw during the height of the pandemic, when airspace is less congested, ATC would clear flights on more direct routings. Consequently, due to the shortened approach trajectories, flight crews had to adapt their approach strategies quickly to efficiently manage the aircraft energy efficiently.

In all cases, the flight crew must take advantage of the various tools and techniques available to manage and monitor their flight's energy efficiently.

PREPARATION FOR A STABILIZED APPROACH

Energy Management

Good aircraft energy management from the top of descent is a prerequisite for a stabilized approach. Aircraft energy management is a combination of tools, anticipation, and a flexible flight crew action plan.

Use of the Flight Management System

During descent, approach, and landing the use of the FMS provides efficient assistance to the flight crew to manage the energy of the aircraft and reach the final approach at the correct speed. The "Procedures - Normal Procedures - Standard Operating Procedures - Descent" from the FCTM provides details on how the FMS computes the descent profile and how the use of the managed guidance modes enables the aircraft to stay near this ideal profile during descent. This is also described in the "Control your speed during descent, approach and landing" Safety First article published in July 2017.

Anticipation of late changes

In areas that use specifically constructed arrivals and approaches that enable sequencing of high volumes of traffic in congested environments, the anticipation of a late "direct to" request from ATC, if traffic is low, can help to reduce the crew workload and stress. The flight crew should review the planned approach trajectory and be prepared for the "worst case" scenario of a "direct to" that would significantly reduce the track miles to the runway.

Discussing the approach strategy during the Approach Briefing

During the approach briefing, management of late changes due to ATC requests should be anticipated and discussed, ensuring the strategy and task sharing are clearly defined. This should be part of the flight crew's Threat and Error Management (TEM) considerations.

Cooperation between flight crews and air traffic controllers

Cooperation between flight crews and ATC is essential to prevent situations that may lead to an unstable approach. ATC should inform the flight crew as soon as possible if a shorter route is to be expected. In turn, this would enable the flight crew to anticipate and adapt their strategy accordingly and avoid high workload in the last phases of the approach. Flight crews should also alert ATC if the crew is unable to comply with any request to shorten the flight's route and, if necessary, ask for additional track miles to manage the aircraft's energy.

EARLY DETECTION OF AN UNSTABLE APPROACH

In many cases, a potential unstable approach can be detected long before the stabilization height. The flight crew should take advantage of the tools and techniques available for early detection of an unstable approach. Detecting an unstable approach early will enable the flight crew to take the time to recover the situation using trajectory modification in cooperation with ATC, thereby, avoiding the need for last-minute corrections or a discontinued approach.

Cross-crew Communication

Efficient crew communication is essential during the entire flight, especially during the whole dynamic approach phase that can include several changes in speed and aircraft configuration, such as maneuvering the flight towards the

final segment. Flight crew should be able to express any concern(s) that they may have about a parameter they might not be comfortable with, even before reaching the stabilization height. Such an exchange can highlight a parameter that may not have been noticed. This communication between the crew will also prepare them for a potential discontinued approach or go-around and will prevent a potentially rushed go-around manoeuvre at the last minute.

BE PREPARED TO INTERRUPT THE APPROACH AT ANY TIME

If it is not possible to reach or maintain a stabilised flight path, flight crew must be prepared to discontinue the approach or initiate a go-around at any time.

The Stabilisation Gate

Rigorous respect of a stabilisation gate provides a good basis for the accomplishment of a subsequent safe landing: a stabilized aircraft at the stabilization height enables the pilot flying to be prepared for a safe and efficient landing flare.

Operators should define and provide their flight crews with a clear definition of their stabilization criteria and stabilization height based on FCOM guidance, local regulations and their crew's experience.

Operators should encourage their flight crews to strictly respect the stabilization gate and to perform a go-around if the criteria cannot be achieved or if the crew do not feel comfortable with the stabilization of their aircraft. A non-punitive policy regarding go-arounds combined with adequate go-around training using various scenarios will increase flight crew confidence in their handling of the manoeuvre and will improve their go-around decision making.

FCOM Stabilization criteria provides guidance to help operators define their own stabilization policies. If one of the conditions is not satisfied, the flight crew should initiate a go-around, unless they estimate that only small corrections are required to recover stabilized approach conditions.

Late Aircraft Destabilisation

Being stabilised at a gate is not sufficient to ensure a safe and efficient landing. The flight crew must keep the flight parameters stable and within the limits until the landing. Some external conditions such as wind gradients may lead to late destabilization.

Close monitoring of the flight parameters

The nearer the aircraft gets to the ground, the greater the importance of efficient monitoring of the flight parameters is. The Pilot Monitoring (PM) must make a callout if any flight parameter deviates above the defined thresholds. The Pilot Flying (PF) must then either correct the deviating parameter, if possible, or initiate a go-around if the correction cannot be made in a timely manner. Refer to the FCOM "Procedures - Normal Procedures - Standard callouts - Flight parameters" for information about the callouts to be used during approach and the thresholds for flight parameters deviations.

The "A focus on the Landing Flare" Safety first article, published in September 2020, provides an example of a late destabilization in final approach and the associated recommendations for go-around near the ground.

SUMMARY

Every pilot is already aware of the potential safety consequences of an unstable approach condition. Unstable approaches are still a contributing factor to many accidents or incidents during approach and landing. This is why repeating and sharing the lessons learned can ensure that flight crew is well prepared to ensure a safe landing.

During their approach briefing, flight crews should anticipate scenarios that could happen during descent and approach, such as late changes requested by ATC. The aircraft's energy can then be managed efficiently using the available tools and techniques provided in Airbus documentation. This will also enable the flight crew to identify any possibility of an unstable approach as soon as possible, allowing for early intervention to either recover the situation or to interrupt the approach. Anticipating late change in the action plan for the approach and landing phases is part of the Threat and Error Management (TEM) considerations.

Cooperation with ATC is essential to ensure that the flight crew are informed of any expected shortened trajectory in advance, so they can adapt their strategy accordingly. Flight crews should alert ATC when they are not able to comply with a request, and if necessary, ask for additional track miles to manage the aircraft's energy.

Operators should promote strict adherence to stabilisation criteria with flight crews and to consider the stabilisation height as a hard decision gate that should not be passed if any of the stabilisation criteria is not met. A non-punitive policy regarding go-around should apply together with appropriate training for go-around in various situations. This will increase the confidence and competencies of the flight crews to discontinue the approach or perform a safe go-around at the appropriate time in the case -or with the risk- of an unstable approach. ■

SAVE THE DATE

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Hyatt Regency Cologne, Kennedy-Ufer 2A, 50679 Köln, Germany

Managing Summer Safety Risks

Unstable approaches have been a problem since the very beginning of commercial aviation. Even so, they are still one of the most common contributing factors to many of the incidents and accidents that occur during landing. Regardless of the changes our industry faces, this article is an important reminder of the importance of effective preparation for the final approach and landing phase of flight including anticipating last minute changes and the need for cooperation between flight crews and air traffic controllers.
The article also provides tips to detect a potential unstable approach in advance so that corrections may be applied long before the stabilization height. It also discusses respecting stabilized approach criteria and being prepared to “go-around” in the case destabilization occurs in the later stages of the approach.

This summer, our industry will be challenged again. As passenger numbers finally start to increase beyond those of 2019, it is important to be aware of the top safety issues and risks that can be expected this summer?

Even though summer hasn't officially begun, we've already seen signs of possible disruptions in April and May 2023. That's why EASA is closely monitoring the situation, continually collecting data, and analysing information to help you address potential safety risks. Following analysis with EASA's collaborative partners the following issues have been identified.

- Ineffective management of change
- Shortage of operational and technical staff (not limited to flight and cabin crew)
- Various aspects of cyber-attacks
- Loss of knowledge, expertise and transfer of experience following
- Ground handling training programmes disruption
- Missing suppliers and low availability of parts
- Lack of time to properly train staff
- Disruptive passengers (for this topic we will launch a separate campaign from 19 June – register for the webinars on the Ready to Fly Campaign page here).
- Capacity issues

Of course there will other issues that you will face within your own operation so make sure to identify them as part of the "Being Ready" part of your summer preparations. Things will change over the summer, this is why "Being Responsive" is so important. You need to have a positive approach to reporting and make sure that having open safety conversations is part of normal daily operations in your organisation.

Safety Risk Management (SRM)

The first batch of actions in the SIB cover the management of safety risks. As described earlier, it is important to identify how the risks above might apply in your organisation. It's a good idea to brainstorm what other risks you have that might be specific to your operation.

A key part of "Being Resilient" is to stress test your risks and their mitigations. You could be faced with many different challenges this summer, perhaps even multiple challenges at the same time. The more you identify them in advance and consider what you would do to mitigate the risk, the better placed you will be for a safe summer. Don't forget to include psycho-social risks that impact your staff's ability to perform to their best.

It cannot be said enough, having a positive safety culture that encourages reporting is vitally important this summer.

As part of their safety risk management process, consider conducting a specific risk assessment to identify areas where safety risks may increase as a result of the issues listed above, or as a result of traffic disruptions generally.

When performing risk assessments, consider interactions between different safety issues (e.g. potential lack of qualified staff and fatigue) that are relevant to their activities or operations.

Based on the results of the safety risk assessment, strengthen their monitoring of the affected areas and take appropriate mitigating measures.

Ensure that operational pressure will not adversely impact the reporting and safety culture in their organisations.

Emphasise, at all levels, the importance of fostering a positive safety culture that encourages staff to report occurrences and hazards with confidence.

Flight Time Limitations (FTL)

There is a huge risk of fatigue this summer. The key word is "summer", this busy period will last to September so you need to manage fatigue effectively for the whole time. The specific recommendations from the SIB are these:

- When planning crew monthly rosters, consider operational disruptions (e.g. provision of ground services, ATM congested area) with a known high proportion of flight delays and cancellations (e.g. time needed for crew security check, taxiing, longer turnaround times), in order to avoid reaching duty period limits that may potentially impact crew fatigue.
- The exercise of commander's discretion is an exceptional measure. Extension of flight duty period when operating to and from aerodromes with a known high propensity for delays should not rely on excessive use of exceptional relief solutions. Furthermore, any scheduling of crews, with commander's discretion already included is not acceptable and the planning of extensions should be limited as much as possible. Moreover, commander's discretion should be avoided at the air operator's home base and/or hubs, where standby or reserve crew members should be sufficiently available.

For operators, there are also these important recommendations:

- Frequently review and adjust the schedule to take into account the availability of qualified crews (flight and cabin), maintenance and technical staff, availability of aircraft and spare parts, ATM network performance, adequacy of ground services at the airports where they operate.
- Avoid pairing of newly upgraded commanders with inexperienced first officers.
- Avoid scheduling cabin crew together where all have less than 6 months experience.
- Avoid potentially challenging crew training activities so that the quality of training is not adversely impacted by operational disruptions (e.g. introduction of new aircraft, operators conversion courses, initial SPA training, etc) during the summer months.
- Anticipate an increase in the number of unruly passengers and ensure that crew and, where applicable, ground handling personnel are trained on how to detect, defuse and prevent critical situations, including the causes of unruly behaviour and how to handle and report these situations.
- Remind all staff of their role, including line supervisory level, in ensuring thatsafe and reliable operations is given first priority.

From a planning perspective, there are also these recommendations for operators:

- Carefully plan the availability of aircraft to cover the summer schedule. If wet leased aircraft are to be used, operators are recommended to notify their competent authority in due time. This will allow a smooth process and potentially avoid delays.
- Plan activities considering a realistic availability of qualified personnel (operational personnel and crew).
- Adapt the flight plan (e.g. discretionary and/or additional fuel) to the available information related to possible delays en-route or at arrival in order to avoid any unnecessary diversions.

EASA's full analysis also covers other domains including Aerodromes and Ground Handling, Maintenance, Training and Cyber Security. You find out more on the EASA Air Ops Community Site. ■

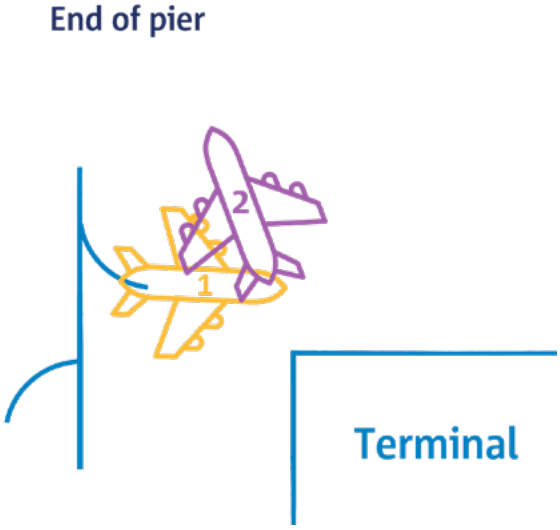
Jetblast

As airports get busier, we have an increased risk of jet blast in our Safewings operations. We have seen a number of occurrences over recent months in various situations. Thankfully, there has been no damage or injuries (yet) but, in the worst case, jet blast could have resulted in injuries to ground personnel or damage to objects, such as ground equipment being moved. Depending on the stand layout and other stands/activities in the vicinity, there is a risk of jet blast causing an incident. This article aims to highlights some recent events to show the potential causal factors and give some clear actions for flight crew and ground crew in preparation for the summer operation.

Some Situations and Example Events

Self-manoeuvring from a stand at the end of a pier

There are a few airports in our network where we can self-manoeuvre away from the stand at the end of a pier. Also in some situations, a 180-degree turn is required to manoeuvre the aircraft from the stand to the taxiway.

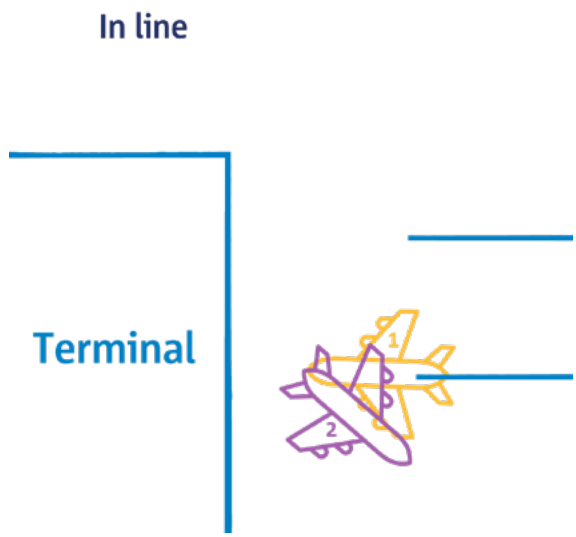


One occurrence involving an A320 (Gross Weight 60.2T) occurred at one such airport, where the aircraft self-manoeuvred from the stand. Both engines were started at heading 097 degrees with 12 seconds of 29% N1 engine until the aircraft had turned through heading 020 degrees with IDLE thrust selected. Momentarily both engines reached N1 35% around halfway through the turn.

The loading team on the adjacent stand were forced to take shelter behind the GPU and forward steps and 2 cargo containers were blown from the high loader being used to load the aircraft on this stand. The loading platform was in the lowered position and the pallet/container locks had been released to allow offloading; one of the containers was lightly loaded (15 bags) and became dislodged from the high loader. Thankfully, there was no damage to the aircraft at the adjacent stand and there were no injuries.

The departing aircraft's crew complied with the company procedures by applying less than the maximum 40%N1 throughout the manoeuvre from stand. Despite complying with this procedure, jet blast velocities of 30-38kts were likely to be experienced on the adjacent stand. The event highlighted the importance of checking adjacent stands/ areas and liaison between flight crew and ground crew during any manoeuvre.

Aircraft in line with self-manoeuvring in and out



There are also airports in our network where aircraft are parked in line on the open ramp. In some cases, this can be front of the terminal, or in remote parking areas. The apron can be divided into equal blocks, with each aircraft type requiring a certain number of blocks to ensure sufficient clearance for manoeuvring on/off stand. Aircraft are parked "nose in", therefore requiring a 180 degree turn to position the aircraft on the taxiway.

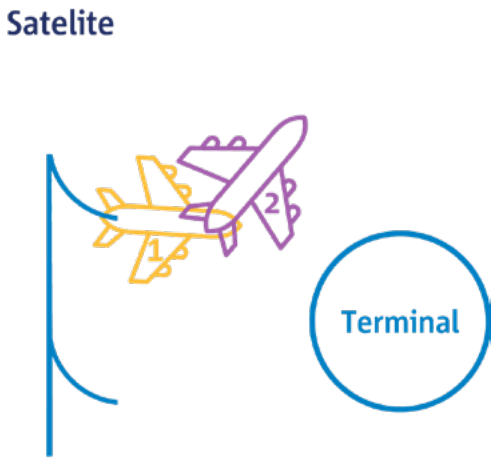
Under the guidance of a marshaller, an A320 was self-manoeuvring from stand to taxiway; an A319 and a Saab 340 were parked on the adjacent blocks.

The A320 crew had briefed a two-engine taxi out but, due to delays getting walk-around clearance from ground crew and a strong likelihood of the slot expiring, the crew re-briefed a single-engine taxi, as there would be sufficient time to warm-up the second NEO engine while backtracking on the runway. An airport marshaller was present and indicated that the aircraft required a left turn following receipt of ATC clearance to taxi.

The aircraft was parked nose-in on a heading of 280 degrees. Engine 1 (ENG1) was started on-stand, the parking brake released and thrust on ENG1 was incrementally increased up to 42% N1. The aircraft started to move forward at approximately 1-2 knots groundspeed, before a tight left turn was commenced. As the aircraft turned through heading 235 degrees, thrust was reduced to 27% N1. As the aircraft turned through 220 degrees, thrust was increased again, peaking at 44% N1. The aircraft then turned right onto the taxiway and thrust was reduced to idle; ENG2 was then started.

In this case, 40%N1 was exceeded due to the aircraft requiring a tight left turn with one engine running, a one engine taxi departure (OETD). A restrictive slot and the time required for NEO engine start contributed to the decision to perform the OETD and the subsequent use of increased thrust on ENG1 during the turn. The increased use of thrust resulted in jet blast velocities of up to 78kts, which led to a FOD bin and some cones becoming dislodged. These were projected towards the terminal, thankfully, with no injuries or damage.

Satellite terminal with self-manoeuvring to and away



Finally, there are those airports in our network with satellite stands that do not require a full 180-degree turn to manoeuvre the aircraft to the taxiway. The aircraft in question was parked on-stand and was instructed to make a left turn out and taxi to the runway holding point.

ENG1 was started at heading 095 degrees. The parking brake was released and ENG1 N1 24% to roll then ground IDLE. Aircraft groundspeed reduced to 0. At heading 045 degrees, ENG1 N1 was maintained at 33% for 19 seconds, the aircraft rolled with ENG1 reduced to IDLE; ENG2 was then started.

Again, the company procedures were respected by not exceeding 40% N1. Feedback from the airport indicated that there appeared to be some confusion on the required manoeuvre for the left turn out and the instruction to perform a right turn and taxi. Thanks to the crew report received following this event, local ground movement procedures have been revised to offer clearer and less ambiguous instructions to flight crew, though vigilance when maneuvering from satellites remains paramount.

In this case, the initial thrust resulted in groundspeed reducing to 0. With the jet blast directed to ground equipment at the satellite terminal, increased N1 on engine 1 (33%) was required to re-establish momentum, resulting in likely jet blast velocities in the region of 30kts directed at parked ground equipment. Jet blast dislodged several baggage carts that were parked at the head of the stand (close to the satellite). No damage occurred and there were no injuries.

Summary

All the events described occurred during departures from self-manoeuvring stands. Most events complied with their respective company SOPs, by not exceeding 40% N1, although this did not prevent adverse effects of jet blast on ground equipment and/or personnel.

The combination of unsecure ground equipment and jet blast velocities of up to 38kts (in one instance, up to approximately 78 kts when >40% N1 was used) directed at ground equipment resulted in ground equipment becoming dislodged. Weather conditions (wind) did not affect the experienced jet blast.

All the events occurred shortly after establishing forward momentum (1-2 kts) and involved a perceived tight manoeuvre where the aircraft was turned with asymmetric thrust. This required a further momentary increase in thrust during the turn to maintain or re-establish momentum. At these moments of increased thrust, the thrust vectors were directed towards ground equipment. Normally, thrust should be used symmetrically and excessive thrust applications can result in exhaust-blast damage.

Key points

- Not exceeding 40%N1 ensures no excessive jet blast velocities, though is no guarantee of preventing ground damage/personal injuries - this means that other risk mitigation measures are needed.
- Include the self-manoeuvre from stand in the departure briefing and include a discussion on the direction of turn, performing a one engine taxi departure and using asymmetric thrust.
- Identify and mitigate any potential threats around the aircraft prior to taxying to minimise the risk of damaged ground equipment/personal injuries due to jet blast.
- When performing a self-manoeuvre from stand, be aware of the direction of jet blast throughout the turn, especially if additional thrust is deemed necessary.
- Ensuring sufficient momentum prior to starting the turn may assist in preventing the requirement for additional thrust during and throughout the turn.

Finally, for staff on the ground, be aware of the potential risks on the ground from jet blast when aircraft are turning on or near the stand. Where possible, secure ground equipment items.

Fly 'n' Fun-tastic

Our hot, hot, hot quiz of the month (but not from Norwich)

Which runway melted during a heatwave in 2022?

Every 1degC increase in OAT can lead to an EGT increase (to produce the same thrust of takeoff) of approximately how much?

In 2017, which airport recorded the hottest temperature seen at any airport?

Is HOT a real airport?

You can rehydrate yourself more easily at which airport in Europe that boasts the only airport brewery?

Some great safety reads

Here are some great safety books that we read recently. Send us your safety book reviews to safetypromotion@easa.europa.eu.

- Next Generation Safety Leadership: From Compliance to Care by Clive Lloyd.
- Do Safety Differently by Sidney Dekker and Todd Conklin.
- 10 Ideas to Make Safety Suck Less by Sam Goodman.
- The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth by Amy Edmondson.
- In the Moment: Build Your Confidence, Communication and Creativity at Work by Neil Mullarkey

Spotter's corner

Are you smart enough to identify the aircraft type from only its shadow?

Answers: Hot, hot, hot quiz: 1. Luton, 2. -3 Degrees C, 3. OIAW/ Ahvax (54 Degrees C), 4. Yes, KHOT/ Memorial Field Airport is in Arkansas, USA, 5. Airbräu at Munch Airport (but not if you're crew, and watch out for "heavily hydrated" passengers this summer season!). Spotter's corner: Boeing 737-800.

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