

# FEEDBACK

Issue No: 53

January 2000

## EDITORIAL

**Editorial Note:** We have been asked to point out that in relation to the report - "Chemical Reaction" (FEEDBACK 52 Page 7) - after completing the investigation into the reported problems, the airline elected to change the type of fluid used as a toilet disinfectant.

### RAMP SAFETY

As many readers will be aware, two very serious ramp injury accidents have occurred at UK airports in the past few months.

Over approximately the same period we have received reports relating to the variability in airline procedures in providing an indication that it is safe for ramp personnel to approach an aircraft following its arrival on the ramp.

Many airlines use the selection of the anti-collision beacon OFF as an indication that the aircraft may be approached. However, procedures vary as to the point in the engine rundown cycle that the beacon is selected OFF. Also, it cannot be assumed that this will always be the case. For example, there is at least one turbo-prop type operating on the UK register that has been reported to us, on which electrical power to the anti-collision beacon is lost as soon as the engine-driven generator drops 'Off-line' on shutdown.

Following reports received from both flight crew and engineers on this subject, the CAA/HSE Airside Safety Management Working Group and the UK Flight Safety Committee Ramp Safety Working Group are examining whether flight crew procedures and the advice given to personnel working on ramp areas might be improved. Any positive results from their deliberations will be published in a future issue of FEEDBACK.

We have also received reports complaining about "draconian" requirements for the wearing of High-

(Continued on next column)

visibility jackets that have been placed on flight crew at some UK airports. As an example, it has been questioned whether it makes sense to require all flight crewmembers to wear a High-visibility jacket when proceeding as a crew along passenger walkways to/from an aircraft and yet permit large numbers of passengers to transit the same ramp area, with minimal supervision, sometimes led by a single airport staff member? The wearing of High-vis clothing by all crewmembers, when on the ramp area, is a prudent safety policy. However, a safety policy such as this should be consistently applied. It is difficult to equate the requirements placed on flight/cabin crews at some airports with those for passengers, many of whom are far less aware of the potential dangers that are ever-present on the ramp.

Inconsistent rules invariably lead to poor observance and thus may fail to provide the protection for which they were intended. If you don't like the rules as they are, involve your management in having them formally reviewed.

The key rule for everyone who uses the ramp must be always to remain alert to potentially dangerous situations at all times, particularly when the weather and/or ramp surface make working conditions unpleasant. **If in doubt - wait a few seconds longer - a rotating jet/propeller invariably wins any contest.**

### REPORT UPDATES

**Would the authors of the following referenced reports please contact the CHIRP office at their convenience, as we have further information for them.**

**Report Reference 2108**

Helicopter Tail Spar Mod. Update

**Report Reference E099**

Excessive overtime worked by engineers

**Errata: FB52 Page 6** - "Does it Sound Familiar" - Unsatisfactory ground crew organisation was listed as 8% when it should have been 28%.

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

Confidential Human Factors Incident Reporting Programme

## INSIDE THIS ISSUE:

<b>ATC REPORTS</b>	<b>P 2</b>
<b>FLIGHT DECK REPORTS</b>	<b>P 4</b>
<b>ENGINEERING REPORTS</b>	<b>P11</b>

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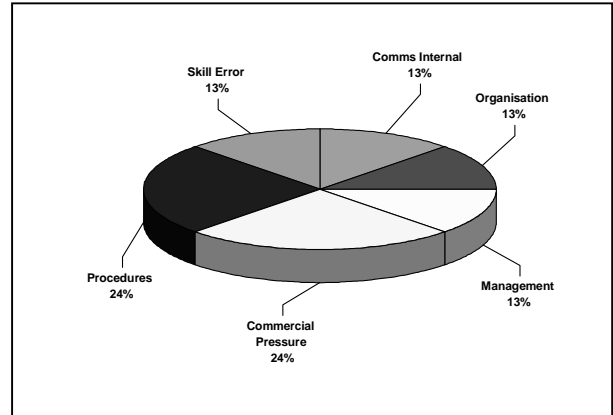
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# ATC REPORTS

ATC Reports received in Period: 5

Key Areas:



*A factor commonly identified in human error incidents is the level of stress that an individual perceives him/herself to be under. Stress can arise from many sources, not all of which are directly associated with an individual's principal task, as the following two reports demonstrate.*

## RULES FOR ALL? - PERHAPS NOT

The Visual Control Tower has long been a favourite place at this Unit to view the airport and surrounding countryside. Several individuals expressed concern about the number of visits to the Tower by groups of up to 10 or 12 people, causing distraction to the ATC staff on duty and, when there was little or no improvement, MORs/CHIRP reports were filed after some particularly intrusive or noisy visits. As a result, ATC instituted a system of control over the number of visits and visitors. Signs were placed in the Control Tower foyer instructing visitors' escorts to telephone the Visual Control Room for permission to enter. Additionally, a sign was added warning visitors that their presence may disrupt ATC provision, not to make excessive noise or get in the way. This sign was recently altered to include an instruction to switch off mobile 'phones, following a particularly noisy visit.

On the day in question, a senior Unit manager and two visitors arrived unannounced in the Tower and proceeded to have a meeting interrupted by mobile 'phone conversations over a period of approximately 30 minutes. None of the ATC staff had been informed of the visit until after it was over, and at least one controller was very upset by the visit, but because of the seniority of the manager, felt unable to ask the group to quieten down or leave.

This is only the latest example of such disruption. Generally, the system that ATC introduced works well and visits go without a hitch or disruption to ATC provision. However, a small number of senior managers

ignore the laid down procedure and merely arrive in the Tower without, apparently, having briefed their visitors and ensured that they comply with our simple requests. Repeated requests to Unit senior managers, to ask those responsible to comply, have been to no avail.

As ### gets busier and busier and ATC comes under ever-increasing stress, it is only a matter of time before an incident or worse occurs, for the want of a simple 'phone call and the inconvenience of being without a mobile 'phone for a few minutes.

*The senior Airport manager was apprised of controllers' continuing concern about the non-observance of agreed procedures for visits to the Tower. An Airport Instruction was subsequently issued, reiterating the procedure to be followed when arranging and authorising visits to ATC. It would appear that procedure is now being observed.*

*Many ATS units prohibit the use of mobile telephones in operational areas.*

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### COMMERCIAL INTEREST VS SAFETY?

A telephone call was received by an Air Traffic Services Assistant from an executive manager of a UK AOC Holder, who demanded an explanation as to why the Airport Rescue and Fire-Fighting Service (RFFS) had been deployed the previous day for a landing by one of the airline's flights that had diverted following an in-flight technical defect that had precluded a landing at the planned destination. (A Local Standby had been initiated.)

The caller was extremely irritated and persistently requested to know why RFFS deployment had been undertaken in the manner that it was.

The airline manager asserted that passengers had refused to fly on the aircraft because they had been unnecessarily scared by the incident.

Since the caller would not accept a referral to a senior manager, one of the operational controllers agreed to try and pacify the caller. This was bad judgment, as the controller was subsequently so "wound up" by the conversation that it was necessary for the individual to take a brief rest before resuming duty.

It is unacceptable that an airline or aircraft operator should seek to influence in this manner the category or method of RFFS callout implemented by an air traffic services unit personnel or an airport or airfield authority emergency callout policy when such callout is undertaken purely on safety grounds and quite properly, without consideration of the commercial or public relations aspect.

It is also unacceptable that telephone calls of this nature should be received in an ATS unit by operational controllers where such staff can be subjected to verbal intimidation, which could lead them to make an HF-related error that could give rise to a consequent incident.

*There are several aspects to this report. First, this incident occurred outside normal working hours and, although the controller felt that he/she was being helpful in accepting the call, it is clear with the benefit of hindsight that a procedure should have been in place at this Unit to ensure that calls of this nature were directed to an appropriate duty manager at all times.*

*Secondly, this is not an isolated example of this type of complaint being directed at an Air Traffic Services unit. In this regard it should be noted that the notification and deployment of Fire/Rescue services is normally defined in the relevant Airport Authority's emergency plan, with which ATCOs are required to comply.*

*Finally, the attitude of the airline manager in this incident may go some way to explain an apparent reluctance on the part of some pilots to declare an emergency state.*

## ATC COMMENTS

### UK ATC - A USER'S VIEW

I would like you to pass on the following to the fine men and women of the UK Air Traffic Services. I often read reports criticising their performance or work-style from pilots and an equal number of reports by controllers doing their best to put the record straight in an apparent attempt to defend their patch.

Well, I can attest to the fact that the more than 1,000 pilots of this airline (*A major European carrier*) hold them up as being, without any doubt, the finest in the world with even more praise being heaped upon them when the volume of traffic they handle is considered. For this airline's flyers, UK airspace is nothing other than a pleasure.

As for the airline itself, when describing ATC in other parts of the world in our area briefing sheets, you will often notice the phrase "ATC of a high quality - British trained".

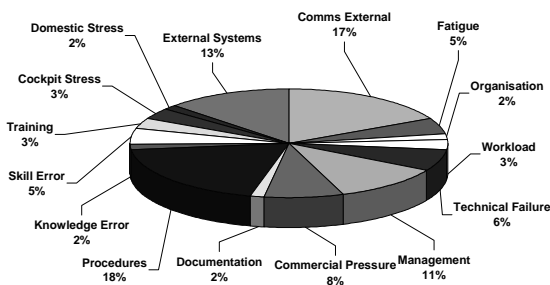
In a world of falling standards, theirs is one to look up to - professionalism under pressure. That is why when our national ATC controllers come on observer flights with our short-haul fleet, a flight to London is always included to show them firstly what real workload is and secondly how to manage it at the highest level.

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# FLIGHT DECK REPORTS

Flight Deck Reports received in Period: 35

Key Areas:



## ATC COMMUNICATIONS

I joined a major UK airline around a year ago and now find that many of the reports published in FEEDBACK are part of my day-to-day life especially the problems of communicating with ATC. They do seem at times to be working like one-armed paperhangers, due to the volume of traffic worked by them.

But in defence of the flying side, is it possible for ATC to do something about the standard of radio reception we receive on the flight deck, often at busy times of flight?

Some sound as if they have the microphone inserted into a box, some up their nose, some sound like they shout instructions from the tea-room down the hall. So really good communication is a two-way thing. Some calls are missed, I have missed the first call on occasions, and will admit it, but I would emphasise that some are so hard to hear, so fast and garbled, that is it any wonder people take two often three repeats to obtain frequencies?

Again in our defence - better to get it right than wrong, and I was always told if you're unsure - ASK!!

*Some overseas ground stations have been notable for their "Head-in-Bucket" RTF transmission characteristics for many years. However, if the quality of ATC transmissions is unexpectedly poor, let the controller know, as some transmission/background noise problems will not be apparent through the controller's head-set.*

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## EXCUSE ME CAPTAIN, BUT ...

On pre-flight check I loaded the Flight Management Computer (FMC), with longitude WEST instead of EAST. Somehow the FMC accepted it (it should have refused it three times). During taxi I noticed that something was wrong, as I could not see the initial route and runway on the navigation map display, but I got distracted by ATC.

After we were airborne, the senior cabin attendant came to the flight deck to tell us the cabin monitor (which shows the route on a screen to passengers) showed us in the Canaries instead of the Western Mediterranean!

We continued the flight on raw data only to find out that the Heading was wrong by about 30-40°. With a ceiling of 1,000 ft at our destination I could not wait to be on "terra firma".

Now I always check the Latitude/Longitude three times on initialisation!

*A simple but effective safeguard against 'finger trouble' of the type described is for the pilot who does not enter the data to confirm that the information that he/she sees displayed is that which he/she would expect. Then, and only then, should the 'Execute' function button be pressed.*

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## EXPERIENCED, BUT FALLIBLE

*The operational and commercial consequences of a crew member reporting sick at a stop-over destination can be very significant and may lead to the understandable temptation for an individual to assess that he/she is 'fit enough to make it back to base'. On occasions, the wisdom of such a decision may subsequently be tested.*

I reported for duty getting over a head cold and flew three night sectors. During the layover in a foreign hotel my condition deteriorated rapidly; I contacted the company, agreed to fly two sectors back to base but informed them that on reaching base I would put myself sick.

I was training a new First Officer who flew the first sector well in difficult conditions. I elected to fly the second sector to base. I was feeling pretty rough by this stage.



During radar vectoring for an ILS the aircraft was being flown on autopilot (without auto throttle) when we intercepted the Localiser at 4,000' with some way to go to the Glide Path. The autopilot captured the Localiser but as I armed the Glide Path (*autopilot mode*) the aircraft pitched down, still with some miles to the actual glide path. I disconnected the autopilot and applied rearward pressure on the control column to maintain level flight. The stick shaker activated immediately.

I immediately applied full Go-Around thrust and released the backpressure. I then noticed that the Indicated Air Speed had reduced to approximately 35 knots below the minimum clean speed. I immediately called for flaps to be extended and despite one more short activation of the stick shaker, the aeroplane recovered to a normal speed and configuration at 4,000'. Total height loss was 500'. The subsequent ILS and landing were uneventful.

The first lesson seems obvious - don't fly when you are not fit. My concentration was narrowed to a sort of "tunnel vision" and whilst attending to the ILS and autopilot the IAS dropped out of my scan.

However, why did the other two crew members not pick-up the decaying airspeed? I put it down partly to a situation, which was different from the norm. The ILS is normally started from 3,000ft and we were at 4,000ft! Or did they believe that I have some sort of infallibility because I am a Training Captain?

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### **ACARS - FRIEND OR FOE?**

*One of the principal objectives in the development of ACARS (Automatic Communications, Alerting and Reporting System) data-linking was to reduce the workload of flight crews by eliminating some of the labour intensive flight deck tasks.*

*Regrettably, in some situations the availability of ACARS now permits important despatch information to be delayed until a much later stage in the operation than would have been possible previously. While this practice has the perceived benefit of assisting a flight to make an on-time departure from the gate/stand, it can add to flight crew workload at an already busy time, with possible safety implications, as this report shows.*

Taxiing for the Westerly runway at ### involves entering and backtracking via an intermediate entry point. Once the aircraft has entered the runway the airfield is effectively closed. Hence a certain amount of time pressure enters the operation when the radio load-sheet is being received via ACARS during the very short taxi-out to this runway. On this occasion there were revisions, requiring changes to the performance data, which included a large trim change, leading to a change in take-off power from FLEX to Take Off/Go Around,

due to the CG being further forward than anticipated. We amended the trim setting and reference speeds while backtracking and completing the Taxi checks, but omitted to note the significance of the change in trim. We used FLEX power in error. Field performance was adequate, but on another day at another weight, who knows?

The increasing use of ACARS for last minute load-sheet details and aircraft performance data is making the safe operation of the aircraft more difficult and the general increase in the use of ACARS is becoming a safety hazard. Our Route Check Captains' reports contain many references to the distraction caused by the use of ACARS, and, by definition, whenever ACARS is used it has nothing to do with flying the aircraft.

Radio load-sheets are a distraction at the best of times, even when they arrive at exactly the right moment as in the situation described in this report. Dealing with revisions is difficult in a busy period and something can easily be missed, be it an item of the checklist, a change to the performance parameters which may need recomputing with anything up to 30 key presses on the FMC (*Flight Management Computer*), ridiculous in itself, or just that feeling of unease brought on by the pressure of the situation.

Good flight management might mitigate the problems, but that is proving more difficult in a busier and busier ATC environment, and many times I have been forced to refuse a line-up clearance while waiting for the radio loadsheet, trying to contact Company, with the frustration caused by this situation becoming a flight safety issue in itself.

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### **THEORY VS THE REAL WORLD**

*The many variable factors involved in the ground de-icing of aircraft has led to the promulgation of Recommendations for De-icing/Anti-icing of Aircraft on the Ground. These recommendations include guidance on the Holdover Times that an aircraft may remain on the ground after being sprayed with an approved de-icing mixture, as a function of weather conditions and Outside Air Temperature.*

European Destination, Weather: light snow, Minus 1°C.

Scheduled departure - 2000Z (9pm local).

**Background:** at 9pm local the normal departure runway is closed for jet departures for noise reasons, so all jet departures are from R/W ##. But this conflicts with arrivals, so ATC establishes departure blocks interspersed with arrival blocks. The catch is that you cannot get in the queue for a departure slot until you are fully ready ie. Pax on board and de-iced etc if necessary - so de-icing has

to be booked and carried out before the departure time is known.

**Sequence of events:**

- 1930Z Book de-icing - 'In the queue'.
- 1950Z Pax arrive.
- 2022Z De-icing begins - holdover period of 35min to 1 hr starts.
- 2032Z De-icing complete.

Call fully ready - told approximately 1 hr delay. Explain must be airborne by 2122Z at latest due holdover - noted by ATC.

- 2050Z Given ATC clearance with departure slot of 2121Z (subsequently amended to 2120Z - whoopee!)
- 2110Z Taxi
- 2115Z Ready for departure - advised 'Standby, due delay'.
- 2125Z Cleared for takeoff.

Yes, I elected to go in spite of being three minutes past the end of the maximum holdover time for those conditions. But what would you have done? The passengers had already been on board for about 1 ½ hrs. A further de-ice would mean a return to stand, wait in queue for de-icer then the whole procedure again for a departure slot - by which time the destination would have closed and we would have been well past our crew duty "sell by date".

This is not an isolated incident - it happens throughout the winter at this airport over this period of the evening, whenever de-icing conditions exist. Captains really shouldn't be put in this position. In my view there are a number of possible solutions:

- a. De-icing to be carried out at the threshold immediately prior to departure, as is the practice at many other airports.

Or, at worst

- b. Departure slots could be allocated prior to de-ice, and the de-icing on stand be co-ordinated with that.
- c. A significant number of the non-turboprop departures are BAe146 aircraft - arguably quieter than many of the turboprops permitted to operate from the main departure runway. If they were permitted to continue to use the departure runway a lot of the congestion would be relieved and much of the problem solved.

***A very important point about Holdover Times is that they are described as Guidelines and must be treated as such. In severe weather conditions, it is possible that the airframe may become contaminated with ice or snow earlier than the times given. Therefore, it is most important that the Aircraft Commander should satisfy him/herself that before take off, the aircraft remains***

***free of ice/snow contamination, however short or long a time has elapsed since de-icing commenced.***

***In the UK, ATC slots are managed in relation to de-icing holdover times and whenever possible ATC will seek extensions to slots or exemptions, in order to facilitate a departure within the declared holdover time. Also, commencing 19 November 1999, the Central Flow Management Unit (CFMU) introduced a trial in which four European airports are exempted from allocating departure slots under "extreme" conditions. Further information on the conditions pertaining to this trial may be obtained from CFMU.***

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**EMERGENCY FLOOR PATH LIGHTING**

I have become increasingly concerned at a change in the emergency lighting system on the floor to the photo-luminescent type from the battery type.

I am concerned because my own experiments and anecdotal evidence from engineers indicate these floor lights are so faint as to be ineffective compared to the older style. Furthermore, the Company information on the photo-luminescent type states that the cabin lights must be on for 20 minutes to charge the system, however they do not seem to be able to respond quickly enough to charge up when operating the first flight of the day as I saw (again) yesterday morning.

I understand the commercial reason for these lights but are they really as good?

***Advice was sought from CAA (SRG) on the Requirements and checking procedures for these systems. Their response is summarised below:***

Photo-luminescent systems have been approved by both FAA and JAA as meeting the requirements for emergency floor path lighting systems. The certification requirements do not specify quantitative light levels and the light output of the photo-luminescent systems is less than that for electrically powered systems. However, they are less prone to damage/failure than mains/battery powered systems. All systems are approved by the Authorities. Cabin Exit signs are required to be powered electrically.

Photo-luminescent materials require some "charging" time in ambient light levels, typically 20 minutes, to ensure usability in the worst case (e.g. during take-off on the first flight of the day in the dark).

The lower light level of the photo-luminescent systems makes an operational test very difficult but really unnecessary. Other than ensuring that the components remain clean and not obscured, there is little else to do. It has been shown, and is part of the qualification process, that the performance of the material in terms of

light input and output is effectively unchanged within the anticipated life of the aircraft.

*airspace in any flight conditions, without reference to any ATC unit.*

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### CLASS F AIRSPACE

### A PLEA FOR LESS R/T

I was en-route on the Advisory Route W4D. The Scottish controller had advised me that I was below his radar cover at FL 55, and so he agreed to provide an Air Traffic Advisory Service in Class F Airspace. When I was in an area where the lowest promulgated level for southbound traffic is FL 55, the controller warned me of traffic that was approaching in my nine o'clock and descending through FL 75. I advised Scottish that I was in good flight visibility, but below an overcast layer of cloud. Shortly thereafter, I observed a military fast jet, at about 500 ft above my level passing about half a mile behind me.

It is surely a truism to say that aircrew and controllers without exception would like to minimise R/T. Could I suggest that outside regulated airspace this could be aided by allowing a pilot to use a "listening watch" as a recognised radio procedure. It is often mutually useful to ATC and pilot to state position, height and track but not require any further service. In response to the statement "Listening watch only, no service required" most controllers state and occasionally insist that they will provide a Flight Information Service.

I am concerned that, although I was flying along a promulgated ATS route in Class F Airspace, the military aircraft, descending through cloud, crossed the route in close proximity to my aircraft and that the crew made no attempt to contact the controlling authority or maintain separation from my aircraft.

When an FIS is requested by a pilot, it now seems to be a universal ATC practice to request the aircraft's point of departure, route and destination. Why are these needed? Surely the position, track and height of the aircraft and any changes of these while on frequency are all that is necessary. Furthermore, some controllers, having obtained the data then re-transmit it to other aircraft on the frequency thus cluttering the R/T even more. This practice seems unnecessary to the point of impairing safety at times.

*In the UK FIR, Advisory Routes (ADRs) are classified as Class F - Advisory Airspace - within which ATC offers an Air Traffic Advisory Service to provide separation between participating IFR flights. No separation is provided against non-participating flights, either civil or military. Thus, in the case reported, the military fast jet was under no obligation to contact the civilian ATS unit.*

I suggest that aircraft holding a "listening watch" be allocated a specific SSR code by the station, and I have requested such a squawk for conspicuity on a number of occasions, but have been refused the allocation unless I accept an FIS.

*Classification of airspace within the UK FIR is the responsibility of the Directorate of Airspace Policy (DAP), which seeks to balance the diverse requirements of all users of the relevant airspace. This report was forwarded to the Director of Airspace Policy, who provided a detailed response to the reporter's concern. The Director concluded that the safeguards provided for aircraft of all types within Class F airspace are adequate for their circumstances and there are no plans to change the status of the current Advisory Routes. Airspace classification is reviewed regularly by DAP and the ATS providers.*

*The information to be requested by a controller when providing a Flight Information Service (FIS) is detailed in the Manual of Air Traffic Services (MATS) Part 1. This information, such as that noted in the report, is required to enable the controller to provide pilots with information concerning collision hazards. This information is repeated to other aircraft when warning of a possible conflict to assist the pilot of the other aircraft to assess the possible risk. The same information is also of assistance, if subsequent tracing action is required in the event that the aircraft becomes overdue, or if the pilot declares an emergency.*

*The DAP response emphasised that military pilots are fully aware of ADRs and that, in the area of the report, Lossiemouth ATC regularly provide radar advisory services (as opposed to an air traffic advisory service, which is procedurally based) to traffic operating on this route when Aberdeen or Scottish controllers are unable.*

*As regard the reporter's request for a 'listening watch' SSR code, as opposed to the normal conspicuity code, this would appear to imply some form of monitoring by ATC, which is inconsistent with an FIS.*

*When operating in Class F airspace, particularly in IMC, it is important to be aware that Air Traffic Control separation from all other traffic is not guaranteed since the rules permit free access to this*

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## FLIGHT DECK COMMENTS

### MISSED CALLS (FB52)

***Following the two reports published in the last issue of FEEDBACK in which flight crews failed to receive RTF messages, we received numerous telephone calls and reports of similar occurrences. In many cases, reporters referred to the recent introduction of the 8.33kHz frequency-separation transceivers. The following two reports are typical:***

**(1)**

The reports of missed calls in FEEDBACK 52 were very interesting. I can concur with your advice that the problem needs technical investigation.

I have also experienced the "dead" frequency on three occasions, one inbound to Lambourne, which may have been the case with one of your reports, and another Northeast of SABER.

My own feeling is that this is a problem which happens infrequently with the new 8.33kHz sets, probably also involving ATC frequencies which are transmitted from multiple sites and thus are centred just off the receiver frequency. It seems that the aircraft set's automatic squelch closes due to transmissions being interpreted as noise and then only opens again when a subsequent aircraft transmission is made. It is certainly almost never due to both pilots failing to listen out on the frequency, but it again emphasises that a facility to override the automatic squelch would be very useful, and too much automation can be unhelpful.

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**(2)**

Both reports in FEEDBACK 52 indicate a temporary loss of reception and the second article stops this loss with a fresh transmission. I have experienced this short-term loss of reception myself and believe it is related to the new 8.33kHz radios that have recently been fitted. Reporting action has been taken and I understand it is under investigation.

We all know that R/T calls are missed, maybe once, but rarely more than twice, so if it is prolonged, then perhaps Air Traffic Controllers should be aware that if the pilot defends his position during a subsequent admonishment after communication is restored, he may genuinely believe that he has been "listening out". From the pilots perspective, if you think that "the frequency is quiet" in a sector that you know from experience is normally busy, then ask ATC for an R/T check or at least key the R/T switch momentarily. ATC may have already noticed an increase in "radio checks" over recent months for this very reason.

***We also received the text of a Notice circulated by a aircraft manufacturer to operators on the same subject following reports of poor or intermittent RTF reception, from which the following is extracted:***

Within Europe there are VHF radiotelephony ground stations that employ the offset carrier technique in accordance with the standards set down in ICAO Annex 10. These stations transmit simultaneously from two, three or four different locations on slightly offset frequencies. These offset carrier stations are only used on 25kHz frequencies, 8.33kHz channels are unaffected.

In areas where the offset carrier stations are used, an aircraft may receive the transmissions from two or more of the ground stations. It has been shown that the presence of multiple signals can increase the "signal-to-noise squelch" threshold in the receiver. An additional "carrier override squelch" (based purely on signal strength) is provided to override the "signal-to-noise squelch". If this carrier override squelch threshold is set too high the squelch may not open in the presence of offset carrier signals.

Investigation of a number of radios returned by operators has revealed that the carrier override squelch was set too high for satisfactory offset carrier operation.

***Following receipt of these reports, this matter was formally raised with both CAA (SRG) and the UK Flight Safety Committee to ensure that as many operators as possible were aware of the problem. Several airlines had already commenced investigations as a result of company reports of similar problems. We recommend that any incident of this type be made the subject of a formal report to ensure that occurrences involving loss of communication may be investigated at the earliest opportunity.***

***More information on the Off-set Carrier System is published in AIC 46/1995 (Pink 111).***

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**MORE THOUGHTS ON 8.33 kHz SPACING**

**(1)**

I am prompted to write, principally for the benefit of my colleagues in ATC.

The new 8.33 kHz radios significantly increase workload during frequency selection. The extra time spent physically twiddling the knobs together with the need for the old grey matter to process one extra digit probably result in frequency reselections taking three times what they used to with the old 25 kHz boxes.

During a straw poll amongst fellow pilots the most charitable response I received was, that the new boxes were "a pain in the arse"!

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**(2)**

Surely the time has come to adopt a far more compact identification of VHF R/T frequencies. Just as we give



waypoints alphanumeric names rather than Latitude and Longitude references, so we should give channel numbers in, say hexadecimal notation such as 2DB. Three such characters could specify 4096 channels and so cover the full spectrum.

*We have received several similar comments on Human Factors aspects of the new frequencies/controllers.*

*A change such as that suggested in (2) above would require both hardware changes and international agreement, if it were to be effective. Notwithstanding this, we would welcome any other comments or suggestions for improving the present situation.*

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### **SPEED PRESSURE (FB52)**

Having just read Issue 52, and in particular the article headed "Speed Pressure" and an ATC request to "maintain 180 kts to four miles", I would like to offer my own thoughts on this situation.

I operate out of a major regional UK airport, where the ATC instruction to "maintain 160 kts to four miles" is very common as soon as the movement rate starts to rise above off-peak. As the pilot of a modern medium twinjet, I feel this is acceptable given that I acknowledge that ATC have a movement rate to meet while keeping the go-arounds to a minimum. (I would like to say to zero, but that is a further issue.) Depending on the conditions on the day, I can take landing flap either before or after the four mile point, comply with the ATC instruction, and still achieve a stabilised approach, "around" 1,000 ft.

180 knots is a completely different matter. Not only is this too close to the approach flap speed, it is faster than the landing flap selection limit, so, on passing four miles, I will have to decelerate, take landing flap, decelerate further to approach speed, before the engines wind up to normal (safe) approach thrust, all of which means that it is impossible to achieve a stabilised approach, bearing in mind there is only about 250 ft to go at four miles before passing the 1,000 ft limit. So, despite my best wishes to accommodate the requirements of ATC, the safety of the aircraft would definitely be compromised.

Fortunately, I have not (yet) been asked to do this at ###, but the point of my letter is that, as the safety of the aircraft would be compromised, my reply would be "unable to comply - can accept 160 kts to four miles." The responsibility for the safe conduct of the flight rests firmly with the Captain at all times, so if ATC requests go beyond the reasonable, let's remember this and act accordingly.

*As the reporter states, in most circumstances a speed of 160 kts can be maintained to a range of four miles and still permit a stabilised approach to be established by 1,000 ft. As noted in this and previous reports, a*

*stabilised approach may not be possible in cases where an ATC request for a higher speed to be maintained is made.*

*If in doubt, notify ATC as early as possible to permit the ATCO to plan the traffic sequencing accordingly.*

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### **CLEARED TO LAND ... (AFTER HOW MANY?)**

*In FEEDBACK 52 (Page 7), we reproduced an ASRS report regarding a "Land after" clearance given at a UK airport. We received the following report on the same subject:*

With ironic amusement I read your short reference to the American carrier commenting on the "land after" procedure at an "airport in England" (FB52).

The land of the Chicago Convention is not exactly known for its rigid following of any ICAO Standard or Recommendation and my experience at a major US Gateway in recent months takes your ASRS story even one stage further.

On two occasions while on final approach, 10-12nm (not statute!) from touch-down, I have been informed of one aircraft ahead at xxx miles and have been cleared to land in the same sentence, with the preceding aircraft still 5nm from the runway. This, on one occasion, in perfect visibility and the second time in IMC. Subsequently I discovered we were, in fact, number three in traffic to land, not number two!

My great concern with this procedure, as an MD11 captain, is that our final approach speed is usually 160 knots plus and I am very aware of most other aircraft flying the same approach some 20-25 knots slower. Once the tower controller is politely reminded of this fact, considerable conversation takes place between him and the preceding aircraft about keeping their speed up and expediting their runway clearances etc.

Here again, in the interest of increasing runway capacity, more responsibility is being placed on the aircraft commander. No longer does the phrase "cleared to land" mean that the runway ahead is clear for you. Add the burden of trying to estimate the distance between my aircraft and the preceding in order to fulfil airport and Company regulations and you instantly have additional workload for a tired crew at a time when you would prefer assistance.

This definitely goes beyond any ICAO recommendation but, with time, will doubtless become accepted, everyday practice until....

*In the UK, the phrase "Cleared to land Runway ##" is only given when the runway is clear.*

*An aircraft may be permitted to land before a preceding aircraft has cleared the runway provided:*

- a) *The runway is long enough to provide safe separation and there is no evidence that braking might be adversely affected;*
- b) *It is during daylight hours;*
- c) *The landing aircraft will be able to see the preceding aircraft continuously and clearly;*
- d) *The pilot of the following aircraft is warned, using the phrase "Land after the (Type) Runway ##".*

*Following a "Land after" clearance, the pilot is responsible for maintaining safe separation.*

\*\*\*\*\*

### **ADVICE ON SPECTACLES (FB51)**

*The item "On Reaching that Certain Age" published in FEEDBACK 51 (Page 6) described some of the problems associated with the wearing of spectacles on the flight deck. The following comment has been received from Group Captain Andy Graham-Cumming Deputy Director Aviation Medicine, HQ Personnel and Training Command, RAF:*

On the spectacle front, there is little knowledge among many opticians on the requirements for aircrew spectacles. Standard bifocal segments may well be inappropriate in the cockpit. Pilots with overhead panels may need trifocals, and varifocals should never leave the ground. In addition, the working distance between eye and instruments varies from type to type, but is critical in providing an appropriate prescription. It is certainly worth measuring so that the optician can optimise the near correction prescription. Ideally, the pilot should take an oxygen mask with him or her when selecting and fitting frames; all this requires is the company to keep rather than scrap an unserviceable mask.

The "best advice" from his fellow training captain on oxygen masks is dubious. Certainly drop the pipe before donning the mask; it will certainly interfere with mask fit and the tobacco will turn to ash remarkably quickly in 100% oxygen! However, if your aircraft suffers a rapid decompression at FL 380, you really do not have time to clear your head of equipment. You have perhaps 40 seconds (less if you are the pipe smoker!), a significant chunk of which will be taken up by recognition of the emergency and thinking time - the priority is to get the mask over your nose and mouth, even if the fit is not perfect. Of course, in Concorde your time available is considerably less. We used to train BOAC pilots at North Luffenham years ago; it is a pity that today's commercial pilots who have not gone through military training never have the opportunity to experience a demonstration rapid decompression and hypoxia.

*The report in FB51 suggested removing spectacles before donning an oxygen mask. It is relevant to note that JAR-OPS 1.770 (Subpart K) requires that the mask*

*can be put on within five seconds from its ready position with one hand, without disturbing eyeglasses. It should also be noted that CAA (SRG) permits the wearing of varifocal lenses for both pilots and ATCOs.*

*The advice on action following a decompression of the cabin is particularly pertinent. Anyone who has not undergone hypoxia training and who may be unfamiliar with the possible effects of a relatively rapid decompression is recommended to read the Air Accidents Investigation Branch Report into a B737 serious incident that was published in AAIB Bulletin 6/99. AAIB Bulletins are available at: [www.open.gov.uk/aaib/aaibhome.htm](http://www.open.gov.uk/aaib/aaibhome.htm)*

### **MORE ID PROBLEMS**

*We have continued to receive reports from both pilots and engineers detailing difficulties with airport security procedures at several UK airports. The following are but a selection of those received from flight crew members:*

#### **(1) BODY SEARCH**

I have just read FEEDBACK Issue 52, concerning security searching. Early in 1999 I was walking out to the aircraft at my home base (*UK Regional Airport*). To access the aircraft I am obliged to follow the International Departure Route through Security and beyond. There is not an awful lot of time between preparing the paperwork in our crew room at the opposite end of the terminal and preparing the aircraft for departure.

On the day in question, I was in full uniform and having had my ID card swiped, proceeded through the metal detector without triggering the alarm. The Security man decided to carry out a spot check and proceeded to frisk me thoroughly, paying particular attention to a particular part of my anatomy. When I remarked that I thought he was being over-familiar, he requested that I remove my wallet from my pocket. He then proceeded to examine each and every credit card and receipt in my wallet. When I complained, he summoned the Supervisor who then proceeded to lambast me for not putting my wallet through the X-ray machine. When I pointed out that I had not triggered the alarm, but was being subjected to a routine search, she stated that as a member of aircrew I should be happy to be made an exhibition of, as this would demonstrate to ordinary passengers that no exceptions are made when it comes to security searching.

The net result was that I was made to look a fool in front of the passengers by two rude and over-familiar security staff and the flight nearly missed the slot. I was not in the best of moods.

\*\*\*\*\*

**(2)**

It was of great interest to see the various letters from others suffering from ID stress in FEEDBACK 52.

We have noted that at *two UK Regional Airports*, as the airports have been modernised, there has been an explosion of Security staff. Recently, at ###, having watched me walk into the terminal to obtain some weather briefings, the Security personnel insisted that I was escorted by the Handling Agent back out to the aircraft; I would have thought that logically, if I could walk from the aircraft on my own, then I could walk back on my own! As a result, I have no intention of checking the weather myself at this airport, and now totally rely on the Handling Agent.

Like the other pilot arriving at a Scottish airport, the Security at ### is exactly the same. (*The same Scottish airport as previously reported*) The crew have to go through the same channel as passengers, and invariably we cause the machine to bleep since we have metal buttons. However, this always leads to a frisking down. Since invariably I have to go into the terminal to pay the Landing and Handling fees, I just have to put up with this. The other crew members on our aircraft are now wise to this so will often not even bother to go into the terminal, and take what little rest they may have on the aircraft.

It is pointless getting wound up at the individuals concerned, as it is definitely a case of 'Jobsworth', but sometimes they are just too zealous.

We have less problems in Moscow than the UK!!

***We are intending to present examples of the security problems reported by both flight crews and engineers to the National Aviation Security Committee, the body responsible for oversight of security within the UK.***

***We will report any progress in a future issue.***

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

*The latest CAA (SRG) Flight Operations Department Communication has been issued since October 1999:*

**15/1999**

1. Carriage of Dangerous Goods by Air

**1/2000**

1. Letter of Intent: Intention to Amend Schedule 4 of The Air Navigation (No 2) Order 1995 to Include a Requirement to Carry a Terrain Awareness and Warning System

**2/2000**

1. Letter of Intent: Proposal to Amend The Air Navigation (No 2) Order 1995, The Rules of the Air Regulations 1996

and The Air Navigation (General) Regulations 1993 to Require the Carriage and Operation of Reduced Vertical Separation Minimum Equipment and Procedures for Aircraft Flying in UK Designated RVSM Airspace

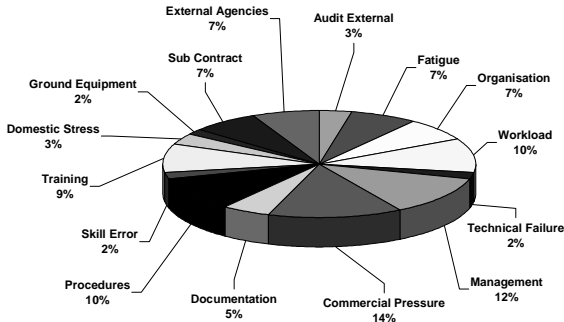
**3/2000**

1. Operations Manual Requirements for the British Formula 1 Grand Prix, Silverstone 23 April 2000

# ENGINEERING REPORTS

Engineering Reports received in Period: 16

Key Areas:



*destination*) on a revenue flight! The original entry in the Tech Log was still in the book. When the aircraft returned that evening it was found that company engineers at *the revenue destination* had signed as having replaced the component, even though all the component paperwork was at *the outstation*.

The aircraft had flown a passenger revenue flight into controlled airspace without MEL clearance, without QA permission and with an open defect in the Technical Log - all on an authorisation reference number (*issued for another purpose*). No functional checks had been carried out on the replaced component, so it could not be relied on to be accurate.

It seems that the accountants are winning.

***The terms of the MEL were quite explicit in this instance. Why the crew accepted the flight was not explained. The company was invited to investigate the reported circumstances. It is understood that appropriate action has been taken by the operator to prevent a similar occurrence in the future.***

\*\*\*\*\*

## WHO'S RESPONSIBILITY?

I am employed as a senior LAE with certifying capability and, I consider, ample experience on the subject aircraft type in particular.

The aircraft involved had been grounded for some time due to unscheduled maintenance and the task was approaching completion. In addition, the aircraft was subject to an autopilot defect and had been operating within the confines of the Minimum Equipment List (MEL). Lack of manpower and more important engineering commitments had precluded any further investigation of this defect.

The Maintenance Manager (MM), who had no experience on type, advised me that the Flight Operations Manager (FOM) of the airline had decreed that the aircraft was not to be placed in revenue service until the autopilot-deferred defect had been rectified. The nature of the reported defect and my experience with earlier aircraft was that the fault could not be reproduced on the ground. I acknowledged the MM & FOM's request and advised that the defect would be investigated and I therefore suggested that, after investigation and rectification, either the aircraft was subjected to a flight check, or the aircraft was released under the terms of the MEL once more for a further report.

I was advised that the operator was unwilling to carry out a flight check and, as stated earlier, would not operate the aircraft until the defect was cleared from the Tech Log (*without any operational flight restriction*). I advised the MM that I was not prepared to clear the defect, if neither

## A CHANGE TOO FAR?

The mid-morning flight arrived on time at *an outstation* and Engineers attended as usual for the turnround. The crew briefed the Engineer that the GPS input to the FMS was not functioning properly. As no spares were available at the outstation, spares were demanded AOG through Maintrol. The replacement part duly arrived by ground transport. Replacement was carried out and the defect cleared. As there was no Avionic cover on shift, certification was not possible. The aircraft had now an open defect in the Tech Log, a serviceable component fitted and an MEL reference which would not allow flight in controlled airspace (*under BRNAV rules*). It was agreed to defer the defect into the 'B' defects for clearance back at base. The aircraft was cleared for (*a ferry*) flight in uncontrolled airspace for the purpose; an authorisation reference was given and the aircraft prepared for flight.

Then, to the amazement of the engineers, passengers were loaded and the aircraft departed (*for another*



of the requisite actions were applied. The MM stated that if I was able to complete the Maintenance Manual function tests, without failure, then I was required to release the aircraft and certify it as serviceable. I advised him of the inability to do so, as this problem could not be reproduced on the ground and in the knowledge of the earlier occurrences. I reiterated that I was only prepared to release the aircraft after a flight check or with the defect deferred under the MEL for further reports. Previous experience had proven that whilst the ground tests would inevitably be successful, the failure might recur once airborne.

I was subsequently advised that we now had a "stand off" between the maintenance organisation and the airline, and it was indicated that if I did not sign the defect off after satisfactory ground tests only, disciplinary action would be taken against me!

Whilst I was already sure in the knowledge that my intended actions were correct, I contacted both QA and CAA for advice and confirmation of my intentions. This was received without question.

The requisite function tests were carried out without a problem, as expected. Further confrontation was averted, however, as operational circumstances resulted in a flight test crew becoming available. This was completed satisfactorily and I released the aircraft to service.

I can only see this as a typical instance of commercial pressure on me to release the aircraft without the necessary requirements being met. Operational pressures, however, eventually resulted in the necessary actions being carried out.

The concerning thing is what would have happened had a less experienced engineer been subjected to pressure to certify the release? The matter has raised significant concerns amongst my fellow engineers as to what may be requested or even demanded in the future. In addition, this highlights the possible series of events when members of management, with less than adequate knowledge, or experience of either aircraft type or systems, make engineering decisions that are outside the scope of that critical knowledge.

Thankfully the conclusion to this event was a reasonable one, but it could have been otherwise.

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### **COMPONENT OVERHAUL: ARE YOU AUDITING?**

*The following report raises the question of whether Operators are carrying out effective audits of their sub-contractors:*

The Company acts as a sub-contractor to several airlines in the overhaul/repair of aircraft components.

New start employees are not given any training and are expected to pick up the job from other employees; there is minimal supervision in the workshop. A supervisor responsible for signing out the jobs has not been trained on the particular components.

Repair Manual limits are ignored, e.g. blending depths on damaged components are exceeded. A piston in an assembly received from one airline was found not to move freely and may have been damaged on removal from the aircraft, as there were other signs of damage on the unit. Instead of being properly stripped and investigated, I was told to force it to get it to move and then reassemble the unit.

One particular Service Bulletin called for an immediate inspection of housing rings on a specific series of units. Some listed serial numbered units had been assembled with rings made from the incorrect material; colour coding identified those prone to premature wear-out. The manufacturer of the units was aware that the listed serial numbers were not the only ones likely to be affected and had warned overhaulers to visually inspect all units. The supervisor instructed the workforce only to look at the serial numbered units. I found a unit, similarly affected, outside the range of the serial number list and reported it to the Quality department, but no action has been taken.

The conditions in the workshop are unsatisfactory. On induction for overhaul, components are stripped and cleaned for inspection. There is little protection to prevent dust settling over the whole area and dust can get into newly assembled units in an adjacent area. Excess fluid on the units being cleaned is randomly blown off into the workshop area.

Painting is carried out in a facility that is out of compliance with several HSE requirements and not only affects the health and safety of the workforce, but allows over-spray/contamination into adjacent work areas.

***Both the CAA Regional office and the HSE were invited to conduct audits of the company concerned. These revealed a number of irregularities, which the subject company was required to correct.***

***Operators who carry out their own audits and find significant anomalies, in addition to drawing the attention of the sub-contractor to the problems, should also raise an MOR in appropriate cases.***

\*\*\*\*\*

### **PERSONAL TREATMENT**

***Maintaining aircraft is a demanding job and distractions can lead to slips and possible incidents. The manner in which staff are treated can have a significant effect on their performance.***

Whilst on a temporary assignment at an out-station, I accompanied an aircraft back to base to supervise some routine maintenance. Whilst there, I was summoned for an interview and told my position had gone at base due to a redundancy programme. I was then obliged to reposition with the aircraft and complete my temporary posting away from base.

By maintaining a professional attitude to my work, the remainder of the assignment passed uneventfully. However, there was a great chance of 'the eye being taken off the ball' during the period.

*This engineer was given no inkling prior to his unscheduled arrival back at base in the normal course of his work, of his imminent redundancy.*

*These situations are stressful enough for the individual and need to be handled with greater sensitivity and forethought than was apparent on this occasion.*

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### **APRON SAFETY - AGAIN!**

*Working on the Apron/Ramp has its own particular hazards, here is one that could and should have been addressed:*

I was a duty engineer doing a push back on a (*narrow-bodied twin jet*). I was at a foreign airport and the tractor driver spoke no English. During the push-back I was nearly run over by the tractor (This was not the first occasion). He drove so fast I was at a point of throwing away the head set.

I reported to the Ramp Co-ordinator that I would be complaining about the dangerous driver. Later with my local boss-man we went to see the Agency's boss-man. We were told to wait until the driver returned from another push back. During this waiting period we were told that the driver had stress problems due to domestic reasons and when he came in it was clear that he should not be driving at all, let alone doing aircraft push-backs. When I asked why this man was doing this duty the reply was that all other qualified drivers were sick!

So here we have a manager, who knowingly allows a person known to be unfit for this duty, to carry on working. All I could do whilst on this station was not to work with this driver and advise others. But that is only the first point.

The second point is that the reason why the driver was zooming along was that there was an aircraft waiting to come on stand, blocking a cul-de-sac and thereby blocking departure aircraft. So this impaired driver not only had his own stress element, but took on the airport stress element as well. No doubt he was caring about tackling the current job but guess what, or who, he forgot about? The headset man!!

The point is that with ever increasing aircraft movements and fewer staff, engineers and tractor drivers, those remaining have to work faster. The ramp is becoming a very dangerous place to be and it is up to airport and airline managers to manage the workplace to make it as safe as possible.

Hearing a manager say "He is stressed out but he is the only one available" is not an airworthy answer to a problem especially if the result is the reduction of the LAE workforce by one!

*As reported in FEEDBACK 52, and in the Editorial to this issue, the UK Flight Safety Committee has a Working Group looking again into Apron/Ramp safety issues. Also, it is understood that HSE is targeting Ramp safety in the UK.*

*While these agencies may be able to influence operations in the UK, foreign airports are another matter. Engineers and pilots need not only to be vigilant at all times on the Ramp, but continue to highlight unsafe practices through company reports and if necessary, directly to the relevant airport authority.*

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## **ENGINEERING COMMENTS**

### **SHIFTS AND FATIGUE**

Reference your editorial (Issue No 52) regarding 12-hour shift patterns. My experience is not of 12-hour shifts making you feel tired and exhausted, leading to potential errors, but what you are expected to do during any shift. Lack of manpower with appropriate licence cover often leads to a single certifying engineer covering several different aircraft all at the same time (an aircraft on Stand 'X' another on the hangar pan etc. etc). This lack of resources is due to several factors -

- Lack of apprentice training schemes, investing in tomorrow.
- Disparate pay scales compared to other areas within the airline industry.
- Aircraft engineering generally held in low esteem, therefore not attracting suitable staff into the industry.
- Lack of career prospects, once a certifier always a certifier.

So we should, therefore, not get ourselves boxed into a corner and blame 12-hour shift patterns for all our woes, instead we should take a more sophisticated and holistic approach as to the reasons behind the facts. 12-hour shifts in themselves are not overly tiring, but running around for 12 hours doing the work of three people IS!!

This brings me on to my second point. I currently work a five-day week on an alternating early/late 8-hour shift pattern. On a week of earlies, by Friday morning I feel more exhausted, mentally and physically, than I ever did working four 12-hour shifts. Yet within my organisation some line areas work seven 8-hour days, three days off, seven days on, four days off. How people operate on the sixth and seventh consecutive day of early shifts is beyond me. Surely the authorities should not be looking at hours worked but at patterns of work??

I cannot understand how the CAA even allow such a debatable shift pattern to occur especially in a line operation? This question of 12-hour shifts is not just an open and shut case of 12-hours vs 8-hours but should be about the causes and effects of working styles and patterns.

***As a consequence of experience gained through CAA (SRG)'s oversight of engineers' working practices and that received from several other sources including reports, such as this, received by CHIRP, the CAA is conducting a study into shifts and work patterns for engineers.***

***We will keep you posted on any outcome.***

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## **ID PROBLEMS? CAA TOO!**

***The following was one of the reports received from engineers on the subject of airport security.***

It may be of some interest to know that myself and some of my (*engineering*) colleagues in the Civil Aviation Authority, have problems with airport security. Our duties involve us in visits to all UK civil airfields and many of us carry a pocket full of ID passes. Sometimes however we have to visit an airfield for which we do not have a valid pass. I have on these occasions produced my CAA warrant card issued under the Air Navigation Order (ANO). This card clearly states that the CAA, in exercise of its own powers under the ANO, authorises me "to exercise the right of access to aerodromes and to any place where an aircraft has landed". So far this document has never been accepted in lieu of a valid pass, the absence of which has normally resulted in a long wait while someone is found who can escort me around with a visitor's pass.

While I understand the need for security within the airport boundaries, I do feel that security staff need to be better educated in the application of their duties.

It is not unreasonable to expect the CAA Safety Regulator to have relatively unimpeded access to the industry which he regulates, is it?

***Our thanks to those of you who have contributed on this subject. We have had a good response, but will be***

***pleased to receive any more, before we take the action described on Page 11.***

\*\*\*\*\*

## **ENGINEER TRAINING**

Reference the item "Experience and Engineering Status" (*FB52*), I find myself in agreement with your reporter's point of view, particularly regarding ab-initio engineers. I expect there are some, who are very good at their jobs, but I have experience of only one, and he leaves a lot to be desired. He was moved onto our shift because no one else would have him, and so that we, being older, wiser, and more experienced might guide him on his way. Wrong. He is unable to carry out a technical conversation, which makes communication during defect investigation difficult, he does not act on advice and just goes ahead and does his own thing. When the job is finally complete his entries in the tech log are a farce, the writing is very difficult to read, and when it has been deciphered it is usually rubbish.

We had a technician, who was under training at an accredited establishment, come for work experience, even though a line operation is not the best place; a hangar environment is much safer. It was three weeks before we found out he was Avionics not A&C. The things he wrote down in his work book bore no resemblance to the jobs he actually watched, I did not trust him hands on. One day this man will hold engineering licenses, a frightening thought.

The reply from the Head of Engineer Licensing was I thought rather poor and naive. He gives the impression that he does not understand that the training providers will only get more students if they have a very high percentage passing the exams. So the students are drilled to pass exams, not taught aircraft maintenance.

***A careful reading of the CAA (SRG) response in FEEDBACK 52 shows that indeed the possible influence of sponsors on training organisations has been recognised and the need for practical experience by ab-initio trainees has been reinforced by CAA (SRG). However, Jim McKenna has provided the following clarification on these points.***

The ab-initio scheme that currently operates in a number of UK training organisations is heavily dependent upon overseas students who have sponsors to pay the tuition fees for the course. As part of the training course, the student is 'seconded' to a maintenance organisation to gain the minimum experience necessary to complete the course. This may however be extended should the student fail to reach an adequate standard. The CAA recommends to all ab-initio schools that students should gain their experience within a base maintenance

environment to achieve the required breadth of exposure to aircraft maintenance and systems.

The system relies upon schools monitoring the effectiveness of the practical training and the organisation's staff highlighting any problems with particular students. A student keeps a record of the training undertaken and this has to be countersigned by a responsible person. We would hope that this is not being done 'blind'. Applications from ab-initio students are reviewed as part of the normal licensing process. As some students and schools are only too well aware, we have rejected a number of applications for reasons of inadequate or inappropriate experience. Where a maintenance organisation or airline puts its own apprentices through such a training course there do not appear to be the same problems, possibly as the result of closer supervision and ownership of the issue.

The reporter's comments are noted but the licence is only part of the equation. The licence held by a relatively inexperienced engineer is but a building block to start from. It demonstrates a basic underpinning competence not unlimited ability. In most organisations, an authorisation is also required to certify. This authorisation is based upon the company's assessment of the individual's competence. This comes only with experience on the job and exposure to the wide ranging variety of tasks and system defects. This should always be borne in mind irrespective of any paper-based qualifications held.

Although the reporter has clearly identified a problem, neither he nor the company within which the individual works has brought the matter to the attention of the CAA. This may suggest that they are content to accept the situation. Alternatively, they may be only too happy to release the individual so that it becomes someone else's problem. We can only resolve these issues by working together since the system at present relies heavily upon the integrity of both the companies involved and their employees to identify and report anomalies.

\*\*\*\*\*

*This item appeared in British Airways 'Flywise' Magazine Issue 94 - April 1999 and is reprinted with the kind permission of the airline:*

### **GO-AROUND!**

'Go-around ahead to 2,500 feet and then as directed by ATC!'

This promulgated procedure is, on the face of it, the simplest of all to follow. It should, however, be annotated with a health warning because, it appears, all may not be what it seems.

Several Human Factors reports suggest that, after being forced into a go-around because of an occupied runway, crews suddenly find themselves vectored all over the sky before levelling off - much to their consternation. This has prompted the B737 Human Factors co-ordinators to make enquiries of ATC.

'When', they asked, 'will an aircraft be allowed to climb straight ahead to the platform height before being given further ATC instructions?' The reply we got was 'Almost never!'

Far from allowing us the luxury of a leisurely climb out in a straight line, the procedure is designed to get us pointing at the sky and then allow ATC to tell us what they want (and indeed need) to fit in with their plans - not ours.

The reasons, actually, are fairly obvious. At LHR conflicting traffic departing from the parallel runway, operating on a different communications frequency, may mean that ATC will command an almost immediate turn from an aircraft going around, especially if the decision is taken late and at a low altitude. At Birmingham, Manchester and Gatwick the timing and direction of the vector will probably be determined by the intended track of a departing aircraft that did not take off in time to allow you to land.

Discussion with ATC at Manchester indicates that, while separation is their priority, they are also aware that some aircraft will be carrying a minimum fuel figure and in a spirit of helpfulness they will endeavour to get the aircraft on to the ground as quickly as possible. From our experience it may be that the vectoring is so expeditious as to almost compromise the second approach! If you think you need more time (and have sufficient fuel!), ask for it.

The reports we have seen have had a mixture of surprise and irritation over what are frequently seen as unreasonable demands by ATC to carry out early turns. They also indicate a rapid and unwelcome increase in workload. The constraints placed on ATC, who after all have a much better sense of the 'big picture' than we can possibly have, means that they will continue to command such manoeuvres. As pilots our only suitable defence is a heightened awareness of that probability and appropriate contingency briefing and planning.

Current simulator training incorporates go-around from various heights and in various configurations. This training together with crew awareness of the possibility that the go-around pattern and height may be changed at very short notice should ensure that go-arounds should remain a 'normal' and safe manoeuvre. For many of us though a go-around is a rare event and can highlight interesting human factors. It is only by your continuing support in completing Human Factors reports that these anomalies and occasional misunderstandings can be seen



within the larger picture and allow measures to be taken to make flying safer (and less stressful) for us all.

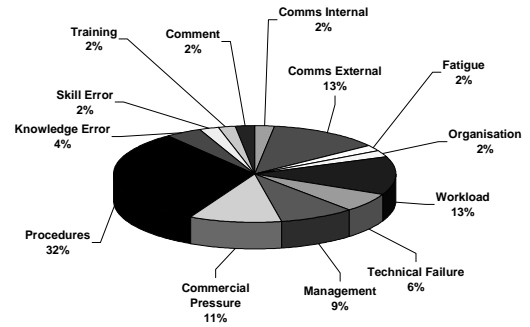
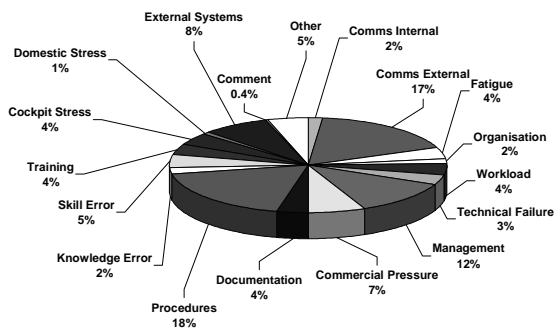
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### KEY WORD ANALYSIS OF REPORTS RECEIVED IN 1999

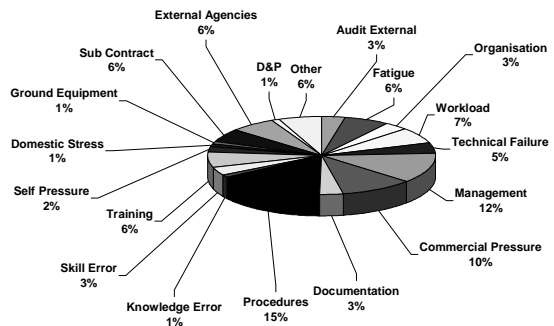
Following the Survey conducted at the beginning of this year, one of the many suggestions we received and acted upon was to show, in graphical form, the breakdown of reports received in the particular quarter for which FEEDBACK was published. As a natural extension to this process we have produced pie charts for the whole of 1999, showing the segmentation of reports received into the Key Word descriptors.

It is not possible to use precisely the same list of Key Words for each of the Flight, ATC and Engineering groupings. However, where possible common Key Word are used.

#### Number of Flight Deck Reports Received: 141



#### Number of Engineering Reports Received: 58



#### Number of ATC Reports Received: 29

It should be remembered that in view of the voluntary nature of the reporting process, these results have no statistical significance. However, the results may be considered alongside data from other sources to indicate trends in key areas of behaviour.