CONFIDENTIAL HUMAN FACTORS INCIDENT REPORTS

FEEDBACK Nº11

For the first time, this FEEDBACK will be sent to Air Traffic Controllers, and we would like to take this opportunity of welcoming them to the system. You'll see that on page 3 we've included some reports about, rather than from, controllers. We're sure that the next issue will redress the balance.

The expansion of the system has caused us to give a little thought to what CHIRP is for, and the CAA Safety Data Unit has asked us to remind you that it's often possible to give a better follow-up to a report if it is submitted as a normal occurrence report rather than a CHIRP report. They would consequently like you to use CHIRP only when you have a real reason for taking advantage of the confidentiality that the system offers.

Having said that, we are, of course, delighted to receive your reports, whatever your reason for using CHIRP. We try not to play a numbers game - indeed we're not in a position to; our 700 odd reports look pretty paltry by comparison with our US equivalent that has 50,000. We're sure that small is, or at least can be, beautiful. However, it is true that for us to get something done about an issue, it helps a lot if we have a number of reports on that topic - that's why we've included the set of very similar reports on page 4 about Spanish ATC. What this means for you is that you shouldn't shrink from submitting a report because you've already seen an incident like yours in FEEDBACK and you might reasonably assume that the problem is already identified. Bung in a report anyway. They are all grist to the mill, and we really will do our best to get your problem looked at.

We'll be back in December. Safe flying.

AUGUST 1986

APPROACHING PROBLEMS

Two recent incidents, occurring in close succession I feel are worthy of relating. They both concern visual approach slope indicators and both illustrate a possible confusion between the T-bar VASI and PAPI. A) Runway 23 Spain. Usual procedure is a radar positioned approach to an ILS. The only distance check of G/S height at the intercept comes from YYY which is approximately 12 miles from touch down and has an associated DME. Radar intercept occurs normally between YYY and the field. With both nav receivers tuned to ILS before intercepting the G/S I asked the P2, who was flying the aircraft, whether he thought we had a good G/S. He looked at the T-VASI, assumed it to be a PAPI and interpreted it as indicating a high position. Fortunately he decided to X check by tuning the DME YYY.

Factors compounding the error included:

1. Runway slope giving an unusual visual perspective.

and

2. AIS warnings of false G/S on runway 23.

B) Converting pilot (P2) final check, approach to runway 18 at XXXX. ILS flown to 600' then went visual. Misinterpreted VASI indications confusing T-bar with PAPI. Increased Rate of Descent until ILS G/S was off the scale and landing on runway was NOT assured. Situation corrected by Captain's prompt.

Although he had said the VASIs were of the T-bar type during the approach briefing at TOD, during debrief he was unaware of the various indications to be expected from this system. I would be interested to know if you have any other reports of such confusion occurring.

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We were making a rig Radar/NDB approach to a semi-submersible. The rig had been in fog that morning, but prior to our departure, the fog had lifted into low stratus and was beginning to disperse. Since the wind direction was such that the helideck would be on our starboard side, I elected to fly the approach and have the co-pilot carry out the landing. By 150 feet on Radalt we were down to 70 knots IAS and running in to our decision range and visual with the surface. Shortly after the co-pilot called "One mile", I briefly looked across at the Radar screen and saw the return at 0.7 n.m.

On looking back at the Radalt, I found that the height had increased by about 25 feet, as I'd inadvertently allowed the nose to come up a few degrees. At the same time, the co-pilot called that he had lost Radar contact with the rig. Believing that this might be due to the increased nose-up attitude, I quickly adjusted the tilt of the antenna down a few degrees, convinced that the rig would reappear at just over half a mile. It did not. I called "Overshooting" and commenced a climbing turn away from the location. Several seconds later, the co-pilot called that he was visual with the derrick out to the left, through the broken stratus. The distance was difficult to estimate, but the rig looked too close for comfort.

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I was the Captain of a helicopter which had departed from Aberdeen on a June morning, and after landing on an offshore platform, we were estimating Aberdeen approximately 3 hours later.The North Sea was that day affected by haar (sea fog) and while still some distance from Aberdeen, we copied the ATIS which was reporting fog.

As we were radar vectored to the ILS for runway 17, the RVR was consistently reported to be below 600 metres.The ILS was going to be flown using raw data displayed on an HSI with a Glide slope at the side.

Now, my company, in common with some other helicopter operators is in receipt of a special dispensation from the CAA which takes account of the "unique characteristics of the helicopter" and permits ILS approaches in RVRs as low as 300 metres.

I continued with the approach and briefed my co-pilot; he was to fly the ILS, reducing his airspeed to a bare 70 knots at Decision Height, where he would level the aircraft and fly a level section for 15 seconds, while maintaining the Localiser (not easy where the beam is so narrow). It would be my duty to monitor his handling and to seek visual reference prior to taking control for landing.

The procedure developed as briefed and whilst flying level at the OCL I was able to see some Approach Lighting - just. I advised my co-pilot:

"I can see.....the lights.....I have control"

I assumed control of the aircraft, but no sooner had I done so than we over-flew the runway threshold and there were no more High Intensity Approach Lights to be seen, in

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STOP PRESS: We've highlighted the problem of approaching rigs before; we're pleased that the CAA has just increased the minimum RVR for such approaches.

fact there was nothing to be seen at all!

".....No I can't! - You have control!! - Overshoot!!"

and I threw it all back to the co-pilot, who, bless him, picked up his instrument scan and we climbed away.

On the next attempt, the RVR was considerably better and we completed a normal landing.

I have since wondered which of "the unique characteristics of the helicopter" were being taken advantage of.

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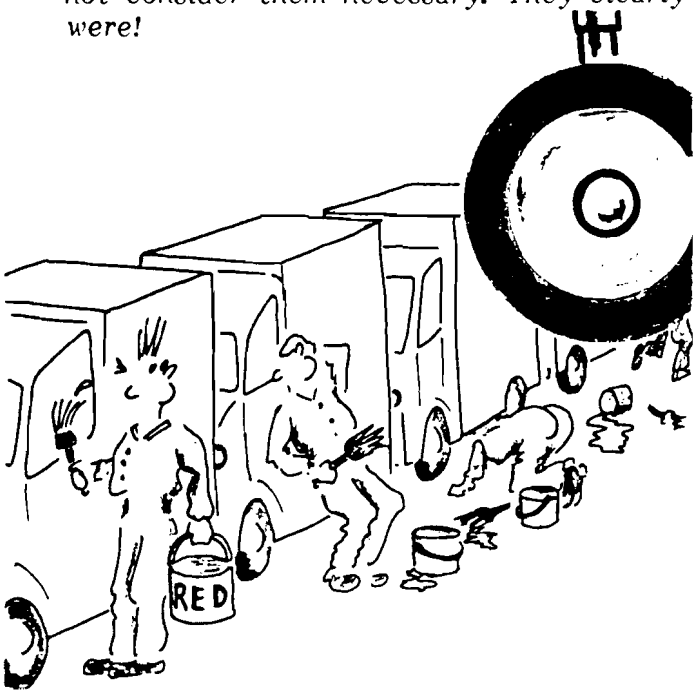
SITUATION: Approach to R/W 28 at XXXX. 1st Officer handling, hazy conditions under 8/8 at about 900', vis some 5 kms. W/V 020/12-15. Whilst making a radar assisted visual approach (with no glide path information being given) the 1st Officer saw what he thought were four "white" PAPI s in about the expected position. (Although the general airfield area was visible, the actual R/W was not - range about 3nm).

1st Officer then increased R of D to regain the visual glide path - but I was not convinced and looked even harder for the R/W. Very shortly the correct PAPI s became visual showing 4 REDS. Instructed 1st Officer accordingly and he then saw the correct PAPI s, corrected the R of D, and carried out normal visual landing from about two and a half miles.

What we BOTH had in fact mistaken for the PAPI's were 4 white vehicles halted by the traffic lights controlled by ATC on the public road which passes the threshold of R/W 28. An interesting optical illusion which vindicated the practice of monitoring the other chap's approach. N.B. PAPI s were on low brilliance setting - with no R/W approach lighting on at all. Think ATC did not consider them necessary. They clearly were!



ATC COLUMN

Since the opening of Terminal 4 at Heathrow I have been most concerned with the method that ATC Local Control use to clear aircraft to cross the active runway. In case you are unaware of the procedure being used it is as follows:- when approaching the crossing point the aircraft's crew are instructed to change to the local controller's frequency, so far so good. The local controller then instructs you to cross "after the 707, 747, 1-11, or whatever, has landed/taken off". I feel this is a sloppy way of controlling such a vital movement and is open to mis-understanding. If this method is not changed to a firm "callsign - cross now" instruction I fear an accident is INEVITABLE. The system is especially vulnerable in conditions of reduced visibility.

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At LHR holding point 28L. Cleared to line up after "Company Tristar". Tristar departs - I asked Co-pilot to check clear to the right before moving to line up. He reports TWA B747 approaching rapidly up taxiway. I decided to wait. He sailed past and lined up 28L. I queried with ATC if it was I who had been cleared after the Tristar, which was confirmed. TWA said he thought he had been cleared after the BA 10-11 not 1-11.

It might be a common language but some use it differently.

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Approaching the holding point, 1st sector of the day, we were cleared to line up. Having crossed the holding point I glanced up towards the runway approach and saw a Twin Turbo turning finals very close in (half NM) - I called "STOP STOP STOP!" and the handling pilot immediately stopped, just short of the runway.

Apparently the Twin Turbo pilot had been asked to "call left base" on the Approach frequency 118.20, we had been on tower 119.5; the Twin Turbo pilot had not made the "left base" call so the Tower Controller assumed him to be further out. After a brief conversation with the TWR controller we were cleared for takeoff, a short while later the Turbo landed.

NECESITO A ALGUIEN QUE HABLE INGLÉS, GRINGO

I have recently noticed an increasing tendency by Spanish ATCs to communicate with Spanish aircraft in the local tongue. The increase is so marked that one gets the feeling that it is "policy" (possibly unofficial - maybe union inspired?).

One has always accepted this in a limited form by ground controllers etc., but it is now general practice on airways and approach control.

The Spaniards have never been able to resist the opportunity of slipping an Iberia or Spantax a/c in ahead of one of ours, but now they are doing it in Spanish. Unless we speak the language, we are unable to monitor the event, and thus are denied the opportunity to query an error by the controller, on a mis-read clearance by the other aircraft. We all know the potential hazard of this.

Can you bring some pressure to bear? - meanwhile, I'll just finish this game of bowls.

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Night procedural approach to ZZZ along with three other a/c - two of them Spanish. ATC and Spanish a/c using Spanish over R/T. Self and a German a/c using English. It became impossible to follow the sequence and clearances given to other a/c because of the language mix. Finally requested controller that R/T be done in English or that clearances to the Spanish a/c be repeated in English. ATC complied after some hesitation as did one Spanish a/c. The other, although clearances now being given in English, continued to reply in Spanish.

Similar incident last weekend night IMC procedural approach into XXX. Four attempts to call steady inbound over a tirade of Spanish on the R/T. We had no idea what was being said or where the other a/c was, or even when to chip in and speak. No radar in either case.

Local language use seems to be on the increase, not only in Spain. When clearances and instructions are given in "local" it becomes nigh on impossible, except for the gifted amongst us, to monitor other a/c clearances and to check on possible conflictions. Monitoring becomes especially important when IMC as this is the last defence we have when under procedural separation.

Can we start, with the help of your influence and circulation, a campaign to "Bring Back English".

*

After an uneventful flight we were told to enter holding pattern at FL60. We were second into the hold, there being a DC9 already in the hold at 5000 feet. After one complete hold another DC9 entered the hold above us at FL70. For the next 5 to 10 minutes there was continual chatter in Spanish between the other two aircraft and the Spanish controller.

With one aircraft above us and one below us, along with movements on the runway, and all the chatter in Spanish, it was impossible to establish any sort of mental air picture.

It is accepted, but I am sure not liked by aircrew that the national language may be substituted for English. This is barely acceptable on airways, but highly undesirable in the terminal area, and if Air Law could be changed to rectify this situation enforcing the use of English in the terminal area, it would be a great boost to flight safety, and very possibly avoid a future accident.

ACOUSTIC INTERFERENCE 1

About three miles from the rig, I put aside my meal tray in preparation for landing and to man the Speed Select Levers, I picked up the check list, the Captain pre-empted what I was about to do and in as many words said don't bother I've done them, OK fine. The in-field shuttler was still calling his destination and not getting any reply, as he was progressively getting closer his calls were becoming more frequent, and I calculated he would be landing roughly at the same time as we would be, nothing unusual in that.

On the final stages of our approach, the last 50 feet or so, the shuttle aircraft eventually got through to his destination, almost simultaneously I heard our destination calling us, but because of all the other chatter, what he said was unintelligible, as our aircraft settled to land, saying all clear on this side, I noticed our aircraft begin to sink through its normal landing height (i.e. wheels down on the deck

height) - i.e. gulp, no wheels down! We both realized this at the same split second, he (the Captain) raised the aircraft into a higher hover, and our hands met on the gear down lever!

Once landed safely, we glanced at each other, words were not necessary! What our "desk" was trying to tell us, was that our gear was up, but because of all the radio interference he could not get through.

This incident occurred during a 9.00 hour flying day, of which 9.30 was rotors-running.

Too cold, too much flying, too much rotor running time, too much willingness to help the customer, too many duty hours, too much trust, too many mistakes, too much asked of the crews. At the time we were working seven day weeks.

I'm sure this is just one of the many incidents that has happened, but has remained unreported fully.

ACOUSTIC INTERFERENCE 2

I have been concerned about the number and magnitude of the Aural warnings on the Airbus - 15 are listed.

I remember attending a safety conference some years ago where it was stated that four was was about the maximum number to which the human brain could readily re-act. Read on if you will.

1. 2 crew, Day, V.M.C. F.O. flying aircraft, during turn at 1000', a pressurisation bleed valve fault light illuminated with its accompanying warning chime. Correcting action taken by me, but the fault continued along with the chimes. Nothing would stop the intermittent fault and its warnings both visual and aural. The First Officer became distracted and we were a little late retracting the flaps. Before retraction had completed, the overspeed warning cut in. This sounds like the Fire warning bell. However, we survived.

2. Airbus - Day, I.M.C. F.O. flying aircraft in poor weather on approach to YYYY when the High Pressure bleed valve showed fault and gave the warning chime. Once again the fault could not be cured, nor could the chime be stopped.

Throughout the descent we had been high and I was monitoring the miles to go using YYYY VOR/DME. During the period while the chimes were ringing, Radar cleared us to the I.L.S. I selected I.L.S. mode my side and continued trying to cure the fault. Now when I.L.S. mode is selected, this frees the Flight Management Computer to Autotune any V.O.R./D.M.E. it chooses and it chose the nearest - "LLLL". The next time I looked at the D.M.E. it showed 8 miles and I called to the F/O that we still far too high. He maintained that we should be at 4000' and he was right. I had been distracted by those wretched E.C.A.M. chimes.

THIS AND THAT

Had just completed some short inter-platform flights and had just landed to refuel prior to next sector. Normal procedure is to pull the Radio altimeter C.B. when hot refuelling to eliminate radhaz which is the top collared one on a vertical C.B. panel behind the co-pilot's seat. This particular A/C in the fleet had been modified and the radalt C.B. had been moved to another position. The top collared C.B. was now the captain's artificial horizon C.B.! Yes, I pulled it. Pre take-off checks, yes, I missed it. Although the little fail flag must have been showing, the horizon was still indicating sensibly. After take-off, it was not until I started turning that I noticed the fail flag.

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On descent into ZZZZ the auto throttle was disengaged, the pilots using manual throttle. The a/c levelled off at 1500 and both pilots were looking outside the aircraft for visual clues. The F/E was silently going through the approach check list . The Captain looked back into the instrument panel and immediately called "SPEED". We were some 20 knots below V Ref as the throttles were at idle!!! Immediate action was taken to recover from an ALMOST stall condition. All three of us were very troubled by this incident, as we had been quite alert (we thought). However:- leaving XXXX at midnight and trying to sleep etc. - left us wide open for the early morning, "I know what I'm doing" syndrome. P.S. We learnt from that one.

PLEASE KEEP OFF THE GRASS

L.1011 PILOT REPORTS.

We left XXXX with the No.3 engine reverse thrust inoperative in accordance with our M.E.L. and had flown the aircraft the day before in the same condition. As the previous flight had required the use of a reasonable amount of brake on landing, the right hand main gear brakes had got very warm and this was in the back of my mind as we neared our destination. On reception of the ATIS we found the cloudbase close to our minima and the airfield encountering rain and a wet runway. I briefed for the landing on and reminded everyone that we had a wet runway and reverse on 1 + 2 engines only. We carried out the ILS and at about 100' above our minima we became visual. The approach and landing continued in a stable state and we touched down at the correct point and correct speed. I selected reverse on 1 + 2 and let the speed drop to about 100 kts before starting to apply the brakes. Subconsciously I layed off the right hand brake in an effort to keep it cool. As we continued the tower asked us to clear at the highspeed turnoff, which cleared the runway on the right hand side at an angle of about 30 degrees. They had in fact left it late and I should have disregarded the instruction. However I had around 90% reverse thrust on 1 + 2 and at about 60 kts I tried to take the turnoff braking predominantly on the left hand brake. I began to realize that the a/c was not going to make the turn after a short while as the reverse on No.1 was opposing any rudder input I was putting in, and I was not helping matters by using the left brake to the exclusion of the right. The captain advised me to be careful as we were now heading for the grass with the right rudder and left brake and the a/c tracking in a straight line. I finally applied all the brake and centred the rudder (thereby the nosewheel), coming to a stop half on the runway and half on the taxiway with about 15 feet to the grass. Close for a wide body.

Looking back I should not have tried to make the turn but if I had had to clear I should have slowed down on the runway and been aware of my groundspeed before attempting to clear. However, as a matter of interest, it amazed me, that with asymmetric reverse and a wet runway ALL of my rudder input and rudder fine steering was being cancelled out. I shall certainly watch out for any future landings or takeoffs with Asymmetric reverse as a possible cause of strife.

FEEDBACK ON FEEDBACK

FROM THE ASSOCIAZIONE NAZIONALE PILOTI AVIAZIONE COMMERCIALE.

Upon reading the report "Trouble with Idents", on Feedback No. 9, we wondered how that problem had never come to the attention of our Technical Committee. We probed around a little and soon got a couple of reports of similar incidents, one of which caused a missed approach. We prepared an article for our association's journal (attachment No.1.) to publicise the problem and, armed with a copy of Feedback No. 9. and many good arguments, represented to our civil aviation authorities to have the situation corrected.

As you may see reported on NOTAMS (attachment 2) at those airports where the 3 letter idents of the VOR and ILS were the same, the ident of the ILS has been changed.

We have lived for a long time with the problem without noticing it; a single report circulated internationally is all that was needed to eradicate a potentially dangerous oversight.

I think that this was why CHIRP was born in the first place, and I compliment you for a job well done.

Best Regards, Capt. Italo Battioli, Tech. Sec.

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FROM WESTLAND HELICOPTERS LTD.

While not attempting to sidestep the criticisms, I can only confirm that the reason for the low level of comfort in the present generation of helicopters, particularly military, is that the customer got what he asked for and what he was prepared to pay for. Along with my colleagues, most of whom have been flying helicopters for twenty years or more, I have been continuously fighting to improve the cockpit environment. These efforts have been thwarted at almost every point by a lack of finance.

Heating, ventilation and noise levels, could be improved, but again only at a price, both financial and operational. I do, at least, have high hopes of things improving in the future (perhaps, because the people achieving the higher ranks now include helicopter pilots). The seats for the EH101, both civil and military are being designed by specialist firms; a full air condition/heating system will be a standard fit, and the recent advances in blade dynamics and design will go a long way towards reducing vibration levels. While I may not have given the answers you would have wished, I hope you are slightly happier that the helicopter manufacturers ARE aware of the pilot comfort problems and are currently striving (with the C.A.A. and other agencies) to improve them.
: C.W. Hague - Senior Test Pilot.

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This is not an incident, but I would like to pass some comments on an item in Feedback No.10. Under the heading of "Say Again", item 2. Fast Talking ATIS - I entirely sympathize with the writer.

Some time ago I wrote a letter to my Company on this subject. I hope it went up to "Higher Authority", but anyway I have heard nothing since.

I think the subject can be split into two parts - overseas and domestic. The overseas ones, to our ears, frequently sound distorted because of the accent. Also, they tend to read too fast, and the voice is soft - if it is a lady talking. I sometimes find I have to hear it read two - or even three times to get the information I want, and time is precious. (I am on short range).

For the domestic ones, I agree with the writer that too many words are used. To say that the wind is "varying between 210 degrees and 270 degrees" is quite unnecessary. Furthermore to include cloud at cirrus level is irrelevant for take-off and landing. The lowest cloud, and the main cloud base is all that is required.

As regards the units that the writer mentioned, I am not so sure. I feel they are necessary as different nations use different units - still! (Note: I gather the French are using feet instead of metres). But, the USA still uses degrees F and inches. As regards visibility, short distances must be in metres, and large distances in kilometres - so some elements will have to be specified.

I hope that my comments are of interest to you. I do agree with the writer that too much that is unnecessary is said. But I question his desire to eliminate the units. What I do look (listen) for is a slowly spoken, clear broadcast with just the essential information that I need.

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FROM HEADQUARTERS NO.1 GROUP, RAF.
In your excellent Feedback No 10 an aside to the article entitled "SAY AGAIN" suggests that the RAF Volmet would benefit greatly from alphabetical presentation.
You will probably appreciate that the RAF Volmet system is managed at HQ 1 Gp and the stations are in fact in alphabetical order by area. The UK block of stations comes first, followed by Germany, and then other geographical areas. What is liable to happen, however, is that movements of our aircraft require temporary addition of stations, and these are placed at the bottom of the list. Possibly your correspondent picked a day when the world was more of an operational oyster than usual!
: Squadron Leader B.C. Allchin RAF.

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FROM BRISTOW HELICOPTERS LTD.
I refer to the Report in your Feedback No.10, entitled "GOING TO THE FLICKS". Recognizing that the majority of return flights on the North Sea, especially at the end of the day, are an into-sun situation, this Company has for many years now issued a Company crew hat which is soft, with a large peak, and can be kept in the pockets of a survival suit. It could well be a good idea if other companies operating in the North Sea environment followed suit.
: J.R. Cameron - Senior Regional Flying Superintendent.

. . . AND FINALLY

1. In descent IMC, cleared for VFR approach if visual at MSA. 2. With 100ft to MSA still IMC P1 (handling) noticed P2 (non handling) was agitated and clutching at his parts. 3. Fortunately at this juncture aircraft broke cloud and continued VMC. 4. By this time P2 was unstrapped and standing on seat giving a fair imitation of a Zulu Warrior playing the spoons. 5. When order was restored it transpired that P2 had dropped his lighted cigarette..... 6. DANGER: GOVERMENT HEALTH WARNING:

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