

# FEEDBACK

Issue No: 58

April 2001

## EDITORIAL

### FUEL POLICY

*Throughout last year we received a number of confidential reports related to some airline sector fuel policies. Several aspects were raised; these included the use of Contingency Fuel for planned changes, such as a higher cruise speed, lower cruise altitudes and known periods of holding at the planned destination. Other issues were the accuracy of the computer flight plans on which sector fuel uploads were based and alleged pressure on aircraft commanders not to carry Extra Fuel in circumstances where this might otherwise be considered to be prudent. Some of these reports were published in earlier issues of FEEDBACK. The following reports reflect many of the areas of concern:*

(1)

**Contingency fuel is carried to cover unforeseen variations from the planned operation."**

In my Company it is increasingly expected that we use contingency fuel to cover many foreseeable and, indeed, planned variations. These include:

- Operation at greater than, or less than, planned Mach Nos. to satisfy ever greater demand for on-time arrival due to overstretched terminal handling facilities. "It is not policy to load extra fuel for this purpose."
- Published statistical variations in route fuel. "When statistics show a recommendation to carry extra fuel only sufficient extra should be uplifted for the predicted additional fuel burn over and above the planned contingency fuel, not in addition."
- Inability to get planned flight levels - (much) lower levels accepted before engine start.
- Regular periods of cruise at uneconomical speeds due to slower traffic ahead or faster traffic behind.
- Frequent en-route time restrictions on airways with 15-minute separation.

### LEVEL BUSTS

CAA (SRG) has recently published CAP 710 - Level Bust Working Group 'On the Level' Project - Final Report.

The report is available at:

[www.srg.caa.co.uk/safety/safety\\_whatsnew.asp](http://www.srg.caa.co.uk/safety/safety_whatsnew.asp)

- Fuel used during Push and Hold and Remote hold operations.
- En route track lengthening due avoidance of forecast weather - and much more.

There is no doubt that the Company has cleared its policy on contingency and extra fuel with the CAA. The question is whether the CAA has cleared all this with the "man on the Clapham omnibus" sitting on the jury by whom the Captain, accused of endangering the lives of his passengers by carrying too little fuel, will be judged.

It will be no consolation to me to find the CAA and my Flight Operations Director in the same cell!

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(2)

In relation to recent reports on airlines' fuel policies, I believe the problem is not one of "Extra" fuel, but one of a failure to plan and carry the minimum required quantities of fuel as specified in the appropriate CAP or JAR, and encouragement by some managements to ignore their own approved Operations Manuals.

Airlines routinely use computer generated flight plans (CFP). These are calculated by the CFP provider to specifications issued by the user airline, so my following comments are directed at the airline managements who permit incorrect CFPs to be issued and used. They do not apply to the provider who is only doing as asked.

The requirement for flight planning (in general) and the fuel-planning element of it is to allow for what is known to be required for the ensuing flight. The following are examples of areas in which a CPF might not be accurate.

- Planning an easterly SID from an airfield when the weather clearly requires a westerly one, unless the track distance is the same or less.

**FEEDBACK can also be accessed on the internet at [www.chirp.co.uk](http://www.chirp.co.uk)**

**Confidential Human Factors Incident Reporting Programme**

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### REPRODUCTION OF FEEDBACK

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- Planning to arrive via a STAR, which is not appropriate to the weather and runway in use, unless the track distance is the same or greater.
- Planning an unrestricted climb to cruise level when the SID has clearly marked "hold down" levels.
- Planning unrestricted descents when the STAR has significant altitude restrictions in it.
- Calculating a less than standard contingency figure on the basis of using an en-route alternate, then failing to specify one in the flight plan.
- Planning direct tracks to alternates when such tracks are known not to be available.
- Planning cruise levels that are the maximum possible (for weight) but contrary to the AFM manoeuvring margin in the existing weather.
- Calculating fuel burns at long-range cruise (LRC) figures when the company policy is to operate at speeds in excess of LRC.

Yet every day in the UK, some AOC holders issue to their flight crews CFPs that have some (or occasionally all) of the above errors in them. And some management pilots who should know better question captains' decisions to uplift the shortfall fuel - calling it "Extra"!

I have personal knowledge of the CFP planning policies of several UK AOC holders, and I have also discussed these issues with pilots flying for other operators. They report the same tendency to issue CFPs with insufficient track miles for the prevailing conditions, unrestricted climbs and descents when the ATC situation is known not to permit them, planning at maximum rather than optimum (or likely) levels etc. Any one of the above errors results in an inaccurate calculation of required fuel, but management pilots continue to insist that CFPs are accurate and should be followed. My answer is "garbage" (as in the first rule of computer use: garbage in, garbage out).

The magnitude of the fuel shortfalls to which I refer, might not be particularly great individually in most cases. However, for example, the shortfalls on CFPs that are based on unrestricted climbs and descents are more significant in the case of some UK SID routings. The critical element is the one of not meeting the requirement, and what that might signify about company attitudes. A 100 kg shortfall is as wrong as a 1000 kg shortfall in the legal sense.

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***Following a review by the CHIRP Advisory Board of all the reports received, they were passed, after being disidentified, to CAA (SRG). In response to the reported concerns CAA (SRG) Flight Operations Department elected to conduct a Specific Objectives Check (SOC) with a sample of UK operators to***

*establish what was contained in fuel policies, how policies were enacted and whether the policies were reflected in computer flight plans. 14 operators' policies were reviewed and compared against the same aircraft types.*

*The following summary of the results and conclusions of the CAA (SRG) Special Objectives Check has been provided by CAA (SRG). (A copy of the SOC is published on the CAA website - [www.srg.caa.co.uk/documents/srg\\_fops\\_fuel\\_soc\\_focus1.pdf](http://www.srg.caa.co.uk/documents/srg_fops_fuel_soc_focus1.pdf) and is also available on our own website - [www.chirp.co.uk](http://www.chirp.co.uk).)*

The Special Objectives Check on Fuel Planning addressed policies applied by UK air operators who were representative of those who had chosen to base their operating standards upon JAR-OPS 1. The SOC took note also of issues raised in correspondence with the Flight Operations Department and with the Confidential Human Factors Incidents Reporting Programme.

Analysis of the results revealed that all operators who had been surveyed applied their fuel planning policies in general accordance with the JAR-OPS 1 requirements and associated guidance material, but that computer-generated pilot navigation logs varied in the extent to which they reflected accurately the flight profiles expected to be flown. It appeared also that there was some lack of understanding about how such inaccuracies should be addressed before the final fuel load was decided, and the use intended to be made of fuel carried to provide for contingencies. Comment was also made on company cultures and the undesirable effects some of these could have upon aircraft commanders who were encouraged to depart with less fuel on board than they would have liked.

The SOC contains the following recommendations:

- 1 Operators should review their fuel policies to ensure that, if their computer fuel planning programs do not take proper account of the runways and their associated SIDs and STARs which are likely to be used 'on the day', commanders or dispatchers are required to consider adjusting Trip Fuel amounts so as to rectify any deficiencies. Preferably, operators should change their computer fuel planning programs to remove or to reduce to negligible proportions all such inaccuracies where these might lead to inadequate amounts of Trip Fuel being calculated.
2. Operators should review their fuel policies to ensure that adequate provision is made either through their computer programs or by adjustments made by aircraft commanders or dispatchers (acting in accordance with guidance or instructions specified in operations manuals) for the Trip Fuel to include, where appropriate, fuel for use in holding prior to

commencing the approach when there is reason to believe that this will occur. An example of such circumstances can be found in AIC 36/1998 (Pink 170).

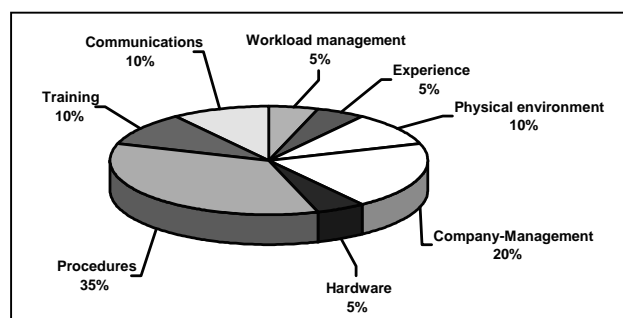
3. Operators should review their fuel policies to ensure that, as interpreted by fleet managers, training and line pilots, these do not result in a perception that aircraft may be permitted to depart with fuel amounts less than must be calculated in accordance with formulae specified in the operations manual (or equivalent document). Where such formulae are known not to address all circumstances that can reasonably be foreseen, pragmatic guidance should be specified to ensure that appropriate adjustments are made. This review might be managed through a schedule applied by the Operations Quality Manager so as to ensure that company policy endures with time.

*CAA (SRG) Flight Operations Department has reviewed the fuel policies of all principal UK operators with respect to the points raised in the SOC.*

## ATC REPORTS

ATC Reports received in Period: 9

Key Areas:



## MINIMUM HOLDING LEVELS

The pressure used for determining the minimum holding level in the London TMA is the Heathrow QNH. If the pressure is 1013 mbs or higher then the minimum holding level is Flight Level 70. If the pressure is dropping, at 1013 mbs the minimum holding level is changed to Flight Level 80. At some London airports the outbound aircraft are climbed to the minimum holding level and inbounds (sometimes head-on) are descended to minimum holding level "plus one" flight level.

If the pressure hovers around 1013 mbs, the minimum holding levels can change a number of times - I once had five changes in one shift. This is dangerous because there can be a delay in the implementation of the change from one sector to another.

A solution would be that the TCR Watch Manager/ATSA should be provided with the pressure accurate to one decimal place. He could then have dispensation to retain a particular minimum holding setting until a definite trend has occurred to justify the change.

E.g. if the pressure falls below 1013 then it is not promulgated (and hence the minimum holding level changed) until the pressure has fallen to 1012.6 mbs.

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### **R/T DISCIPLINE**

Although I am a relatively inexperienced controller, the lack of radio discipline amongst some pilots amazes me. My pet hate regards conditional clearances, particularly "line-up clearances". From day one it is drummed into ATCO trainees that when giving a conditional clearance particularly a conditional line-up clearance, you give the condition first followed by the clearance limit:

"ABC 123 after the landing B737 line-up and wait runway \*\*."

I have lost count of the number of times I have had it read back as "Line-up and wait runway \*\*, after landing B737, ABC 123." This not only causes a rise in the controllers blood pressure, but can waste valuable time particularly when busy if the controller misses the "after the landing" at the end of the transmission, as the controller has to give the whole conditional clearance again much to the frustration of both the controller and pilots.

***Read back of ATC clearances should be in the same order as the clearance issued. (See CAP 413 Para 2.7.5)***

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### **CLASS G AIRSPACE**

To many Air Traffic Controllers at this Unit it is becoming painfully obvious that the "G" in the above classification stands for "Grey Area"!

In a knee-jerk reaction to specific incidents, management laid down certain edicts to staff as to what services could and could not be given in Class G airspace in this part of the UK FIR. As the vast majority of incidents in Class G airspace involve high speed, highly manoeuvrable military aircraft, and as such the provision of separation cannot be guaranteed, then management's action can only have been made to prevent the "flak" from such incidents landing on their desks! The attitude seems to be that the less of a service that ATC can get away with providing in Class G (and F) airspace then the less responsibility they incur when incidents happen. Given the nature of the airspace and the types of aircraft flying

within it, incidents do and will continue to happen for the foreseeable future.

It has always been an understanding in ATC that you endeavour to provide the best available service to aircraft that you can. Why else was ### radar fed into this unit other than to provide better low-level cover? If all that is going to be provided is a FIS or a procedural service they could have saved a lot of money and effort! This also brings into question the desirability or the need for Advisory Routes. As these routes are not recognised by the Military and as most incidents outside regulated airspace involve the Military, it would seem that we are only going to invite trouble on ourselves by providing a RAS on these routes! The question could be asked, can controllers provide RIS/RAS at the same time as providing a service to traffic in controlled airspace, which is after all a controller's primary task? Are pilots flying in Class F/G airspace aware of this?

So why the sea-change? Is there pressure on management to reduce the "corporate liability" in areas where there is no financial return, or is SRG placing pressure on management over incidents that they conclude as "controller errors"? The rules governing ATSOCA as stated in MATS Pt 1 are quite clear and unambiguous, but it appears that comments coming from SRG that there are areas which are discretionary especially in the area of limiting a RAS/RIS. Most controllers would agree that a lot of the time when they are providing RAS or RIS that they really should be limiting the service. It is in this area that maybe the management and controllers need to get their "house in order", but it is not a tough nut to crack and does not require the proverbial sledgehammer!

A better dialogue between controllers and pilots on each other's responsibilities and perceptions, would undoubtedly clear up much of the confusion and misunderstandings, but it will never prevent further incidents. Such is the nature of Class G airspace.

***This report has been passed to CAA (SRG) Air Traffic Services Standards Department.***

## **ATC COMMENTS**

***In addition to the report above, we received a number of comments from both ATCOs and pilots on the item 'Class F - A Different Perception' that was published in the last Issue. The following reports, drawn from both professions, are representative of the views expressed:***

### **CLASS F - A DIFFERENT PERCEPTION**

**(1)**

I wish to refer to the item 'Class F - A Different Perception' in Issue No 57. Civil controllers are placed in an intolerable situation with events such as this, as

well as civilian operators. Co-ordination requires to be completed quickly, and it is my experience, and that of my colleagues, that, at times, it is impossible to effect the required co-ordination, through Buchan or Neatis Head, indeed I would say that it is impossible frequently to do so. I therefore contend that the situation is not, as glibly put forward by your respondent, easily resolved, and, I do believe, from a Civil Airline Operator viewpoint, the situation remains one fraught with danger.

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### (2)

I am somewhat bemused by the comments of the Inspector of Flight Safety (RAF) regarding the manoeuvring of military traffic in Class F airspace.

I would refer him to the report by the Airprox Board of the Shorts 360/Tornado F3 incident on the 20 March 2000 reference 39/00/UKAB.

Despite the E3 and Tornado radars (which "combine to give an excellent air picture") a class A category airmiss occurred regardless of the fact that the Shorts was adhering to radar advisory heading changes aimed at avoiding the Tornado. Furthermore, the exercise had been NOTAMed to start after the Shorts actually landed. There was clearly no liaison between the Military and Civilian Controllers. The Inspector implies that the onus is on the Civilian Controllers to inquire about the activity of the Military.

Given that the public transport's civilian flying is fairly predictable, i.e. set tracks, levels and the military quite the opposite, surely the emphasis should be on the Military Controllers to contact the Civil to determine the whereabouts of traffic?

The question must also be raised given the number of airmisses over recent years as why regional airports like Newcastle, whose traffic is increasing very rapidly, do not have immediate access to controlled airspace.

Given the increasing intensity of activity it is only a matter of time before one of these airmisses becomes an air-hit unless all Authorities take positive steps.

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### (3)

I cannot allow this submission to go unchallenged. The "event" reported was a non-event! Class F / advisory airspace is just that - advisory. This Controller's submission, while undoubtedly well intentioned, belies an underlying tendency on the part of many ATCOs to control all traffic they can see or which may represent a conflict to one or more users of the service they are providing at the time.

This overcontrol of legitimate traffic (which does not desire any kind of ATS service at the time) is not only counter-productive, it is certainly inefficient and occasionally dangerous. There was, of course, no requirement on the part of the military aeroplane referred to, to contact the ATSU involved.

Dare I say that this incident would only have been reported in the UK? The growth of Air Traffic Services outside of regulated airspace means that more and more ATCOs are taking on a job which is not theirs; to the detriment of all.

No separation was required under the ATC regulations for the aircraft involved in this report. There was therefore no incident.

It is becoming well nigh impossible at certain Class D CTRs for legitimate airspace users to get transit clearances under any flight rules one cares to name. Why? I suspect it is because certain ATCOs confuse positive control with safety. Let us all remind ourselves of the airspace classification we choose to fly in, and the ATS service that may or may not be provided as a result; and please, no more reports of conflict in Class F or Class G airspace!

***The preceding reports reflect the disparate interests of commercial operators, general aviation, military authorities and ATC providers in respect of operations in Class F and in some areas, Class G airspace.***

***As noted above, Class F airspace provides separation only to participating IFR flights. In some areas where commercial aircraft - limited to 250kts below 10,000ft - routinely operate in close proximity to high-speed military aircraft, it is perhaps easy to understand that an Air Traffic Service Unit might be reluctant to provide an Advisory Service without some degree of co-ordination with military aircraft operating VFR in the vicinity of Advisory Routes.***

***If flexible use of Class F airspace is to be retained, there is no 'magic wand' to be waved, however, there are a number of ways in which the respective users might seek to mitigate the safety risk:***

- Ways of further improving the co-ordination between military and commercial operations should be actively pursued.***
- On those routes where an alternative, albeit longer, routing through Class A Airspace is available to commercial operators, the possible safety benefit afforded by Controlled Airspace should be assessed.***
- The limitations of human vision in relation to the protection afforded by the 'See and Avoid' philosophy should be more widely acknowledged, particularly in relation to the detection of high-speed traffic with low-conspicuity profiles.***

- ***Although TCAS provides an enhanced traffic avoidance capability, the system relies on the detection of an operating transponder. In cases where high-speed military operations are planned to be conducted in close proximity to Advisory Routes, dispatch without the military transponder being serviceable should be carefully considered.***

***The incident referenced in (2) above was the subject of an AAIB Field Investigation, following which AAIB published two safety recommendations:***

**Safety Recommendation 2000-57**

The CAA, in conjunction with the Director of Airspace Policy, should, by means of risk assessment, quantify the risk of mid-air collisions occurring between scheduled public transport services, which operate wholly or partially outside controlled airspace, and other users of Class F and G airspace.

**Safety Recommendation 2000-58**

The CAA, in conjunction with the Director of Airspace Policy, should assess whether there is adequate provision of regulated airspace for scheduled air transport operations to and from regional airports that are not directly linked by airways or advisory routes.

***In their review of another recent civil/military AIRPROX incident (42/00), the UK AIRPROX Board's Report Summary Board contains the following statement relevant to the carriage of TCAS:***

..... 'There was a lesson here for the military aviation community; the compulsory carriage of TCAS by civil air transport aircraft will probably result in more reported occurrences, if military pilots continue to close to distances previously accepted by them as satisfactory separation. Such distances, especially when associated with energetic manoeuvres in the vertical plane will cause Resolution Advisories and result in reporting action by civilian pilots. Therefore, as great a margin as practicable should be afforded by military crews to civil air transport.'

***Whilst this is sound advice, it should be remembered that the triggering of a Resolution Advisory does not necessarily breach permissible safety margins in the open FIR.***

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**LOCAL SIDETONE (FB57)**

I read the NATS comment on the Local Sidetone issue in the latest CHIRP and chuckled. This must have taken the 'Yes Minister' department many hours to write.

It avoids the essence of the reporter's concern in describing the technical detail of the system without addressing the fact that the reporter is expressing a genuine Human Factors concern via a Human Factors reporting system in good spirit. Which leads the reader to believe that the people part of the system is not recognised as a factor. It is not true that 'local sidetone

operation, which totally overcomes sidetone delay, is the only viable solution and its use presents no additional risk...' The additional risk is that the controller (human) cannot be as confident, as now, that he is transmitting.

Safety is defined as freedom from danger or risk and at the New En Route Centre there is, as far as the reporter and I are concerned, an increase in risk. Unfortunately NATS' statement that NERC maintains and whenever possible increases safety is apparently compromised, hence the attempt to sweep this one under the carpet.

The NATS response to the NERC sidetone issue, as stated in the CHIRP report, is at odds with a current LATCC procedure, for which one assumes a Safety Case exists, where one of the tasks of a Chief Sector Controller (CSC) is to check the serviceability of the emergency handsets on each sector suite by transmitting "London Centre handset check 123.45." The serviceability of the equipment is assessed by the CSC HEARING A SIDETONE when he transmits.

Aircraft in an emergency will not necessarily reply to R/T transmissions. Thus one cannot rely on accurate readback of instructions as confirming that the channel is operational.

The obvious solution to the problem is to change the NERC R/T architecture such that there is not an unavoidable sidetone path delay. I recall that the NERC architecture was queried at the design stage by NATS System Engineering and the consequence of routing the R/T via LATCC rather than providing a local (Swanwick) R/T implementation was flagged several years ago as a potential hazard because of sidetone delay concerns affecting system usability by controllers. However, one assumes that this is now not 'viable' on timescale (rather than safety) grounds, as the issue has taken 10 years to be addressed.

Some pertinent questions are:

Has the 'local sidetone' implementation been tested in real situations at Swanwick (e.g. to ensure that transmissions aren't clipped etc)?

How are SRG 'monitoring' this issue?

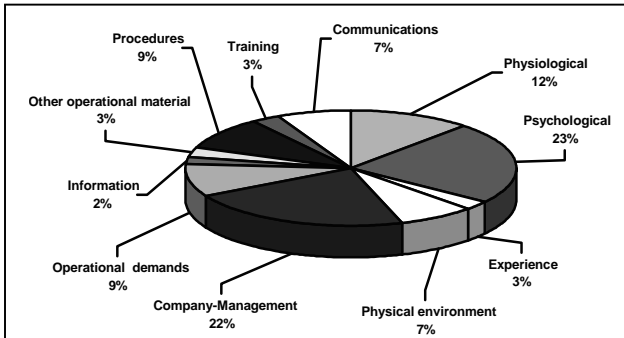
***In response to previous CHIRP reports and other information, NATS has advised CHIRP that a review of the local sidetone facility at Swanwick has been conducted; this included 'live' tests against aircraft systems. Mr Keith Williams Director Operations and Customer Service, NATS has assured the CHIRP Advisory Board that the system will provide an equivalent level of system health assurance as the present LATCC arrangement.***

***CAA (SRG) is continuing to monitor the operational testing at the New En Route Centre.***

# FLIGHT DECK REPORTS

Flight Deck Reports received in Period: 48

## Key Areas:



## LAND AS SOON AS POSSIBLE

It is now SOP in this airline to land above Maximum Landing Weight in an emergency, if required. However, a recent simulator exercise, which produced a hair-raising inspection of a ridge, highlighted the importance of calculating go-around performance for single engine landings above max landing weight.

Can you have a look at this?

*The rationale for the need to avoid delay when an immediate landing appears necessary, which is reflected in the change to Standard Operating Procedures referred to above, is detailed in AIC 131/1999 (Pink 203).*

*It is not possible to predict all of the specific circumstances that might lead to an Aircraft Commander to decide that an aircraft must be landed without delay and, in an extreme situation, the Aircraft Commander might not have time to assess the effect of a performance limitation against the otherwise safest option.*

*However, in order for the Commander's decision to be soundly based, it is reasonable that operators should - where approved engine-out performance data exists - provide flight crews with appropriate guidance for use where time permits in abnormal situations that require unplanned landings.*

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## CLEARANCE CONFUSION

*In spite of procedures designed to minimise instructions being misheard, misinterpreted, or simply assumed, errors of this type continue to be made:*

(1)

The aircraft was departing from a major holiday destination in Southern Europe. The weather was

CAVOK and the aircraft serviceable. However, we were slightly delayed and running very close to missing our ATC slot.

I taxied out and we completed the Take-Off checks. We were aware on TCAS of an aircraft at about 10 miles on finals and watched the preceding landing traffic vacate the runway. We lined-up and I handed control to the FO for his take-off. With take-off thrust set and the IAS increasing, both the FO and I realised that the landing light switches were not in the ON position. Given that our Company SOP is to switch the landing lights on when cleared to take-off, this meant that either the FO had forgotten to switch them on (and I had not noticed the omission) or we had not been cleared to take-off. At this stage the IAS was increasing rapidly through about 50 kts. I asked ATC to confirm that we were cleared to take-off and they replied that we should continue the take-off. The remainder of the flight was completed without incident.

This incident is one that I have dreaded happening for more than 20 years as a professional pilot. Neither the FO nor I could be absolutely certain whether or not we had received a take-off clearance, but in retrospect it seems likely that we had not. The incident shook us both, bringing back memories of Tenerife North. Given the circumstances of our incident the aircraft was never in danger, but it could so easily have been otherwise. Several points occur to me as a result:

As soon as either of us had any doubt we should have called "STOP" and I should have rejected the take-off instead of taking valuable seconds to check with ATC.

The Company SOP to switch the Packs OFF when cleared to line-up and to switch the Landing Lights ON when cleared to take-off is evidence that potential confusion can arise with 'Line-up' and 'Take-off' clearances and deja-vu makes it all too easy to confuse previous clearances with the present flight, especially if there is an element of distraction to break the normal thought processes. Perhaps it would be better to address the problem directly by using, for example, a coaming-mounted placard showing the present clearance, be it to HOLD, LINE-UP, TAKE-OFF, APPROACH, CONTINUE or LAND. The use of items such as the Pack switches is a very unsatisfactory compromise.

Both I and the FO made honest mistakes, for which I accept full responsibility. However, this was not the first time that this mistake has been made and, without some positive action, I am sure that it will not be the last. I only hope that it will not take a repeat of the worst disaster in aviation history to prove that this problem has not gone away.

*The use of key checklist actions as confirmation for the receipt of unrelated information is prone to the type of error described, particularly in short multi-sector*

*operations when the same checklists are completed on several occasions.*

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**(2)**

Inbound to London. Capt (PNF) temporarily off VHF 1 to speak to company. Handed over to London ATCC.

Checking in with London we were told "Heading ###°, radar vectors for a standard ### arrival for AAA."

The Captain came back onto VHF 1. I reported the hand-over and clearance. As we approached a suitable range to begin descent and comply with the height restrictions for this approach, I asked the Captain to request descent. The reply was "ABC 123, I've already given you descent clearance. Descend at your discretion to FL###, to be level by ####." We read back this cleared level and began the descent.

Whilst this controller's reaction might be justified by him having to repeat himself on this busy frequency (I still don't remember him mentioning any flight level in his clearance), he should have challenged a failure to read-back a flight level clearance in the first place.

*Around 10% of level bust incidents involve confusion or misunderstanding in relation to an ATC clearance. Whilst the reporter is correct that the controller should have queried the failure to read back the original descent instruction, ATCO's workload during busy periods is such that this safeguard against a crew error might not always be available. (Visit LATCC and see for yourself!)*

*It is all too easy to relax on contacting London after a long day, but remember that the principal causes of approximately 90% of Level Busts in and around the London TMA lie within the flight deck. A particularly vulnerable time is when one pilot is not listening to the ATC frequency.*

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*Human errors sometimes result from unexpected changes to a routine operation, in which individuals subconsciously place themselves under stress to minimise the impact of the changes. Errors may also arise when individuals relax after a period of self-imposed stress. When placed in these situations, be aware of the increased opportunity for error:*

**(1) MORE HASTE, LESS SPEED!**

We read about it, we hear about it, we experience it, but still we miss checks most particularly when 'de-sequenced' - in other words when the normal flow of events is interrupted by something unusual.

Whilst on a pattern of four-sector days we were caught out by the above. Immediately, after starting the engines after a pushback and, as the No 1 engine stabilised, we were asked if we would take an expeditious departure. At that very moment the Senior Cabin Attendant entered with the 'Cabin Secure' report. As the 'Cabin Secure' is often what one has to wait for, we said we could expedite.

ATC told us to do so on a different route to that we were expecting and the departure clearance was changed to the other parallel runway. The First Officer immediately became involved in changing the Flight Management Computer and checking performance figures, whilst I expedited the taxi to a seldom-used runway entrance. As we approached it, having modified and cross-checked the figures etc., we were given an immediate take-off clearance. We accomplished the Before Take-off checks and took off into an area of rain and light turbulence with icing conditions.

Very soon after being given clearance to climb by departure control above the SID height restriction and turn left the First Officer, who was handling, exclaimed "Check speed, altitude OK" or words to that effect. The airspeed indicators were rapidly decreasing below the climb speed of 250kts. I immediately checked PITOT HEAT, which was OFF! I turned it ON and within approximately 2-3 minutes the Airspeed indications returned to a normal speed for the given altitude in the climb, which had continued normally though the autopilot had been disengaged.

Once the airspeed had restored itself, we discussed the matter. It was obvious that I, in my haste to please ATC, ourselves and our passengers, by saving a delay at the other runway, had failed to complete the After-Start checks in a proper manner, and somehow the item PITOT HEAT was missed on RECALL on the Before Take-off checks, which had been completed in haste whilst entering and lining-up.

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**(2) QUICK CHANGE, BUT...**

We arrived late at our UK base after completing the first of two UK-Europe-UK rotations for the day, expecting to retain the same aircraft as on first two sectors. A short transit check was completed, the Tech Log made out, and fuel ordered.

We then received an unexpected aircraft change, which entailed the longest possible ground transfer between Stands, together with the cabin crew. Quick cockpit check, route loaded, checked correct fuel on board, loadsheet signed, departed chocks on time.

So far so good. Then, when established in the cruise, I reached for Tech Log. Not there! We searched the aircraft discreetly, but no sign of big fat book. Captain

(me), big fat head, had departed without it. So maybe the ground engineer was at fault, but the responsibility was mine. The First Officer (brand new) had not noticed, the dispatcher had not asked for the Tech Log carbon copy. No one, including me, had thought anything was amiss.

I've been a Captain for over 20 years, flown all over the world and have never done this before. It goes to show that it can happen to you, as it happened to me.

Incidentally, a faxed Tech Log page at our destination enabled us to operate the return flight, on time. One never stops learning!

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### **(3) A COMBINATION OF CIRCUMSTANCES**

I commenced duty at 0800 hrs UTC, which had required a 0600 hrs alarm. Possibly due to the fact that an early alarm was required, I was unable to get to sleep and remember seeing the alarm clock showing 0330. The first sector was a short positioning flight and although empty, Public Transport regulations applied, so full paperwork was provided.

Autopilot/Yaw Damper would not engage on first sector.

We were scheduled for a one-hour turnaround at the second airport to be spent preparing paperwork, filling out Tech Log, working out V speeds, N1 settings, telephoning maintenance to ascertain if they had done anything that might have affected the Autopilot Yaw Damper. The Minimum Equipment List was consulted as to whether the aircraft could be despatched on next sector, and if so, what restrictions, if any, would apply. Operations telephoned to say passengers were early by 20 minutes. We confirmed that there were no slot restrictions, fired-up the APU and went into high-speed operation to prepare aircraft in time for new departure. Airborne 20 minutes ahead of schedule.

Still no Autopilot/Yaw Damper until passing 29,000ft in the climb then normal operation resumed - time to sit back and have a breather!

The aircraft had also just had an engine removed for second time to try to resolve a vibration problem. As we levelled at our cruise altitude, a noise become apparent, so some time was spent on discussion of this ongoing problem.

At top of descent the Non Handling Pilot (NHP) obtained the arrival ATIS - "Information 'G'. Rwy 04, ILS 04L, Transition Level 40 etc."

I programmed the V-Nav for the descent profile and then I proceeded to brief for a 04R arrival!! NHP did not note my error at this time.

On passing FL110 in descent the Autopilot Yaw Damper disengaged by itself and would not re-engage - so

back to hand flying. We were given a radar heading to 'lock-on', which was dutifully done. As we descend on the ILS through 1500ft we became visual and the NHP pointed out we were on the wrong runway. Visually adjusted the approach and landed visually on correct runway.

Good combination of events caused this error, starting with a poor sleep pattern and finishing with a too relaxed approach briefing, caused through complacency/over-familiarity, combined with insufficient attention aurally due to higher workload generated by aircraft defects.

Accidents never just happen - they begin to happen!!

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### **HERE, THERE, ANYWHERE?**

We had been holding overhead our destination, a UK Regional Airport, for 58 minutes due to a failure of the Cat II ILS. During this time we had been in contact with operations through our handling agent who advised us that should we need to divert we should go to AAA. The time arrived that we needed to leave and shortly after we advised ATC of our intention to divert we were passed a RVR of 200m at AAA. We therefore decided to divert to BBB and called our handling agent to advise them of this.

When established on the ILS at BBB, ATC said that our handling agent at BBB needed us to call them urgently on box 2. This I did and the conversation went something like this:

Agent: "Your company operations are instructing you to divert to AAA. You should not come to BBB as we cannot handle you."

Me: "AAA is not an option - the weather is too bad and we are coming into BBB. AAA is fogged out."

Agent: "Your Company promised us that you would not be coming to BBB - we cannot handle you."

Me: Well, AAA is not an option - we have to come to BBB.

Agent: Well, if you insist upon coming to BBB we will park you on a remote stand and leave you there on your own with the passengers on all night.

Me: That is your problem - we are landing. Out.

I briefly summarised the conversation and we landed at BBB where we were duly parked on a remote stand.

That someone in either our Company operations or the handling agent believes that they should pass a message to a crew to call them at a critical phase of the flight, describing it as urgent, and that they think that they know better than the crew, is highly unprofessional.

There are only two people, who are in a position to decide where to land an aircraft safely, and they are sat at the front of it. What happened was out of order, added stress to an already stressful flight, and unnecessarily distracted from the safe operation of the aircraft at a critical phase of the flight. Operations/handling agents should be there to assist and advise where their input is greatly appreciated: they should know that it is not their position to question the decisions made by a crew concerning the safe conduct of a flight.

When I enquired later, 20 flights had diverted to BBB, most having done so from AAA after we had landed.

***Imposing additional pressures on a crew during a diversion situation, of the kind described in this report, is unacceptable.***

***Airline managements should ensure that the role and responsibilities of Operations personnel and Handling agents are clearly defined and that they are fully aware of the Aircraft Commander's over-riding responsibility for the safe conduct of a flight.***

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### **LOW VISIBILITY SPEED CONTROL**

A few days ago I did a CAT IIIB Autoland at a major UK airport, the RVRs were about 500, 600, 550, the cloud base broken below 100'. I was told to maintain 160 kts to four miles. Just to compound the problem, the flight was an empty ferry but this has little bearing on the fundamental problem. Slowing down is a problem in a B757 with engine anti-ice on; the residual power is almost enough to maintain the glide at this speed. Delaying configuring for landing becomes a distracting and protracted business. There are many new and very inexperienced pilots in my company now, and if I allow them to get overloaded late in the approach then I end up flying the aircraft single-handed. By getting fully configured/checks complete by the final fix both of us can then monitor the aircraft properly, as it configures the autopilots and annunciations to show us that all of the systems are fully operational for the Autoland. If any part of the essential items are u/s then this is the time they are most likely to reveal themselves and be dealt with, allowing the approach to continue. Moreover, I truly wonder why we are being put under such pressure when reducing from 160 kts to 130 kts two miles earlier, adds just 10 seconds to the approach time taken.

My subsequent grouch to ATC on the Ground frequency fell on stony ground when I suggested that this practice is unnecessary. The answer was that - it is legal therefore I am! (Which I thought was unhelpful when we are supposed to be working on the same side of the fence). I doubt that you would find many pilots complaining at waiting for an extra 10 seconds per aircraft landing, so long as when their turn comes, they

too get a civilised arrival. I can appreciate the need to keep landings as close as possible, especially when LVO are in force when the sequencing is slower anyway. Even taking this into consideration, I feel that operational pressures are encroaching on sensible procedures and I am not getting the appropriate service for the conditions.

I do not like to have to demand my right to an early slow-down. It would be far more civilised to have procedures, which plan this, rather than reverse into the guy close behind me when I decline the, often late, instruction to maintain high speed to four miles. Cat III conditions do not occur often and autolands are something of a novelty, if not a circus trick, which needs to be treated with some respect. Being pushed into a rushed approach is contrary to all of my training.

I would be interested to hear the views from the radar controllers and the CAA.

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### **THE RIGHT SEQUENCE?**

The approach plates used by my company for LHR are potentially a problem waiting to happen.

Each R/W has two approach plates, one from NORTH holds and the other from the SOUTH.

Logic dictates that these two plates should be facing each other in a booklet - ie both approaches culminating at the same point in space! Not so for our booklet, their facing pages show two almost identical approaches to two different R/Ws. After a long night flight it is so easy to pick up the booklet (after using a separate STAR book) and mistakenly "face up" the wrong R/W plate - after all the pictures are almost identical (especially at first glance) The only thing that differentiates them is a L or an R in the designation and the pictorial for the go-around.

***The report has been passed to the Safety Department of the operator concerned.***

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### **BEROK SID - BEWARE**

Our original departure from Pisa was given as Rwy 22L (Berok SID). We received a last minute change due to ATC flows to Rwy 04R (wind < 5 kts) (10 minute delay using Rwy 22). Instructed to carry out the Berok 5A SID.

On the SID plate, the minimum height at Berok was stated as FL75 (no min alt box shown at Berok, only in text at top of chart). 15 miles from Berok climbing through 5000ft, ATC stated the minimum flight level at Berok was FL100. Increased to max continuous power/best climb angle speed and made FL100 by Berok. Why is this minimum altitude not shown on the

SID? On further investigation I found lower vertical limit of airway A41 between Siplo and Berok is FL115 and after Berok is FL125.

This SID has been the subject of a flight safety briefing with my company.

***This report was passed to the chart manufacturer, who confirmed that the chart information, as described above, complies fully with the Italian AIP, which contains instructions on minimum crossing altitudes/flight levels for all Pisa SIDs except Berok 5A.***

***The report has been passed to the Italian Authority.***

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### METRIC CAUTION

I am a Captain working for a UK airline. I often operate to former Russian states. The quality of Air Traffic Control around Tblisi, Georgia and Baku in Azerbaijan and Russian airspace, in general, concerns me.

This is intended as a report to provide information that may help toward an improvement of Air Traffic Control in the mentioned regions. It is not intended to criticise my airline in any form. I am confident of the fact that my airline works hard to ensure errors are not made when flying into this region.

My main concerns are:

Mistakes are easily made confusing altitudes over flight levels - it is all too easy to make clearance errors. For example, "One thousand nine hundred metres", when said quickly in slurred English can be mistaken for 900 metres. The ear, when stressed, can tend to remember only the last couple of syllables of the message, particularly if the first syllable is slurred - one might be too busy trying to set the automatics, or converting 900 metres to feet, to notice this huge error.

An incorrect read-back is rarely picked up by the controller!

When using ICAO procedures we will say "Descend ten thousand feet" or "Descent Flight Level 100". Note that in each of these clearances there is a clear indication of altitude or flight level. In the aforementioned airspace one will tend to hear "Descend three thousand metres". This is the same aural clearance for flight level and altitude - Unless prefixed with Flight level or Altitude, dangerous height errors can be made.

My company does have a useful guide for feet to metre conversions; clearances in metres are not natural to our minds though and are not how the aircraft automated systems are configured.

Some control centres are starting to use feet and give clearances thus. This can, however, make problems worse as, one is often cleared in descent using flight

levels - in feet - and, then when it gets busy during the approach, change over to metres. This makes life very busy at a crucial moment and potentially hazardous as one can be taken by surprise and workload can suddenly increase as a result.

My company has a very good training and flight safety department and makes sure that each pilot completes a special check flight into this mountainous region to become accustomed to the air traffic controlling. Therefore we do fly into this region fairly well prepared and briefed for the approach. My company has also brought some pressure upon the Controllers in the region. It is still, however, a compromise in flight safety that should be addressed by the authorities in these regions.

I appreciate that we are the aliens in their airspace and they may have political problems with initiating change. I would, however, like to see some pressure bought to bear upon them to either standardise their procedures using metres across the board; or change uniformly to the internationally accepted standard of feet. They may also realise that this could well improve their internal flight safety record. Either way they must work to ensure a clearer language is spoken, an emphasis on defining flight level over altitude and to also make certain that the correct clearance has been understood by the pilot.

***The report has been passed to CAA International Services, who have agreed to include the item on the Agenda of the next Overseas Facilities Working Group Meeting. International Services have also passed a copy to the UK Representative at ICAO.***

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### CONSECUTIVE EARLY DUTIES

My Company has for some time now been rostering us for five consecutive early duties.

Our ops manual states:

"The max number of consecutive duties that can occur in any period 0100 to 0659 local time is three, and there may be no more than four such duties in any seven consecutive days..."

The next paragraph states:

"However, Crew members who are employed on a regular early morning duty for a maximum of five consecutive duties shall work to the following..."

We work a mix of Earlies and Lates. From the above, the implication is that "regular" implies a period of at least seven days.

Our Company maintains that we are on regular duties for that week, and thus rosters a mix of Earlies and Lates, using both sets of rules, as they choose. I believe that "regular" in the above context was intended to imply

several weeks i.e. mail runs. Apparently the CAA has not objected, on the basis that regular (several weeks) would be a worse duty.

This, I believe is untrue, and would not give the company the flexibility they desire if they had to roster several weeks of Earlies (any changes invalidating the roster for weeks ahead).

My colleagues and I find this pattern extremely tiring and feel that it is only a matter of time before there is a serious incident due to fatigue.

Are you able to help on this issue?

**CAA (SRG) provided the following comment:**

The reporter states that his company regards being on consecutive Early Starts and Late Finishes for a seven-day period as meeting the definition of 'regular' morning/night consecutive duties.

If this is exactly as described, the company would seem to be in error on two counts. One is that the definition of 'regular' is 'three consecutive weeks or more' as defined in paragraph 5.3 of NTAOCH 6/94, and the other is that this applies either up to five consecutive Early morning duties or up to five consecutive night duties: these must NOT be mixed.

\*\*\*\*\*

### RECORDABLE DUTY

I write with regard to concerns over operating an aircraft under aerial work, which is not subject to an FTL scheme. Regularly, for my employer, I will fly early morning public transport, which of course IS part of FDP recordable duty, but then later in the day have to fly the same aircraft in an aerial work capacity for what is theoretically an unlimited duration. Usually these aerial work flights last five or six hours.

It is my understanding that there is no restriction on aerial work flying apart from a monthly limit. Personally, by mid-afternoon and in to the evening my performance at the controls is regularly below average due to tiredness and is not helped by not having a serviceable autopilot, a "loophole" I feel for operators, whereby it is not a requirement for single pilot PISTON aircraft.

My company is not yet operating under JAR-Ops; when it does, there is a rumour aerial work will be subject to fairer FTL restrictions.

Until then, is the CAA aware of the safety implications of such operations at present? I understand there are no passengers to put at risk but what about third parties on the ground? The only blessing of such days is that one may have a minimum 12hr rest after duty but this is hardly the point.

Apologies if this report appears abrupt, but I am again very tired after such a day being an example of my concerns!

Clarification by the CAA of appropriate FTL laws would be much appreciated.

**CAA (SRG) offered the following clarification:**

The author of the report quoted states that he flies both Public Transport and Aerial Work operations for his company in the same aeroplane and that the aerial work is not subject to any FTL Scheme. Article 71 of the Air Navigation Order 2000 (ANO) states who is required to have an FTL Scheme. Basically it applies to any aircraft registered in the UK, which is either:

engaged on a flight for the purpose of public transport;  
or  
operated by an 'air transport undertaking'

[An 'air transport undertaking' is defined, in Article 129 of the ANO, as "an undertaking whose business includes the undertaking of flights for the purposes of public transport of passengers or cargo"]

The above definitions places the Company firmly as an air transport undertaking and thereby it has to comply fully with an approved FTL Scheme. There is therefore no 'loophole'.

**As noted in the last issue of FEEDBACK, all of the reports and comments that we have received on Flight Time Limitations have been made available to CAA (SRG), after being disidentified.**

**CAA (SRG) Flight Operations Department recently initiated a review of the guidance contained in CAP 371 Issue 3, as it relates to the issues that have been raised by reporters. The conclusions from the review are expected to be available in the near future and, with the approval of the Authority, will be published in FEEDBACK.**

## FLIGHT DECK COMMENTS

### COMMENTS ON FTL MATTERS (FB 57)

(1)

In response to your article on the 'FTL Week', Issue 57, I have also experienced problems with a 'week' being defined as a period from Sun-Sat and my actual working week overlapping into two 'company weeks'. This was combined with much disruption due weather, affecting both journey times to and from work (a one hour drive was increased to two and a half hours on one occasion), and also from increased working days due slot restrictions, holding etc. The result was five working days totalling over 50 hours duty with minimum Rest Periods of 12 hours on two nights.

By the morning of Day Five, I was feeling extremely tired, but on pointing out that by the end of the day I would be near to 55 hours duty, I was told that the restriction didn't apply as they were not completed in the standard Sun-Sat company week, but overlapped a weekend. I completed Day Five and on the last sector I become aware that I was making some mistakes. I was rostered for a stand-by duty the following day but, as the duty remained unallocated, I was able to negotiate a change. Importantly, this was only a gesture. I feel sure that if there had been a duty for me for that day I would have been required to report and had I declined to operate I would have been 'invited' to meet with a senior Flight Operations manager.

I feel it is of the utmost importance for the Authority to clarify whether duty hours should accrue over a consecutive, rolling seven-day period like our 28-day limit, or if a so called 'company defined week' applies. The latter makes a mockery of the hours restriction, making it nothing short of useless, and a definite hazard to air safety.

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**(2)**

Following your reports on 'Flight Time Limitations' (FEEDBACK Issue 57 January 2001), may I suggest that if/when CAP 371 is ever rewritten, the word 'Rest' is replaced by a more appropriate title?

'Rest' conveys an idea of relaxation and leisure to those who know little of the present realities of airline life (among whom, some Flight Operations Inspectors must be included). In fact, 'Rest' is OFF DUTY TIME which often includes struggling with traffic on the motorway, organising life at home, dealing with mail and telephone calls, seeing the family, preparing for the next day at work and, finally, trying to obtain some uninterrupted sleep.

'Rest', as defining a period of time in between Flight Duty Periods, especially in conjunction with 'minimum rest', is a complete misnomer.

Perhaps readers could suggest a suitable substitute?

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**ALTITUDE CLEARANCES (FB57)**

Reference the two items in FEEDBACK 57 under the heading "ALTITUDE CLEARANCES"

I have operated a helicopter in Australia over recent years for which I had to obtain an Australian Licence. Their R/T phraseology does have several differences from our own, many for good local reasons and some of which may not apply here in UK.

On reading the confusion that can arise between a printed SID/STAR and a received ATC clearance, I was immediately reminded of the use of the word "AMENDED" in Australian R/T.

In the example quoted in (1), the clearance would be given as, "ABC 123 is cleared to AAA on a ### departure AMENDED FL60."

Assuming that Departures have approved the changed clearance, in one word, this conveys to the flight deck crew that ATC are aware that the clearance issued is different to the standard and immediately and simply removes any pilot confusion.

The word is also frequently used for other applications, e.g. when the Flight Planned POB has changed just before departure the pilot can, on first contact, simply say, "Amended 8 POB."

Perhaps worthy of consideration as a simple and very effective fix.

*This suggestion has been passed to CAA(SRG).*

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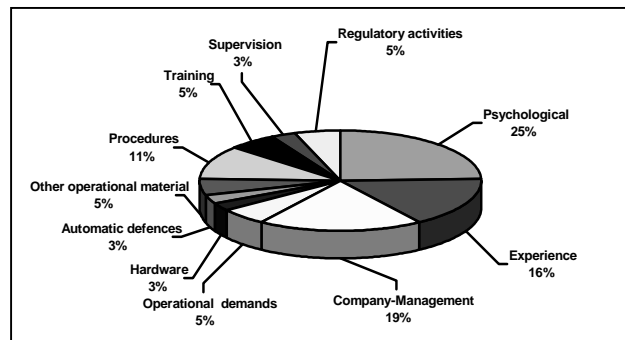
**TAKE OFF FLAP SELECTION**

Regarding the suggestion in 'Getting the Words Right' in FEEDBACK 57 to make the selection of Take-off flap a checklist item, you might be interested to learn that, some time ago following a similar incident to that reported, this airline added 'Select flap' to the After Start Checklist, as the reporter proposed.

**ENGINEERING REPORTS**

Engineering Reports received in Period: 12

**Key Areas:**



**SKILLS & QUALIFICATIONS**

I am a multi licensed engineer on the ramp at ###, and feel compelled to write with reference to the above.

With the advent of JAR66 a rather serious turn of events is taking place at my company. We have previously had three unlicensed groups of limited task certifiers in

aircraft maintenance; they are base authorisation, ramp authorisation and cabin authorisation.

In order to hold the above, the minimum qualification was based on having completed an aircraft apprenticeship or military training or an engineering apprenticeship with subsequent experience, plus an approved course on type and proof of experience of the limited tasks. Also you could gain the authorisation based on an approved company training programme, but it is not really clear what that means.

The problem that has now arisen is that the company were under the impression that all three of these authorisations were going to be acceptable to convert to A licences and since making this public to the holders of them, have since discovered that the cabin authorisation would not be convertible. To overcome this they have decided that all those with cabin authorisation should now go on to hold ramp authorisation that is an aircraft maintenance authorisation pertinent to mechanical and electrical trades.

Whilst a few of the cabin authorisation holders have come from an aircraft background, many have only ever worked on interior furnishings and are now being pushed into holding a qualification that they have no qualification or experience for, because if they don't do it then their money will be frozen due to them not holding (a *qualifying*) authorisation.

For many of them the training they have had consists of no apprenticeship or formal qualifications, but they have had a six week basic hand skills course plus a few days type training. They are now being teamed up with current ramp authorisation holders to learn about aircraft maintenance so that they may hold an authorisation for which they will be responsible for the tasks that they carry out to the limit of the authorisation. They hold, for example, wide-bodied jet ramp authorisation with a dangerously low level of experience/training. Added to that, the responsibility for the tasks they will be carrying out that fall outside the scope of their authority will fall to the Licensed engineer who will need to watch even the simplest of tasks to satisfy himself that it has been carried out correctly.

I have raised this issue internally, however, the quality representative thinks that it is a problem for the local licensed engineer who might stamp the personal experience record book of the person concerned and also the local manager who will be forwarding the applications, but the truth is that this is being driven from the top down.

If one person will not stamp the experience record then someone will be found who will. When one of these approved people makes a big mistake, as they surely will, who will get the blame? It is the quality department's responsibility to ensure that those of us that hold aircraft authorisations are fully qualified and experienced. It

surely is not for them to discharge that responsibility onto the rest of us to police the department for them.

If people want to carry out further training to improve themselves then let the company train them properly for it and not just expect them to pick it up as they go along. To get my licences I had to go through a lot of training and studying and it seems all I really needed to do was follow someone else around for a couple of weeks. Don't get me wrong, I am not at all bitter about this. I feel that everything I ever did to get my licences was absolutely necessary, but I also feel that diluting the requirements so much is truly dangerous.

***The Company concerned and the CAA were approached on this issue. The following comment is a reflection of these consultations to the main issues raised in this report.***

***The basic qualification required for ramp or base authorisations, before any other considerations of subsequent experience, courses passed etc. is an apprenticeship or equivalent training involving maintenance experience. (Airworthiness Notice No.14 Supplement 3 refers). The cabin maintenance authorisation was not similarly structured. The six-week course referred to in this instance is intended as a 'refresher' to this basic requirement, not as an alternative or equivalent. Those who cannot demonstrate compliance with the apprenticeship (or equivalent) requirement will not be able to convert any existing cabin authorisations. The Personal Experience Record (PER) is required to support the candidate's submission for authorisation and, ideally, will have a separate section in it that states explicitly what the candidate is competent to certify, based on the experience noted in the Record. There will also be a company oral board to be successfully taken that will then complete the process for the appropriate Authorisation.***

***The reference to Licensed engineers having to satisfy themselves as to the work of others for which they are to sign is a continuing Licensed engineer responsibility in any event, Airworthiness Notice (AWN) number 3, paragraph 1.5 spells out this duty. It should also be remembered that mechanics/non-certifying personnel continue to be responsible for the quality of the work that they perform. The Licensed engineer is responsible for ensuring the legal requirements have been satisfied and that system performance is satisfactory, post the work being carried out. These responsibilities do not change with the advent of JAR 66 licenses.***

***It is a matter of record that the CAA have, in the past, required companies to withdraw authorisations where companies have failed to adhere to the requirements outlined in AWN 14 for the issue of Authorisations. The CAA has indicated that they would not hesitate to take similar action again should any company issue***

***Authorisations to personnel who do not have the requisite basic skills and experience.***

***It is also opportune to remind anyone certifying the entries in a PER as true and accurate that, where they cannot substantiate the entries as factual, they will be deemed to be acting in breach of their licence privileges.***

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### **THEY SHALL NOT PASS?**

***This is part of a copy letter sent to us recently, the original was addressed to the Security Manager of the airport concerned.***

I received a written report about the loss of a security pass by one of my licensed engineers in the early hours of the morning recently. (It would be useful to bear in mind that our night shift comprises of two licence engineers, one technician and four/five ramp assistants). The engineer reported the loss of his security pass to the maintenance barrier, the pass had fallen from its holder. The team who were on shift carried out a search on aircraft for the missing pass, but were unable to locate it. Once satisfied that the pass could not be considered a FOD hazard the shift supervisor asked Mr A, the security officer on duty, if a temporary visitors pass could be issued to allow our engineer to continue working on the apron. This engineer has been employed by us for several years and on the night had transited through the barrier a number of times. The request for access was denied and in the words of the shift supervisor, Mr A's attitude throughout was arrogant, aggressive and thoroughly unhelpful.

I realise that the loss of a pass is the individual's responsibility, however, working outside in a physical, hostile environment (temperature -6°C) and with the airport requirement for everyone to display their security pass it is inevitable passes will be lost. The result of this incident was the engineer returned home and our airline lost their avionics cover for the remainder of the morning.

I feel that this incident has a flight safety and human factors angle and so have copied this letter to the confidential human factors incident reporting programme.

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### **A MATTER OF INTERPRETATION**

I am an A & C licensed engineer currently employed at a UK third-party maintenance base. An issue that arises frequently between my colleagues and myself is the requirements of task cards within the check work-packs. Being a third party organisation we work with different types of work-packs depending on the customer. Some

are clear and concise in their requirements, yet others leave a lot to be desired.

One particular customer is renowned for supplying a work-pack that is full of task cards that quite simply are either unclear or unrealistic. Every inspection card within the pack uses the same word, which has its own definition as per the AMS. Now this word when applied to structural items is defined as a detailed visual inspection. The problem occurs when the cards used appear in checks of different maintenance i.e. light and heavy. As an example, in one instance you are expected to carry out the inspection in 2 hours, yet in the next instance the time allocated is 12 hours yet the card reads the same. Surely in this day and age where, as professionals, we should be carrying out our duties in accordance with approved data, there should be no doubt whatsoever as to what we are inspecting and to what level. I get very annoyed when people approach me and question why I am carrying out a detailed inspection on a light check and that I should carry out the inspection with regards to the size of the check. Surely if that is the case then the task card should reflect this and be more specific. I have queried this matter with the quality department and was not convinced with the answer I was given.

I would like to know what the CAA's view is on this and where we as licensed engineers stand legally. Personally I cover myself and carry out a detailed inspection yet, as you can understand, I find myself to be in a minority. I fully agree that the task cards should reflect the type of check, yet I am not prepared to jeopardise my licence whilst the wording on the cards does not reflect this.

I hope you are able to throw some light on this matter.

***This is not an unfamiliar problem. The advice from the CAA is to go back to the source documents, the Maintenance Planning Document or Guide (MPD) and the Approved Maintenance Schedule (AMS), which is based on the MPD, and check that the translation onto the task card has been accurate.***

***It has been found that the MPD/AMS is more specific with regard to the depth of inspection for the type of check called up than sometimes appears on the task card.***

***We understand that JAR-145 Amendment 3 will reference the need for accurate translation of work requirements from the AMS to task cards***

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### **NOISE STRESS**

The fire alarm system is continually tested for 4-6 hours at night featuring loud bells and loud vocal instructions. This amounts to sensory deprivation and consequently prevents us from being able to concentrate on our

troubleshooting tasks, defect research and all other aspects of our job.

This takes place in our line maintenance office, at night, where we are trying to deal with our nightstop aircraft and the associated maintenance.

I contacted the airport Duty Manager and complained about the procedure, only to be told that this testing was required by law and that there were 9000 points to test.

This is a Human Factors problem and could lead to mistakes being made to the engineers being driven to screaming point by the continual sounding of the alarm.

I understand that the system needs to be tested, but maybe modifications should be made to allow certain areas to be shut-off whilst others are tested.

*The reporter's concern was represented to a senior manager of the airport authority. An investigation was carried out and, subsequently the alarm test procedures were amended, as a result of which, the duration of the test was reduced to less than 30 minutes. The reporter later confirmed that the revised procedures were acceptable.*

## **ENGINEERING COMMENTS**

### **MORE ON DUPLICATE INSPECTIONS**

During my investigation into a reported event, I queried the lack of duplicate inspections for the removal of control system ground locks, deactivation devices and rig pins. The procedure mentions that duplicate inspections are required for 'disturbances' to control systems. One is left to assume that this does not include anything which is merely an 'interference', such as the items mentioned above. Our Quality department insist that function checks will always be called for to prove the system works so duplicate inspections are not required. However, I have seen several cases of folded and drawn rig pins on flap carriage bellcranks, where the system has been operated with pins fitted. Due to embarrassment the incident is usually brushed under the carpet, resulting in replacement of only the broken cranks. No account is taken of the not so obvious damage to the carriage arms which have suffered severe broaching at the rig pin holes.

Another related query is why the vital points manuals do not cover safety/emergency equipment, alternate undercarriage extension systems, RAT deployment systems, fire extinguishing systems, etc, etc. All these systems seem to be forgotten because they are not normally used, but failure of them when needed could, more likely would, turn an emergency procedure into a catastrophe. They meet the criteria for the single point mal-assembly definition of a vital point.

The other concern is that under increasing commercial pressure over the years, I have seen standards for

duplicate inspections diminish to the point where even the ones that are recorded are not always performed. I even had one supervisor refuse to leave his desk when certifying a second inspection. His justification for this being, 'An inspection is a judgement and as such I judge that if it's been looked at once, it does not need a second look'. There is a distinction between 'inspection' and 'check', which I'm sure you will be aware of. On that basis I feel that it would be more appropriate to call it a duplicate check, even if it's just to get rid of this pathetic loophole.

With regard to the mention of duplicate inspections in FB56 and FB57, I understood it to mean that the effectiveness of the inspection was under debate rather than the necessity of it, as implied by the response in FB57. If the debate does relate to necessity of duplicate inspections, then this needs to be brought to everyone's attention. A reduction in applicability of duplicate inspections is certainly not in the best interests of the industry.

*As many readers will be aware, there is a difference in emphasis between vital point inspections and duplicate inspections.*

*The former are inspections of those points in a system that could cause catastrophic failure if incorrectly assembled/rigged etc, and are defined by the manufacturer (it should be noted that not all manufacturers specify such vital points). Duplicate inspections are called for in a variety of other sensitive locations, sometimes at the discretion of the operator. On older aircraft vital points were not specified, as such, and indeed the designs of these aircraft often require more duplicate inspection activity. Many modern aircraft designs have sought to eliminate features that require duplicate inspections.*

*It should also be remembered that duplicate inspections should address assembly and functions in appropriate cases in addition to confirming that any locking features have been correctly applied. BCAR A6-2 was changed to clarify this point and a CAA Newsletter, Number 4, is coming out shortly that will also cover this issue, amongst others.*

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### **CAA (SRG) FLIGHT OPERATIONS DEPARTMENT COMMUNICATIONS**

The following CAA (SRG) Flight Operations Department Communications have been issued since January 2001.

CAA (SRG) Flight Operations Department Communications are published on the CAA (SRG) website - [www.srg.caa.co.uk](http://www.srg.caa.co.uk).

**1/2001**

1. Operations Manual Requirements for the British Formula 1 Grand Prix Event, Silverstone 15 July 2001