FEEDBACK

Issue No: 56 **October 2000**

EDITORIAL

AIRPORT SECURITY

Following representation of reporter's concerns regarding the recent introduction of a keypad system to air bridges at a principal UK airport, the airport authority has conducted a review and has introduced procedural changes to address the concerns expressed. In the particular case of an emergency evacuation onto the air bridge, the relevant airport instructions have been revised, permitting the door-lock mechanism to be over-ridden and thus facilitate free access back into the Terminal area.

We are continuing to seek a review of other aspects of airport security procedures that pertain at all UK airports with the objective of making them more consistent in meeting the routine operational requirements of flight crew members and engineers.

DO *YOU* HAVE A CHANGE OF ADDRESS?

If you receive FEEDBACK as a licensed pilot/ATCO/maintenance engineer or medical examiner you will need to notify the relevant department of the CAA of your change of address, as follows:

Flight Crew/ATCO	(T): + (0) 44 1293 573700
	(F): + (0) 44 1293 573996
	E-mail: fclweb@srg.caa.co.uk
Maintenance Engineer	(T): + (0) 44 1293 573700
	(F): + (0) 44 1293 573779
	E-mail: eldweb@srg.caa.co.uk
Authorised Medical Exam	(T): + (0) 44 1293 573700
	(F): + (0) 44 1293 573995
	E-mail: medicalweb@srg.caa.co.uk

Alternatively, you can notify them in writing:

[Relevant Department]
Civil Aviation Authority
Safety Regulation Group
Aviation House
Gatwick Airport South
West Sussex RH6 0YR

CHIRP HAS RELOCATED!

Our New Address (for reports) at Farnborough is:

The CHIRP Charitable Trust
FREEPOST (GI3439)
Building Y20E
Room G15
DERA Farnborough GU14 0BR

Tel: + 44 (0) 1252 395013 or
Free*fone*: 0800 214645 (UK only)
Fax: + 44 (0) 1252 394290
e-mail:Confidential@chirp.co.uk

FMC DATABASES

Following the report on Flight Management Computer (FMC) updates in FEEDBACK 55, CAA (SRG) are proposing that the following text be added to Master Minimum Equipment List documents to permit continued operations of aircraft for a limited period in cases where the FMC database has not been up-dated.

"Navigation database (if installed) ### (numbers etc defined) may be out of currency provided:-

a) Current aeronautical information is used to verify navigation fixes prior to despatch

b) Procedures are established to verify status and suitability of navigation facilities used to define route of flight, and

c) The navigation database is up-dated to the current standard within 10 calendar days."

L'AIGLE/LAGIL DEPARTURES

As noted in the last Issue, CAA (SRG) notified the French Authority of the potentially confusing Standard Instrument Departures L'AIGLE and LAGIL from Le Bourget. CAA (SRG) has been advised that a major review of Paris procedures is to be undertaken in 2001 and this matter will be assessed as part of that review.

In the meantime, don't get caught out!

FEEDBACK can also be accessed on the internet at www.chirp.co.uk

Confidential Human Factors Incident Reporting Programme

INSIDE THIS ISSUE:

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FEEDBACK is published quarterly and is circulated to UK licensed pilots, air traffic control officers and maintenance engineers, if you are not already on our circulation, and would like to be, please send your application in writing to Kirsty at the above address.

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A SIMPLE BUT SIGNIFICANT ERROR

The weather was poor at this normally busy GA airfield and therefore it was quiet. Although qualified as an ATCO I was performing the role of an Assistant.

I received a facsimile copy of a flight plan to a German destination for one of our regular customers marked "Rejected, please advise pilot". As it was quiet, I began working on a suitable route to try and get the flight plan on the system ready for the intended departure time, some two hours later. Various permutations were tried until eventually a fairly complex route was accepted by the Flight Plan computer. Whilst working on this flight plan I received a second one from airfield Flight Operations for another aircraft for a departure early the following morning. I processed this and then completed the original flight plan. When I had sent it and received an acknowledgement, I contacted the pilot by telephone, told him that his flight plan had now been accepted and that I would give him a copy on his arrival at the airport. This I did, pleased to provide a good service to our customer.

When the aircraft called for taxi, I contacted Terminal Control for a clearance, only to be told "No details". So then a spate of phone calls to Flight Plan Section, Terminal Control, etc. to get the FPL manually input. Finally Terminal Control called back with a clearance and the aircraft departed, and was transferred to Area Control shortly afterward. As I picked up the flight plan telex details, to my horror I saw that I had transmitted the Date of Flight on the flight plan as the next day - the aircraft was airborne and off frequency with NO flight plan. I hastily retransmitted the FPL with the correct date. It was acknowledged with a slot time some six hours ahead. With a sinking feeling I transmitted a Departure Signal for the actual time of departure. It was not long afterward that Flow Control phoned, far from happy...

The error made and lessons learnt? I had failed to change the Date of Flight on the AFTN system screen back after dealing with the second flight plan. I had failed to double check the date, and another off duty controller, who had been helping me with the routeing, did not detect the error as we discussed, read, re-read and telephoned across the FPL detail. I saw what I expected to see, the incorrect Date of Flight simply did not register. I was too involved in the problem solving of the routeing, getting a clearance, getting the aircraft away without delay.

Lessons learnt - Always check the detail; try to remain detached and objective to the situation at hand. I had made a fundamental error in a task that I had performed hundreds of times without a problem. No one noticed the error, trusting my judgment.

And what of our customer for whom we had provided "sterling service"? Refused entry to German airspace and diverted to an Italian aerodrome for running 6 hours ahead of his (to him unknown) slot!

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SECTOR NUMBERING

I write to draw attention to the latest Swanwick-driven requirement at LATCC. Sectors are now to be referred to by the new Swanwick sector numbers in all co-ordination and telephone calls.

I believe that there are already more than enough numbers in use in ATS operations; for example callsigns, headings, levels, pressure settings, frequencies and channel numbers to name just a few. Even with great care the opportunity for error can and does occur, such is human nature. I presume that the use of sector numbers has been the subject of a trial at Swanwick, and approved by someone. Few, if any, operational ATCOs at

LATCC are in favour of the use of more numbers, particularly when an unambiguous alternative exists. There has been no operational trial at LATCC where it is first to be used.

Adding yet more numbers to the system seems to me to be adding to the problem, particularly since unambiguous sector NAMES have been in use for some considerable time. For those that remember the original LATCC sector numbers, the new Swanwick sector numbers do not equate to the earlier numbering system. (Sector 23 that was, is now Berry Head, and will be Swanwick sector 6, the new Swanwick sector 23 is the old Bristol sector! Confusing??)

NATS response to the observation that the use of sector numbers, as opposed to names, has human factors implications has been to issue a supplementary instruction instructing all ATCOs to "ensure that the word Sector is used to prefix all telephone communications". This smacks to me of a certain amount of yardarm clearing without actually addressing the perceived problem.

It is curious to note that the Operational Conversion Training plan, issued to all LATCC ATCOs posted to Swanwick refers to sectors by their existing names, not the Swanwick sector numbers.

Is it possible that the pressure to deliver Swanwick on "O" date is affecting NATS to such an extent that any "trivial" queries such as this are ignored??

The report was forwarded to NATS and CAA (SRG) for comment. We have received the following responses:

NATS: NATS recognises the potential problem and will be monitoring the issue during Operational Conversion Training at NERC. It must be borne in mind the use of numbers for sector designation has existed at LATCC for some time. The supplementary instruction is part of the process to ensure effective transition to NERC.

CAA (SRG): SRG is aware of the concern amongst some LATCC controllers generated by the change from present sector names as used at LATCC to sector numbers at Swanwick Centre.

SRG understand that the introduction of Swanwick sector numbers in parallel with the current LATCC sector names is intended to provide familiarity in preparation for Operational Conversion Training and so ease the transition to Swanwick

SRG has attended all the ATC procedures development simulations at Swanwick and has no evidence that the change to sector numbers has proved difficult for the NERC Transition Team controllers and assistants to assimilate and use. We recognise that it is imperative for standard telephone phraseology and technique to be used at all times for co-ordination messages at Swanwick and will be monitoring the Operational Conversion Training delivery phase to ensure this safety issue is adequately addressed.

When changing a routine procedure, such as that described, training is an important factor in minimising human error incidents in the period following the change - a fact acknowledged in the CAA statement. In view of this, it is perhaps surprising that this change has been introduced at LATCC in advance of the planned NERC Operational Conversion Training.

ATC COMMENTS

WHO AM I TALKING TO? (FB54)

In FEEDBACK 54, an ATCO reported an increasing trend for pilots to omit their callsigns from RT acknowledgements.

I completely agree with the ATCO writer of "Who am I talking to?" As a LATCC based Approach controller for a big airport just west of London, I too have noticed a definite trend of pilots completely omitting their flight callsign from readbacks to ATC. Sadly, this applies as much to major home-based British airlines as to foreigners. In order to avoid level-busts and other frighteners, we ATCOs are now constantly, and quite rightly, exhorted to "listen to readbacks", but our efforts are utterly thwarted when we can't even tell who's taking our calls!

And whilst on the subject of inadequate readbacks, sorry pilot friends, but callsigns apart, we ARE required to get your readbacks to ALL instructions involving levels, pressure settings, headings, speeds and frequency changes. Replies, so often heard now, such as "Wilco", "OK, We got that" or "Switching to Tower" just aren't good enough if safety is to be maintained. We busy ATCOs do appreciate that pilots may just be trying to help our workload by cutting down the RT, but if we don't get the required readback (with or without the flight callsign!) we just have to repeat everything all over again to double-check. As the earlier writer put it, this certainly ups the aggravation factor, let alone taking up valuable RT and thinking time. Cutting corners on the RT really doesn't help.

Many pilots are conscious of the increasing congestion on some RT frequencies and make a positive effort to minimise the content of their transmissions. However, this report is a timely reminder that specific ATC instructions should be read back and full callsigns should always be used, except where the ground station has abbreviated it (AIC 140/99 (Pink) - RT Discipline refers).

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THE PAUSE THAT CONFUSES

From ASRS CALLBACK May 2000:

Upon receiving take-off clearance, Tower modified the SID to "Fly runway heading (010°). Upon climbing through 1,000 feet MSL, Tower instructed us to do the following:

"[Aircraft call sign] Start your turn to heading 030° - pause/breath - at 4,000 feet contact [Departure] on 120.9."

What the Tower meant to say was:

"Start your turn to heading 030° at 4,000 feet. Contact [Departure] on 120.9.

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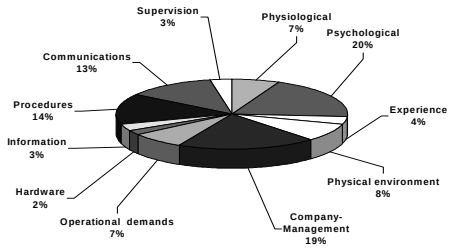
FLIGHT DECK REPORTS

Flight Deck Reports received in Period: 45

Key Areas:



A CHANGE IN ROUTINE

A change to a normal routine operation can provide the opportunity for error, particularly when tired.

The First Officer contacted Flight Data at *a European Regional Airport* and requested airways clearance. This was duly received, as well as a clearance to push and start, or so we believed. The Before Start checklist was completed and pushback and start commenced. During the push we noticed an MD-80 taxiing towards us; this passed by us on the adjoining taxiway much too close for comfort. I commented to the First Officer on how unusual it was for ATC to allow such minimum separation.

As the MD-80 passed behind us, Flight Data called asking why we were pushing back when we were not cleared to. We apologised, believing we had been cleared to push. The controller informed us that it was usual practice to pass us to the Ground frequency for push (start clearance only is given on Flight Data), but the frequency was combined on this occasion and it was his responsibility and we were therefore cleared to continue with our pushback. It was a combination of not being transferred to Ground frequency for the push, as is usual and is also a trigger for us to get a pushback clearance, and the belief that we were cleared to push which almost ended in a collision.

The fact that both of us missed all the usual clues and did not question each other was that we were fatigued. Over the last few weeks we have all been operating very close to the 28-day maximum and this duty had started at approximately 0330Z. The preceding duty had finished at 2300Z, with a rest day prior to the early start. The practice of a late finish, travel to hotel, rest day, followed by an extremely early start, is fatigue inducing and, when both duties are very long, fatigue becomes a problem.

In this incident we were very lucky, but it is a stark reminder of how a little change to the normal and expected, when tired, can soon turn to something much more serious.

The combination of a late duty, a Rest Period in the order of 24-hours spanning two natural sleep cycles followed by an early duty, as described in this report, can be tiring, particularly for those individuals who have difficulty adjusting their sleep patterns.

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Easy to miss a significant item such as Flaps?

An interruption or a simple slip during a check sequence, tiredness or perhaps a badly constructed SOP can also provide the opportunity for a Human Error incident. Fortunately, the Configuration Warning can provide a last line of defence:

(1) Getting The Words Right, But ...

Having had an early start, we had already done two sectors and then had a long turnaround prior to the last sector of the day. This had led us both to wind down a little and it took some effort to gear-up again for the final sector. The forecast weather throughout the day was for heavy showers and occasional thunderstorms and we had already seen evidence of these building up, on the earlier sectors.

Both the Captain and I were struggling with revised SOP's and a new checklist that had been introduced a few days earlier, particularly with the correct responses for various checklist challenge items.

As PNF I was due to start the engines during pushback. As we were just pushing and about to start engines, I became involved in a protracted RT conversation. By the time I had dealt with that, the Engine Start and After Start checks had been completed by the Captain, who had also obtained taxi clearance and we were taxiing

I stated that I was now 'out of the loop' and asked him to update me. He suggested I re-run the After Start checks, which I did. I was silently irritated because I felt there should have been no great rush, and had not really expected things to have got that far ahead.

As we taxied out, we had to deal with a minor system failure and were monitoring weather cells close to our departure routing. At some point in all this I performed and read the 'above the line' part of the Before Take-off checks, (which includes the check that flaps are correctly set).

This was a protracted exercise, punctuated by several interruptions. I was becoming increasingly irritated that the Captain kept abandoning the checks to deal with the other problems, but failed to see the danger signal inherent in that! When checklist challenges were made, we both spent some time thinking about and ensuring that the correct (new revised checklist) response was being given, probably to the detriment of actually checking the system or control in question.

Although I am certain that I made the "Flaps" challenge and equally certain that the Captain replied with the correct response, I am only too well aware - from what subsequently occurred - that I could not have double-checked the setting myself, nor, obviously, had I checked it prior to commencing reading the checklist. (I have tried -over the years - to develop the habit of a final silent check on flaps as we line up, irrespective of any checklist procedure, but it is not yet an automatic reaction.)

On this occasion, as we lined up we were discussing a revised departure with ATC, inspecting the radar for weather and concerned with getting the correct responses to the 'below the line' part of the Before Take-Off checklist. Upon attempting to set TO thrust, the TO Configuration Warning sounded. We stopped and immediately realised what had happened. No call of 'Set flaps' had been made (as required by the SOP at completion of After Start checklist, before calling for taxi) and hence I had not set the flaps, nor had I double checked the Captain's response or otherwise spotted that it had not been done

The company report we filed was assessed as non-reportable under the CAA MOR scheme. I really think this was wrong, particularly as I have subsequently become aware that there have been at least 2 other similar occurrences within the company. The fact that we were not the only crew to make this error might lead you to question the new company procedures, or at least the introduction of so many changes to the SOP and checklist in one 'lump'

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However, sometimes the Configuration Warning will not be available:

(2) Short on Runway ... and Checks

At ####, the distance from the Stand to Runway ## Hold is only a matter of a few yards and takes seconds to travel. Pre-Take Off checks thus tend to be rather hurried and on this occasion the ATC clearance was also passed while checks were in progress. Picking up on the checks after receiving the clearance - the 'Take Off Flap' check must have been missed.

Luckily the flight was a positioning flight with only a small amount of ballast on board. With no load and 10-15kt almost down the runway, which was dry, no problems were encountered although V_1/V_2 were incorrect; set as calculated for the correct flap setting. We only discovered our omission during the After Take Off checks.

We BOTH were at fault - The First Officer for omitting to select the flap and myself for failing to monitor correctly. We both realised our lucky 'escape' as had the situation been different (i.e. loaded A/C), the outcome could have been very different.

Lessons learnt -

1. Always do checks unrushed and accurately.
2. Delay ATC clearance if it will interrupt checks.

We will not make that mistake again - we hope!

In this incident, the Take Off Distance Available might have precluded a safe takeoff with the incorrect flap setting at a more representative operational Take off Gross Weight.

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(3) IT MUST BE OK, IF YOU SAY SO

Fourth sector in a long and busy day, although not an especially early start. Due passenger-related delays we had been concentrating, save for a hastily gobbled crew meal, for around 8 hours and had reduced the consequential delays from 1 hour to 20mins, Didn't' we do well? - Well, No - actually.

First Officer's sector: During Pre-Start checks, we checked the performance and briefed for departure with Flap 18deg. We then set the ASI reference "bugs".

During Taxi and Pre-Take Off checks, the First Officer responded to my challenges with "Flaps set and checked", confirmed the bug-card displayed was that for the correct Mass and read the bugged speeds off the ASI. Some fifteen minutes later, immediately after take-off, I pointed out gently to PF that we were actually carrying Flap 24deg and the first call should thus have been "Flap 18" NOT "Flaps Up", but not to worry how we got in that situation, right now, "because the error had been on the 'safe' side (the aircraft was not performance limited) and we hadn't had an Engine Failure.

Analysis of where we went wrong could wait until the cruise. So that's all right then? - Well no.

How come we BOTH missed it? I've experienced most permutations of wrong words/wrong actions from both seats and both roles (PF/PNF) over the years but in almost all cases, I or the other pilot spots the mistake/inconsistency immediately. That's why we have 2-crew flight decks. In this case it didn't work. Without the CVR we can't prove exactly where the loop broke. The First Officer suspects that despite briefing for a Flap 18 take off, Flap 24 might have been called to be set as we taxied. If so, I did as the First Officer asked but it was the wrong thing to do and I failed to register that. At my challenge of "Flaps" in the Pre-Take Off checks the First Officer must either have responded with words that did not match our configuration, or described the actual configuration, which wasn't that briefed. In either case I failed to spot it, a pretty poor 'monitoring' performance. And then we both failed to spot that the crosscheck/readback of bugged speeds corresponded only with some pre-programmed script and not Reality.

An old, old HF chestnut but one worth reminding ourselves, YET AGAIN. B####r!

Finally, what the hell were we doing during our 15 minutes in the queue at the holding point, you might very reasonably ask. - I do not have a satisfactory answer to that question!

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MORE HASTE, LESS ...

I was delayed due to several passengers arriving late and, conscious that the departure airfield closed in an hour, I completed an external walk-round the aeroplane. As soon as the passengers arrived, we went out to the aircraft, started up and called for taxi. Taxi instructions were given. I completed the majority of checks on taxi roll. Unable to get full and free movement of controls. I realised that in my haste to go I had taxied with the control locks *(external)* still in place in both aileron and rudder. I taxied back to the apron to remove the locks.

With the locks inside the aircraft, I continued the flight uneventfully. I dare not think what could have happened and I have thought about it constantly since.

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MORE ON FUEL POLICY

In FEEDBACK 54, we included a report titled "Fuel Pressure" which questioned the interpretation by one UK operator of the purpose of Contingency Fuel.

Following publication of the item, we received several other reports on this subject that suggest that crews may not be receiving the most appropriate advice/information in relation to their company policy.

(1)

My Company's crew instructions define Contingency Fuel as that "carried to cover unforeseen variations from the planned operation" and further states that "Contingency Fuel may be used at any time after commencement of flight"; this is defined as push-back or engine start.

A recent company newsletter contained the following statement on Holding Fuel:

"Some recent figures on holding requirements at ### have come my way. They show that the peak period for inbound delays in the morning is 0745 local, and the average hold at that time is 11.5 mins. In the evening the rush peaks at 1945, with holding averaging 7.7 mins.

In other words, even at the peak times for holding, the expected delay is easily contained within the contingency fuel allowance."

The last sentence is interesting, as it clearly implies that "Contingency" Fuel may be planned to be used for ANTICIPATED holding!

Can we please have a CAA directive to clearly change the way "Contingency" is being taught, and a company Flight Operations statement to all pilots about being misled by "current thinking"?

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(2)

My company regularly issues notices to flights inbound to London of holding delays, which are usually in the form of "Anticipate Air Holding of 20-30 mins", for example. I agree with the author of the report in FEEDBACK 54 and sometimes have to point out to my First Officers that they can't say at this stage "Oh, but we've got 15 minutes 'Contingency fuel' already, so we only need to uplift for the balance of the holding time"!

Company fuel policy is taught to newly-qualified First Officers on joining their respective fleets, but it's a great shame when this SEEMS to encourage such attitudes.

Perhaps the CAA might consider renaming "Contingency" fuel "Unanticipated" fuel?

As a result of the concerns that had been expressed through these and other confidential reports on this subject, CAA (SRG) Flight Operations Department are conducting a Special Objectives Check with a sample of UK AOC holders to establish what is contained in their fuel policies, how the policies are enacted and also whether these policies are reflected in computer generated flight plans.

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SITUATIONAL AWARENESS

The Standard Instrument Departure from *a Southern European airfield* entails a climb straight-ahead to 4nm from the ### VOR/DME, followed by a right turn downwind to pick up a Northerly track from the VOR with a stop height of 3,500ft.

The MSA within 25 miles to the North of the airfield is 8,500ft: beyond that, minimum IFR levels rise to FL100.

Passing abeam the field on the downwind leg I thought that further climb might be desirable as we were heading for this high ground which was partially (say scattered to broken) cloud covered. We requested to climb and, after a pause, clearance was given to climb to FL 130. Some moments later, ATC requested whether we were in visual contact with the ground. We were then passing FL 80, VMC on top with intermittent ground contact. Whilst under radar control, it is the pilot's responsibility to maintain terrain clearance. With this in mind, I looked at the "Radar Vectoring Area" chart. Whilst this shows minimum flight levels in various sectors, it does not have a range/radial graticule, making it difficult to use properly. Also, the SID chart does not have minimum en-route heights, nor does it have the MSA circle found on the approach plates.

Had I not requested the further climb when I did, I dread to think of the consequences. At best, a GPWS "pull up" as I approached the hills. At most, a CFIT? Or a turn away from my cleared track, perhaps straight into the opposing traffic?

SID Procedures are designed to provide adequate terrain clearance during departure. However, if you encounter a particular safety-related problem at a specific location, advise your company. Many operators include this type of information in airfield crew briefs

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MORE CALLSIGN CONFUSION

I was following a company aircraft that had the callsign ##210. I had just been cleared to FL210 and within 30 seconds our colleagues ahead of us were instructed to change to their next frequency. I wrongly started to read back their clearance but stopped when I realised my mistake and no harm was done ... this time.

I clearly had 210 'on the brain' having just read back my clearance to descend to that level, thank goodness the clearance I incorrectly responded to wasn't a descent or heading change, the consequences of which could have been catastrophic had my mistake not been spotted.

Will it take an Airprox or worse before companies stop using callsigns which can be mistaken as headings and flight levels, and vice versa?

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HOT REFUELLING - CUSTOMER REQUIREMENT OR PILOT DISCRETION?

Our Company Operations Manual requires us normally to offload passengers prior to a rotors running refuel at offshore rigs. Most of our customers wish us to comply with this requirement, which I believe is laid down in a CAP document the exact title of which I am not aware *(CAP74 - Aircraft Refuelling: Fire Prevention and Safety Measures; CAP437 - Offshore Helicopter Landing Areas - Guidance on Standards).*

A minority of our customers are forcing us to keep passengers on board while hot refuelling. Our management (and CAA SRG Flight Operations Department) seem to be turning a blind eye to this

practice and expect us to bend the rules. I have no particular strong view on which way we play it but, if this is going to be the norm, CAA should amend the CAP document and helicopter companies should amend their Operations Manuals, so that if there is an incident, the pilots cannot be held up against the wall by the legal wolves for breaking the rules.

Representation has been made to our management but we have been told that it is what the customer wants, so get on with it - at Captain's discretion!

CAA (SRG) Flight Operations Department has confirmed that it does not endorse a policy of routinely refuelling with passengers on board, particularly during onshore refuelling operations. CAP 437 provides an aircraft Captain with the discretion to allow passengers to remain on board during refuelling for safety reasons and, in the case of off-shore refuelling, CAA (SRG) accepts that a number of other safety related factors, such high winds and/or a wet slippery deck surface, might influence a decision for a Captain to elect to keep passengers on board.

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DISCRETION ... BUT WHOSE?

We had been cleared to climb to 28,000ft by *Area Control* and had requested further climb to 31,000ft twice previously. Dialogue about what Mach Number we could maintain at 31,000ft was misheard by me (Captain and Handling Pilot). On passing 28,400ft, the First Officer asked what I was doing - I levelled off - we requested confirmation and then were given clearance to 31,000 ft.

I had reported for duty at 1000hrs for a four-sector day. Prior to commencing the third sector I was informed of a slot delay. A heated discussion ensued with Operations about discretion (I said No. They pressurised me). The incident happened after 10 hours of duty (My actual duty time was considerably in excess of 12 hours when the maximum Flight Duty Period was 11.45) - obviously fatigue played a big part in this incident.

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RAMP SAFETY

Whilst taxiing onto our Stand at ###, I observed that a twinjet on the adjacent stand was boarding passengers by both front and rear steps, with passengers "skirting" around the left wing as is the norm. These Stands are very close to each other and set at an angle. As the high by-pass ratio fan engines, as fitted to aircraft types cleared to use this stand, are very efficient "hoovers" the worry is if a child dropped a toy or something that blew towards the inbound aircraft and ran towards the No. 2 engine, in all probability a serious accident would result.

Reason for this report is that I have tried to get this problem resolved but the ASR's seem to get "lost in the post" and talking to the Airport Duty Officer has also had no effect. I presume for commercial reasons, and no wish to take responsibility.

(I wonder who would take the blame?)

On being notified of the reporter's concern, the Airport Authority conducted an investigation and introduced a temporary amendment to ramp procedures to eliminate the risk, pending permanent changes to the parking positions.

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IT RARELY FAILS. HOWEVER, WHEN IT DOES!

We were approaching the eastbound oceanic entry point, talking to ### ATC when the left VHF communications box (VHF 1) failed.

The frequency was very busy and we were able to receive but not transmit on VHF1 (there was no side tone).

The radio tuning panels have LCD readouts and both the active and standby windows showed ----- (i.e. no numerals were displayed).

We squawked IDENT on request from ATC and another aircraft called on 121.5 saying Gander were trying to contact us on the Sector Frequency.

It is not routine to record all en route VHF frequencies, so when the LCD's blanked there was no record of the active or standby (previous) frequency. It is also not easy to get the relevant airways sector frequency from the charts.

If ATC have difficulty contacting an aeroplane, please could they include the frequency in use in the call, so it can be selected on another box?

When performing a radio check, UK ground stations are required to include the VHF frequency. This may not be the case with non-UK agencies

It is also worth noting that many Flight Management Computers can display the selected VHF frequencies by selecting the appropriate data page. This is likely to be available following a failure of the radio tuning panel LCD display

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TOO EAGER TO ARRIVE?

On transfer to Approach Control at an Eastern Mediterranean destination, we were cleared to the "###" VOR on the appropriate Standard Arrival (STAR) as number two in traffic behind a company twin-jet just ahead and beneath us. Descent was therefore stepped and above the normal profile.

Two other aircraft now checked in. Both were twin-jets operated by UK airlines and each was cleared on the STAR to a holding point 15 miles short of the VOR.

The ATCO's workload quickly increased to high as the first of the following aircraft requested a repeat of the arrival routing and the second then asked twice (in a demanding fashion) for an EAT *(Estimated Approach Time)*. It was clear that the ATCO had little thinking time and would not have had the time to work out an EAT.

The aircraft ahead of us now called visual and was cleared for a visual approach. We were cleared in turn, as number two in the sequence to altitude 5000ft and then to carry out a VOR-DME approach to achieve separation from the aircraft ahead.

As we approached the VOR, descending through approximately 7,000ft, the following aircraft asked if he was cleared for approach. The ATCO replied to continue in hold at "####". The aircraft reported that he was past "####" and was in fact approaching the VOR. The ATCO instructed the aircraft to return to "####" and hold.

This conversation took some time and, by the time that we realised that the following aircraft was not laterally separated from us, we were descending below 5000 ft. Whilst I cannot confirm what level the other aircraft was at, (as he was to have held 15nm short of the VOR, my brain had dismissed him as "no conflict") the possible ramifications of the loss of lateral separation are obvious.

This event only added to what is often an air of apparent chaos at this and similar airports. We should all be aware that some Mediterranean airspace still carries IFALPA's "black star", yet frequently UK pilots pester ATCOs for further descent, EATs and onward clearance. I know it is far from ideal, but all this does is take up the guy's thinking time when he/she is trying to sort out a plan. If pilots would give the ATCOs breathing space at airports such as this, safety could only increase. So if you are left high, or you reach the point of your clearance limit, do not transmit on everyone .. just hold.

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NEW STYLE CHARTS

Am I the only person still struggling to find the important information that used to be pretty clear?

What was wrong with the old plates?

The clarity of arrival/departure/and airfield plates has reduced. For example, the lateral and vertical elements of SIDs were described separately. Nice and easy - a picture in your mind of the left and right bit, and a separate picture of the up and down bit. Now they've merged the route and level description all into one rambling narrative. Why?

The information displayed to pilots needs to be as clear and as simple as possible. In a dark cockpit when we're tired on a grotty night we are liable to make a mistake.

The new ##### plates are a step backward.

FLIGHT DECK COMMENTS

WAKE TURBULENCE

General Comment - Regarding the debate concerning B757 wake turbulence:

I believe engine disturbance is also a major cause of unpleasant control experiences when following large twinjets - or any high bypass large engine come to that. With the increased use of minimum runway occupancy times the problem seems to be getting worse. I have experienced roll and pitch problems at *major UK airports* when LANDING AFTER one of these A/C has just departed - obviously the touch down point is usually some way before the rotation point. Therefore, the only explanation must be some phenomenon other than lift-induced vortices.

I don't know how many tonnes of thrust these engines produce but it must significantly affect and disturb the air in calmish conditions.

I have had the matter raised through safety officers in various companies but as yet there has been no effective or constructive information.

I raise this matter, as it really worries me that ATC do not consider it a problem. Well it is - honest!

If you suffer a significant disturbance from any type of wake encounter, file a Wake Vortex report

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The CAA (SRG) Safety Sense Leaflet that was distributed with the last issue of FEEDBACK prompted a number of reports/comments, among which was the following:

TWO, TO AND TOO!

Your most recent FEEDBACK was accompanied by a CAA Safety Sense Document dealing with RT Discipline. One of the topics covered was the use and misuse of the words 'TWO', 'TO', and 'TOO'. Incident 3 on page two of the pamphlet described a catastrophic event partially caused by misinterpretation of the above words.

I am sure you are aware that this is not the first such occurrence, indeed I would go as far as to say that this particular topic has now been running for 25 years to my certain knowledge.

The recommended procedure for the issue of climb/descend instructions, according to the pamphlet is

to include the expression 'Flight Level', 'Altitude' or 'Height'. The word 'to' after the verb must be used when clearing an aircraft to altitude or a height; it should not be used when a flight level is involved".

I repeat this topic has now been running for many a long year and when you listen to the daily clatter of RT in our airspace it is quite clear that, notwithstanding the CAA's effort to standardise this particular piece of phraseology, it is only a matter of time before further events occur.

Ban the use of the word 'to' completely. Its use is quite superfluous and there are other methods in the English Language of conveying your meaning without recourse to the word 'to'. All altitude assignments would then take the form "Descend/Climb Altitude 2000" or flight level whatever.

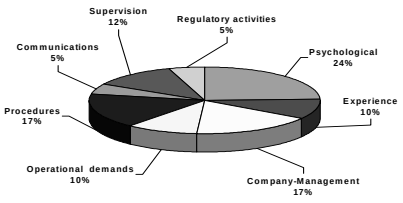
Even in the horizontal plane it perfectly clear what "Cleared direct Pole Hill" means. On the other hand "Cleared direct to Pole Hill" is unnecessary and for reasons discussed should be outlawed.

In short remove the word 'to' from aviation vocabulary.

ENGINEERING REPORTS

Engineering Reports received in Period: 13

Key Areas:



UNNECESSARY DUPLICATION?

The effectiveness of duplicate inspections is currently the subject of debate. Here is one Engineer's recent experience.

The aircraft left the maintenance base after a 50-hour progressive care "detailed engine" check. No problem on a local half-hour flight. The aircraft then departed to a remote base, a two-hour flight. Again no problem detected. The pilot immediately refuelled the aircraft and left it secured for his early departure on the following morning.

On the following morning, he discovered no fuel in the right hand tank. Stolen? No, upon further investigation the belly was streaked with blue (Avgas) stains almost to the tail cone, indicating in-flight leakage, yet no odours or unusual readings detected. Upon moving the fuel selector to left hand tank, fuel gushed out around the main engine fuel filter. It had been misassembled. Paperwork was complete and signed. A "reasonable" trainee had done the re-assembly and an experienced LAME had checked and signed it, including a pressure check.

The double check had been visual only and hadn't detected that the filter bowl wasn't fully seated. The method of reassembly had retained fuel initially but the vibration during the flight had permitted the bowl to move from its falsely seated position and had allowed leakage, substantial! We had a close one and have "tightened up" (excuse the pun) on inspections/checks to include a more PHYSICAL aspect. EYES ONLY ARE NOT ENOUGH! The trainee was assumed (and had been observed on two previous occasions) to have assembled the filter correctly and a thorough check wasn't done.

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REPETITIVE DEFECT & SIGN-OFFS

Yet another example of why maintenance engineering management should not be allowed to hold certifying approvals.

The aircraft had several occurrences of No 1 engine fire detection loop failure on test. The usual steps were taken by line personnel (connectors cleaned) etc. up to AND including replacing the fire loop. As the defect was intermittent, it slipped through and reared its ugly head again the next day during crew checks. It finally reached the point where the line avionics personnel refused to "shake it up" to get it going, the system needed proper down-time for investigation. Yet on four continuous reports, an A&C engineer with NO avionics clearance or know-how, released the aircraft to service with an inoperative fire detection system. This engineer was a mid-level manager with both a cavalier attitude to anything non-mechanical and also under pressure from management above him.

What steps are being taken to address management's limitations to release aircraft to service?

The alleged circumstances relating to the release of the aircraft were investigated by CAA (SRG) and corrective actions agreed. In the case of a repetitive defect that has not been cleared after three attempts, the procedure requires that the aircraft be withdrawn from service until the defect is rectified.

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ALL HANDS TO THE ... AIRCRAFT

In recent weeks, at my company, it seems to have become company policy to make use of staff on waiting time, to give assistance in other trades. Primarily this has been

the use of workshop fitters (from mechanical, avionics & wheel bay workshops) to assist with A&C tasks, but more recently ha included avionics fitters, passenger seat fitters & trimmers (none of whom have received training for the work, other than when issued with the task, contrary to AWN 14 Supplement No 1 Para 2.2 & 3.1).

This assistance has been requested by management to further the progress of current aircraft on check and also to utilise the workforce in what is believed to be a more efficient manner.

This has, however, been in opposition to the advice of Licensed Inspectors of both A&C and Avionics trades. A meeting was called for by senior managers to discuss, with all inspectors present, the commercial reasons why this policy was being implemented, and why it should not be opposed by us, but more, how we should actually present a united front with the management team on this decision!

The issue had previously been taken to the Quality Department, who, at the time seemed to be in full agreement with the concerns of the inspectors. However, after a closed meeting with management, they too felt that the new policy was reasonable, and that these people giving assistance in other trades, should be considered semi-skilled!

This statement brings to mind a recent incident that was highly publicised by the National Press, of a Tyre & Exhaust Fitter, who gained employment as a contractor at another Heavy Maintenance organisation. However, as a Tyre & Exhaust Fitter, surely he too can be considered as semi-skilled?

Apart from the obvious safety issues affected by these actions, a high degree of stress is now apparent in Licensed and Non-Licensed staff alike, bringing into question the applicability of AWN 47 Para 1.3 & 2.2 to this situation, with specific reference to the "mental condition" of those personnel concerned.

Unfortunately, the easy option would be to leave the employ of this company, but that does not prevent these actions, that could have the potential of being another disaster statistic.

Yet again, Aircraft Safety has taken a back seat, as management take a blinkered view towards the commercial aspects of Aviation.

This report was brought to the attention of the management concerned. This change to general working practice had been implemented to cover a workload peak with surplus manpower and to better utilise aircraft maintenance manpower. In response to similar representations that had been made directly to the company, the company had conducted a review, which had confirmed that none of the working practices was detrimental to safety.

To ensure safe working in such a case, tasks must be carefully selected and adequate supervision provided.

ENGINEERING COMMENTS

SHIFT OPINIONS

(1)

After reading your comments on the 12-hour shift I feel I must write with my observations from 20 years experience working 8,10,&12-hour shift patterns.

Rotating 12-hour day patterns do not present any problems with fatigue, they also enhance safety in a hanger environment as work packages can be completed within the shift, thus having less requirement for handovers.

Rotating 12-hour day/night patterns are suitable for ramp/casualty areas where staff attend for cover purposes. Once again, less handovers means less chance for mistakes to happen, staff are less fatigued due to less appearances at work. Also with this type of work there is plenty of opportunity for natural breaks.

My only areas of concern are 12-hour nights on heavy maintenance where continuous work all night can be very fatiguing

If you are seriously looking at the effects of shift patterns on personnel fatigue and consequently the human factors element in maintenance errors I suggest close scrutiny is made of the continual move by airlines to do more and more maintenance over-night with tight deadlines for completion in the morning. It is well known that the human brain and body is at its least functional between 2am and 4am thus the chances of making mistakes is increased during this time.

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(2)

Having just read FEEDBACK I would like to add my voice to the debate on shift patterns.

I am a licensed engineer of some years who has worked both in the UK and abroad and have worked both the 8-hour seven-day and 12-hour four-day shifts as well as shifts that have been split between earlies and lates on any one day to meet aircraft schedules.

Each shift pattern has its advantages and disadvantages both for the company and individual and to some extent will be dictated by the environment worked in i.e. The Hangar or Line Maintenance.

Personally, I find the 8-hour seven-day shift far less tiring than the four on four off 12-hour shift. It also gives the individual some spare time each day either prior to or after each shift as well as the long weekends.

On a 12-hour four-day shift the individual does not have any spare time during those four days assuming that he or she sleeps each day. A 12-hour day shift is not too bad but if you work the 12-hour two-day and two-night shift pattern a person can easily become very tired. A disadvantage to this shift is that not many people sleep before the night shift on changeover from the day shift, which does not promote efficiency if that person is tired before he/she starts work. Working the 12-hour four-day shift or splitting the shift between days and nights does not promote continuity of work. This is an advantage on an 8-hour seven-day shift. It should also be remembered that if the individual sleeps after the last night shift he/she has lost part of their first day off, which is supposed to be their long weekend.

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(3)

I have been employed in the industry for over 30 years. In that time I have worked more types of shift patterns than I care to remember!

There is absolutely no doubt in my mind what were the best and worst of those.

The best, in terms of general feelings of health and ability to do my job well, was the 4-on 4-off 12-hour shift. The 2-days/2-nights rotation was marginally better than the 4-days/4-off/4-night/4-off rotation. I never got really stressed despite being in a control centre and ramp areas. I had plenty of sleep and the four days off allowed me to lead a full and enjoyable social life.

The worst was the 7-earlies/3-off followed by the 7-lates/4-off pattern. Like a previous correspondent, by the time I had done 4/5 earlies I was shattered and would not trust my judgement. Quick decisions were NOT possible and I found myself checking and rechecking my work. This made me inefficient and probably ineffective.

Not far behind this pattern in terms of ill health and effectiveness must be the 5-on/2-off of my current office work!

As a manager of people, my preferred pattern for my staff (where the workload demanded it) was the 4-on/4-off 12-hour shift. You actually need 25% less resource for the same coverage! In addition the possibility of calling people in for overtime or planning it in advance without adversely affecting the staff member's rest and stress was much greater. It is win-win all round. Yet we still find some managers stuck with outdated views of such shifts. "They don't come to work often enough", "I have to give them TWO meal breaks" and, "Why should they get 4 days off when I only get two", being but three of the head-in-the sand retorts.

In summary, I don't care what the doctors say. I KNOW from my own experience that I was healthier, happier less stressed and more effective on the 12-hour shift. If the workload calls for it, it is the best shift for the individuals and the company.

Over the last 12 months we have had 18 reports on this topic, out of a total of 62 received from engineers. These reports have been made available to CAA (SRG) after disidentification. As a result of this and other information CAA (SRG) has commissioned an independent review of shift and work patterns. We will keep you updated on progress.

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MORE ON SIGN-OFFS

Having read FEEDBACK of April 2000 I was prompted to write supporting the view of the AC&X Licensed Engineer.

I was also employed by a major UK airline, which was well structured and safe to work for, not being aware at that time of the different maintenance standards of smaller operators. It should be noted that none of the following events occurred in UK-based organisations. I am merely writing to confirm that these types of incidents are not confined only to your previous writer.

My first experience was when I was tasked with a Service Bulletin to modify the EGT circuits of a twin gas turbine aircraft. The mod. kit contained thermocouple inline splices. When I asked the Chief Engineer for the specified crimping tool I was told, "we don't have it and I'm not getting it". On another occasion, at a different location, a heading error was reported to the Captain's remote reading compass. Having no landing compass or compass base I mentioned to another licensed engineer that I might have a problem in clearing this defect. "No problem at all", he said, pointing to the B&C correctors, "You just have to 'tweak' these small screws until you get it right"!!! With another operator I was asked to do a compass swing at night. When I queried this practice I was told the landing compass was illuminated!

With two different operators I was surprised to find commercial auto terminals in stores and to discover that most engineers carried a car type-crimping tool in their tool kit. This type of work was never recorded.

More serious was an event when a licensed engineer reported serious malpractice to the regulatory authority. On investigation, the malpractice was confirmed, the operator was counselled and continued to fly; the licensed engineer was sacked.

The number of letters you may receive on this subject is just the tip of an iceberg of maintenance malpractice.

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