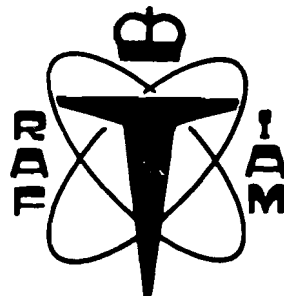


CONFIDENTIAL HUMAN FACTORS INCIDENT REPORTS FEEDBACK N^o3



CHIRP celebrates its first birthday this month and it has been a busy year for us. As all of you who have sent in a report know, each is dealt with individually with all reporters receiving a hand written reply. Producing FEEDBACK keeps us busy too, both in selecting the reports and in the cottage industry activity of sticking them together (literally) before they go off to the printers. We have also made friends this year with visitors from ASRS (US. CHIRP that is) and look forward to greatly increased co-operation, not only with them, but with the confidential reporting schemes that we know are being developed in other parts of the world.

We've been both suprised and pleased at the amount of goodwill and interest in the scheme which has been shown (we've even had an excellent press cutting from the Karachi Morning News) and the reports now number some three hundred. In order to maintain the momentum of CHIRP we need the flow to continue - there are very few pilots who could not contribute something. Many thanks to all our reporters and a public thank you to all the companies who have assisted us in our publicity and helped with the distribution of our forms and envelopes. It's your scheme, it's working well, support it!

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We have devoted a large section of this FEEDBACK to reports that have a similar content, the theme being the somewhat delicate one of a crew member reporting on what he considers to be the inadequate performance of another. Perhaps naturally, most of these reports are from First Officers and Engineers reporting on their Captains. Like all the reports we receive we treat them at face value and have no way of telling how accurate they may be, but the ones we have printed in the following pages seem to us to reveal some interesting event on the flight deck - whoever was in the right. They have all been dis-identified in accordance with our normal practice but it may be that with this particular type of report some pilots might just think that they recognise themselves. Well, they would probably be wrong and it would be most unfair for any Captain to strike any First Officer or Engineer off his Xmas Card list for such an imagined slight.

As in previous issues all sections in italics are, as nearly as possible in the reporter's own

I'D PREFER YOU NOT TO DO THAT CAPTAIN

4 JET SCHEDULED PASSENGER. A new Captain of advanced years was in command, a young foreign national was the co-pilot, I was the Flight Engineer. It was the Captain's second flight in command. We were cleared for an approach and landing on the left hand runway, we crossed the outer marker 500 feet too high and at 230 knots. ATC told the Captain he was too high and above the G/S. At this point the Captain tried to correct by increasing the rate of descent to 2000'/min. No checks had been done at this point despite reminders and zero flap and gear up existed. Shortly after leaving the O/M the tower advised us to land on the right hand runway which threw the Captain into more confusion. He applied a large angle of bank, called for the gear and full flap and increased his rate of descent, at the runway threshold we were at 300' with 1200'/min descent and at approximately 45 degrees to the runway center line, heading towards the terminal building. By this time I had called for an overshoot 3 times to no avail. The F/O had not said a word at all, he had continued his duties as normal and seemed willing to allow the Captain to continue this approach which was completely non procedural and heading for a disaster. I felt that I should act and rightly or wrongly (depending upon how you view the F/O's opinion of pilot ability and his right to act in such circumstances), I called for a go around and forced the issue by advancing the throttles towards rated power, the Captain then called for an over-shoot and for gear and flap retraction. The subsequent landing was normal. Downwind the Captain thanked me for making the right decision. Although this incident portrays my actions in a favourable light, I am still dogged by several unanswered questions, and it is these questions that prompt me to complete this report, not self glorification!

a) Why did ATC change runways at such a critical phase of an approach; even if it had been a normal approach it would have created difficulties ?

b) Why didn't the co-pilot call for a go-around, was he so over-awed by command that he would have died before he would question it ?

c) Why did the captain wait for someone else to make the decision to go around, he must have known that he could not complete the landing?

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4 JET FREIGHTER. Approaching London at altitude we received gradually worsening RVR reports due to build up of fog.

We made an approach on 28R using autopilot coupling - saw nothing at 220 feet decision height and carried out a missed approach. We entered the hold and after a short delay were offered runway 10R with an RVR of 900 metres (our limit 600 metres). We commenced the approach but the autopilot would not lock-on (for no accountable reason) so the Captain hand flew to decision height (300 ft). I made all the prescribed calls including nothing seen - overshoot. I said this three or possibly four times but the Captain continued to hand fly the aircraft to 100 feet when the lights suddenly rushed into view. As we did not see the approach lights but only the runway edge lights, and because the Captain had gone above the glide slope in the last 200 feet of descent, I was afraid that we would go off the end of the runway. However he made a firm touch-down applied maximum reverse and moderate braking and came comfortably to a stop with perhaps 1000 metres remaining.

The Captain gave me no hint beforehand that he intended to "push the limits". I had a similar experience on a flight from London to the U.S. some months later, also on a similar aircraft, and it occurred to me that both Captains were similar types:

1. Both were young (late thirties)
2. Very self confident

3. Good pilots - above average handling ability

4. Never seem to be upset or the least bit perturbed by anything. (it can't happen to me?)

5. Likeable, easy to get on with characters.

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PUBLIC TRANSPORT. At top of descent before descending into destination airfield - I was F/O on the outbound leg from London - I reported the latest VOLMET to the Captain which was 8/8 cloud 150' and less than 1000 metres visibility. He announced that he would be doing all the flying on the approach, landing and possible overshoot single handed which was completely non-standard as the operations manual specified monitored approach procedures throughout. I challenged him tactfully on the matter and a serious argument arose which left a dangerous tense atmosphere among the three crew. He then carried out his approach and landing in the conditions stated without incident. On landing there was a further argument where I was accused of interfering with the lawful authority of the Captain. I have never been involved in an argument like this in flight before nor since and the incident disturbed me. The Captain did not fly the approach accurately and there could have been a more serious outcome.

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WIDE BODIED. I was flying with a Senior Pilot, who was known throughout the company as not a particularly good pilot. ATC cleared us from F310 to F370, a level which was feasible for our weight as long as M.82 was not departed too far from. He (flying the aircraft via the autopilot) armed the altitude, selected climb power, and wound 1000 ft/min onto the rate of climb. I suggested that this rate of climb would slow us down - he responded by saying it would be alright. The speed dropped to M.75, I raised the matter again; he pressed MCT, and sat back.

At M.72 (or so) I pointedly asked the Flight Engineer for our stalling speed at that

weight, multiplied it by 1.5 and bugged it.

As we reached F.370, the IAS was about 240 kts, and reducing. As I FINALLY reached for the rate of climb wheel the Captain himself descended the aircraft, accelerated, and reclimbed.

I thought about this incident all the way to the U.S., where on shutdown I apologised for not taking charge earlier. The Captain shrugged it off.

Lesson to me. Just because he is a Senior Pilot, don't let the turkey stall the aircraft; and I am not normally known for my tact!

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CHARTER I.T. TWIN JET. Both pilots very experienced each having extensive service flying careers; Captain very experienced civil transport operations. F/O experienced. Company policy for night flights was max. consecutive 2. Captain refused all F/O's right to operate the inbound leg of a night flight as one had fallen asleep on him in the past. Captain accordingly operated inbound leg to LGW which was on 26, straight in on 08 requested and descent commenced accordingly, if a little late. Departing traffic would delay final clearance. Shortly after establishing in the descent it was apparent that we were high. Captain took no action when it was pointed out. Later in the descent it was very obvious he was going to have to work quite hard to get the height off. This time I pointed out just how far above the desired level we were. He merely increased speed to VMO/MMO, for some reason leaving the spoilers in. The rate of descent was patently inadequate to correct the situation. Eventually I asked the Captain if he was going to throw it away and take radar to the 26 ILS. He wasn't!? He burst out of cloud at about 4 miles finals still doing about VMO. In spite of briefing very correctly for the 08 missed approach he ignored the procedure -or forgot it- totally and, in fact, turned to the north towards the high ground!! He made no attempt to reach safety height even though it was completely dark. It was at this point that the radar controller and I both got through to him. Afterwards, he

offered no explanation, muttered his apologies and left for home. This flight was the second of 2 night flights and was correctly operated until the approach which, inexplicably fell so far below his usual and normal everyday standards, it was incredible.

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SCHEDULED PASSENGER. The take-off weight of the aircraft was such that we needed the boost engine for take-off. It

failed to light and so I assumed we would taxi off the runway and "sort it out". To my surprise we had to stop the Captain from taking off. He asked the tower for the surface wind, and the head wind component was below what was required for a boostless take-off. Again the other First Officer and myself had to restrain the Captain from taking off. He finally told the tower the wind we required, and they duly obliged us, so off we went. (I applied full power - even though it was unrequested.)

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What can be done? We're thankful that it's not our job to implement solutions, but it's obvious that if everyone on the flight deck stuck to SOPs and treated the other occupants reasonably, these problems simply wouldn't occur. Pilots may be highly trained in many respects but may not be so skilled in the management and communication necessary to generate a congenial atmosphere on the flight deck. It's hard to see yourself as others do, but one or two US airlines claim success in this area in videotaping LOFT (line orientated flying training) simulator exercises and discussing the tape with the crew after the flight. This sort of self examination doesn't sound very British but it might be worth thinking about if it works.

Lastly, a reminder that we have changed these reports around a good deal so please don't leap to the conclusion that one of them is about you, it probably isn't. However, if you do think that you star in one, how about doing something about it?

P.S. If these reports don't convince you that there's a problem, remember that the co-pilot of the KLM 747 at Tenerife and the Air Florida 737 at Washington were both unhappy with what was going on before the accident but didn't say very much - probably because they didn't feel that it was their business to question the Captain's decision too closely.

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I'M NOT WORRIED-AM I?

As an experienced Captain, at that time on short haul aircraft, I was told by the CAA doctor at LHR that my half annual medical showed up a heart irregularity. My licence was NOT suspended or any restriction placed by CAA or BA upon my operational duties even though full heart investigation was stated to be necessary.

The way in which I was told just sufficient

to be really worried was in my opinion disgraceful and I said so to CAA and BA doctors.

No pilot should be put in a situation of this sort and allowed to fly until his fears are allayed.

I could cope with it and all the following investigations. I suspect many couldn't.

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It seems to us that pilots have enough checks to worry about without the doc aggravating the situation. We have enough doctors here at the IAM for us to know that some of them are OK; but if you think that your AME isn't OK and doesn't tell you all that you want to know, try asking him. If that doesn't work ring the CAA on 01 379 7311 and ask for the Medical Branch; you should get some constructive listening there.

By the way, if you'd like to know a bit more about aviation medicine, there's a new book published by the BMA called "Aviation Medicine" costing about a fiver. Yes this is a plug, it was written by some of us here at the IAM - please buy lots.

V WHAT?

WIDE BODIED CARGO. During T/O (first officer flying) I CALLED "V1 .. VR" as my ASI registered the appropriate speeds as bugged on the instrument. The F/O rotated accordingly without reference to his own ASI and the aircraft unstuck. There was an unusual time lag before we achieved V2, and I then perceived that my VR bug was incorrectly set. The bug was set next to the V1 bug as it would be for a lighter gross T/O Wt., and as it very often is for relatively short sectors on our network. On this day, although we were operating a short sector, it was the Cargo aircraft with a very high ZFW and freighting fuel to be at Max Ldg. Wt. at London.

There are seven bugs to adjust on each ASI before T/O and Ldg. For T/O: V1, VR, V2 (mstr bug - integral with ASI), Vf10, Vf5, Vf1, Vf0. The F/E cross checks with the pilots that all bugs are set correctly. We went through the procedure normally during our pre-start checks. The F/E and I both failed to see that I had miss-set my VR bug. The F/E is a particularly alert and conscientious crew member. We were all in

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good physical shape and under no pressure.

After the T/O and during the departure procedure, I dwelt on my oversight to the extent that I was distracted from the duty of fully monitoring the conduct of the flight. I swivelled the Mstr bug to 300 kts after flaps were fully retracted which encouraged the F/O to forget the 250 kt restriction below 10,000 ft and failed to follow his tracking. Consequently we then flew outside the normal bounds of our designated SID track. (At this time, the other crew members were still unaware I had called VR nine knots early - I did not discuss it with them until after landing, as I guessed the F/E would be as upset with himself as I was with myself).

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CHARTER CARGO. Our normal operations use a V1/Vr ratio of 1.0. The company insists that V1 is always called, even though it coincides with Vr. On this occasion V1 was 10 knots less than Vr, and on my call (co-pilot operating the leg) he started to rotate at V1.

MORE SLEEP AND FATIGUE

I was called from standby home (night) to operate a night Spain and return. The other two crew members were on their second night duty. I was not properly rested because night-standby was traditionally looked on as a day off and the night in bed.

We were all tired at our destination but I didn't realise how tired until engine start for the return to London. The Captain was reading the start drills when he fell asleep. He got as far as "start No.2 engine" and fell asleep again. He woke up long enough to say "start No.1" and fell asleep again. His finger slipped one line and when he came round again he said "starter master off", whereupon I said "May I start No.3 first", "OK" he says.

This state of affairs worried me, to say the least-but I found myself nodding on the edge. I was convinced that if something catastrophic were to happen, say on take-off, it would be mismanaged with dire results. I remain convinced to this day that the adrenalin factor would not have saved us in an emergency. We made it back to the U.K.-but how close were we?

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OFF SHORE OIL SUPPORT - NORTH SEA.HELICOPTER. On the day in question we were scheduled for a morning flight to a rig some hundred miles distance. The return flight took 3 hrs and on completion we were rescheduled for a second flight to the

same destination. This involved re-planning and was somewhat longer than the first.

Deteriorating weather conditions on our return to Base necessitated an instrument approach and although it is company policy for the co-pilot to fly such an approach in those conditions I elected to fly the approach myself. The co-pilot was very experienced and had flown the approach on the earlier flight so it was my 'turn'.

At approximately 300 feet on the approach the co-pilot stated that he was visual with the lights and added 'slightly to the left'. At that point I turned 10 degrees to the right. At that stage the co-pilot said "I

have control", took control, turned left and landed, not without some difficulty, especially at keeping the lights in view. If weather conditions had been a little worse we would have had to overshoot.

When the co-pilot took control I realised that my brain had "frozen" and I was not able to correlate the visual signs from the ILS and what the co-pilot was saying.

In commenting on the above I would point out that I am flying nearly 100 hrs a month at the present time and with the present financial climate in the North Sea all the signs are that this situation (ie. high rates of flying) is likely to continue.

* * *

This pair of reports raises the interesting problem of how safe is the pilot who isn't actually asleep, but who would probably like to be. There's plenty of research showing that sleep deprivation affects performance; the problem is how to transform research findings into realistic operational procedures.

You may remember that we have previously published some cases of crews actually going to sleep and since the last FEEDBACK we've had a number of suggestions on what to do about this problem. Some have been absurd, in that they involve stimulating the crew in ways incompatible with the safe conduct of the aircraft, but some have been sensible. The most promising idea came from Germany and consists of a pair of nearly normal spectacle frames that detect whether your eyes are closed, and give a warning if they are. We have a sample pair that we're trying out (they seem to work OK if you set them up right) and if you would like to try them let us know and we'll put you in touch with the manufacturers.

A SEASONAL REMINDER

EXECUTIVE JET. M.E. OPERATION. The a/c was parked outside overnight. There were no de-icing facilities available. 2" of snow /sleet was removed from all surfaces prior to start-up. I personally checked the a/c exterior and in particular all flight controls were checked. The sleet/snow was wet and not sticking, temp was +1 degree C. On taxi there was a slight fall of sleet. Taxi time 5 minutes. R/W was not contaminated, a few water pools but nothing significant. Flight controls checked full/free.

T/O normal with pitot heat and engine antice on. NOTE - No leading edge antice on a/c (not installed) climb out - normal. Moderate icing in clouds, slight ice on windshield wipers, no noticeable ice on leading edges. Broke out of clouds at F160 after 4 minutes from T/O.

At F330 climbing to F410 auto pilot banked a/c to the left, HDG mode de-selected. A/c continued to left. Auto-pilot disconnected. Manual control revealed all 3 axes were very stiff with only slight movement of control column available - sufficient for control. All 3 trim axes were still free. As VIP PAX were on board I did not try extra force to free surfaces. Ice was the no. 1 suspect. However no noticeable ice on airframe. Flight was continued manually with minimal control movement and a R.O.D. of 500' to F130. Auto-pilot CBs pulled to check in case this was an A-P malfunction. A-P disconnect buttons also pressed. A final descent made early, resulted in the controls freeing. Since incident - a/c flown with no problems. Maintenance Dept. re-lubricated all hinges. Can of WD40 now carried to spray on hinges prior to a similar departure (with no de-ice equipment available).

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WILL BE KEPT

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 ADDRESS.....

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DATE OF RECEIPT AT THE R.A.F. INSTITUTE OF AVIATION MEDICINE

WE ASK THAT YOU GIVE YOUR IDENTITY ONLY TO
 ENABLE US TO CONTACT YOU IF WE ARE NOT CLEAR
 ABOUT ANY PART OF YOUR ACCOUNT.

IN ANY EVENT THIS PART OF THE FORM WILL BE
 RETURNED TO YOU, AS SOON AS POSSIBLE, TO
 CONFIRM THAT WE HAVE RECEIVED YOUR REPORT.

BACKGROUND TO THE INCIDENT

BRIEF PERSONAL DETAILS			
CREW POSITION	TOTAL FLYING HOURS	HOURS ON TYPE	
DETAILS OF INCIDENT : PLEASE COMPLETE THOSE BOXES WHICH ARE RELEVANT			
DATE	TIME GMT/LOCAL	AIRCRAFT TYPE	No OF CREW
FLIGHT : FROM TO		IFR/VFR	LOCATION OF INCIDENT
TYPE OF OPERATIONS		WEATHER CONDITIONS IMC/VMC	

PLEASE USE THIS SPACE TO WRITE YOUR ACCOUNT, USING EXTRA PAPER IF YOU NEED TO