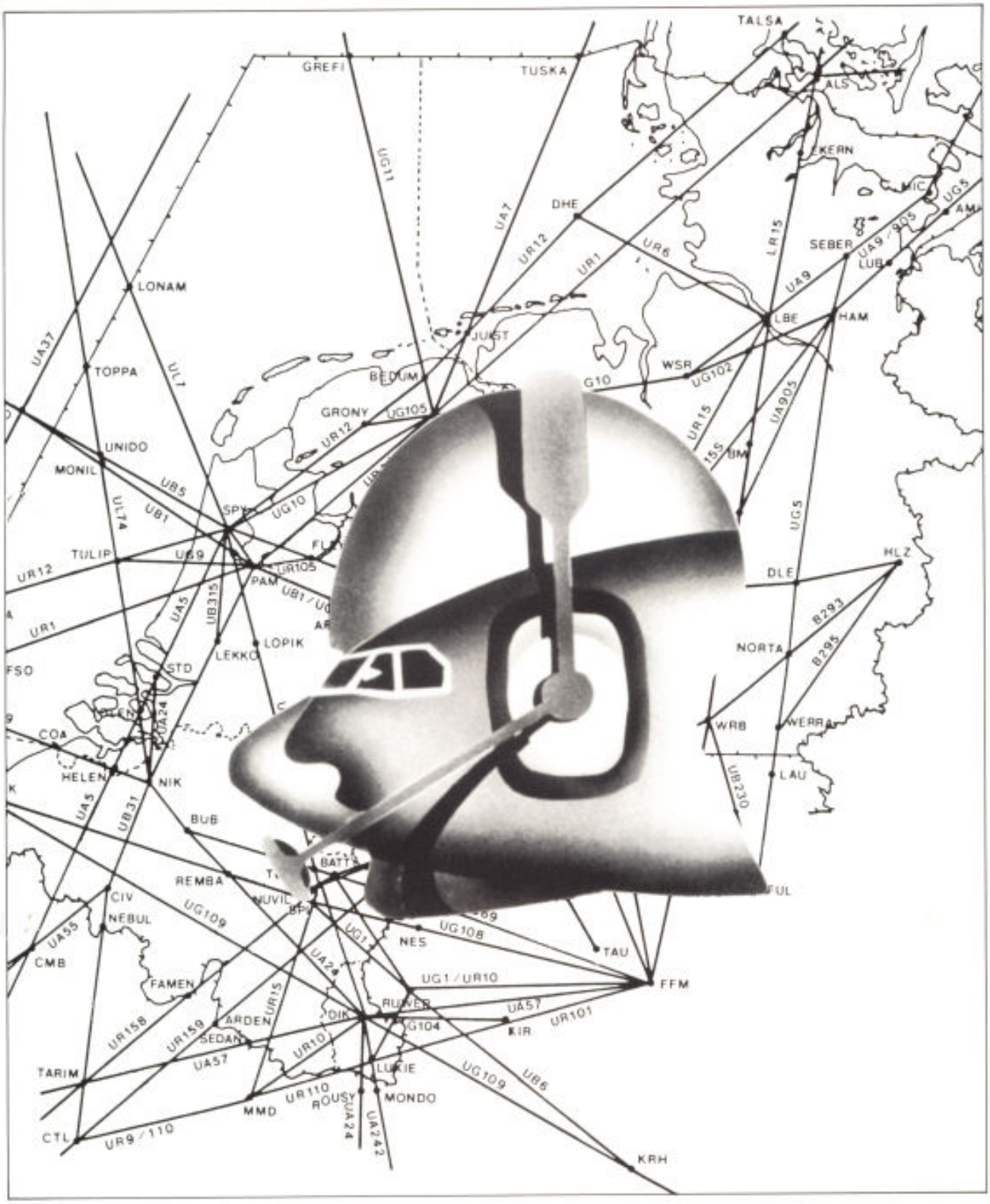

EUROCONTROL GUILD OF AIR TRAFFIC SERVICES

INPUT

the magazine of the
EUROCONTROL GUILD of AIR TRAFFIC SERVICES

ISSUE:

1989-3

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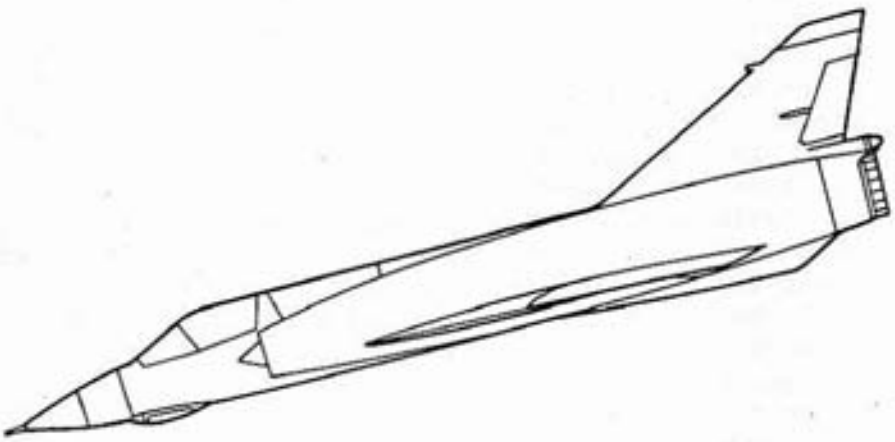

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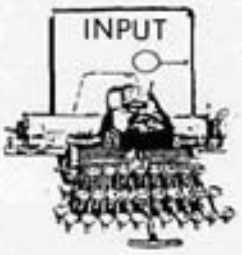
EDITORIAL



by Bob van der Flier

all about . . . .

Let me tell you that you did not exactly get the INPUT which I had in mind, last time. Due to the leave period, obvious in summer time, communication failed here and there. So, as the responsible editor I have to apologise to those contributors, who provided me with nice photos and good articles, but did not quite find those photos published, or reported parts of their article missing. Correct. Therefore, sorry Philippe, and sorry Andy. I'll try better next time!

Secondly, let me tell you how glad I was to find INPUT almost ready for printing, when I came back from leave. Thanks to Geoff and Paul, who really did their best, with success, to reduce to a minimum the delay we already had, Of course they had great help, again, from Josette.

And then, all well that ends well, one might think, No, then I found out that the printer was on leave, so the printshop was closed. "Life could be a dream", dear old Willie used to say, but this time .... a nightmare!

About this issue.

Again we have tried to present you with a variety of good articles. Hopefully you like them. If not, bad luck but how about you trying to produce an article yourself for a change. As long as there is a relation between aviation and the article or the author and if not offensive or insulting, it will be, gladly, published. I'll promise you. In this respect we are very happy with today's newcomer, John Vermeer, who, after a long time, provides us with his impression of a Canadian experience. Excellent. And Andy flew out again westbound, more up north this time to meet the seals. Thank you! So, who will be next?? By the way, feel free to write letters to the editor if you think it necessary. Maybe, after having read the article on "Terrorism in ATC"? We will be delighted.

About the job.

Recently I saw an advertisement in a (Dutch) newspaper for an application for trainee controllers. It read a.o.: "Heavy responsibility, heavy pressure, heavy demands on your powers of concentration, will be all in a day's work. So you will need nerves of steel

and razor-sharp reflexes, plus total professionalism".

If one reads all this, one might become impressed. However, the unanswered question is: What assistance and guidance is given by the organisation to enlighten the job of the active air traffic controller so as to avoid an overload? And what, if someone gets overloaded and knocked down? Tremendous amounts of money are invested in all kinds of systems, expansions and what do I know but still there are no adequate resting facilities, neither for day-time, nor

for night-time. And still it seems that as long as the temperature in the Operations room is adequate for the equipment, everything is alright. Because people, human beings like air traffic control staff, restore themselves, therefore they "need nerves of steel .... plus total professionalism".

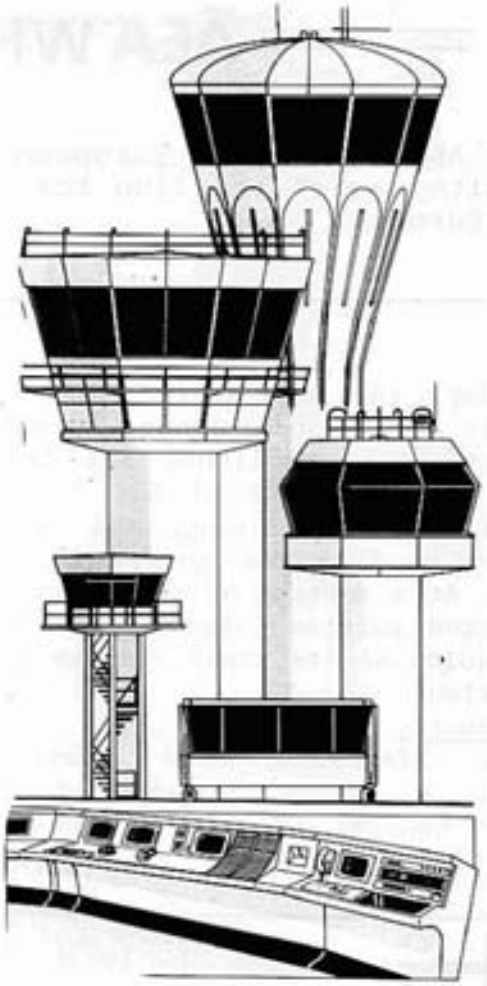
About EGATS.

Medical, human, social and environmental conditions, is not the above mentioned subject as well an outstanding subject for EGATS. After all it is mentioned in its Constitution: "To protect and safeguard the individual and general interests of its members" (article 1.2.4) and "To promote, encourage and enhance in general the work of the Air Traffic Services Personnel and to develop and promulgate knowledge of Air Traffic Control in all its aspects and applications" (Article 1.2.6).

However, if the EGATS Executive Board, including the staff of permanent workers, consists only of fifteen (!!) people, it will be very difficult. Unless the priorities are set different and the EGATS object like: "To establish and maintain relations of mutual benefit with similar or related professional organisations" (Article 1.2.5) is put to a (much) lower priority. In other words, to which side is the balance going: to external or to internal relations and activities? Something for the next AGM?

About the members of EGATS.

Next time when you, member of EGATS, travel again (through EGATS) to one of your holiday destinations, think about your constitution and the



aims of your EGATS. Is EGATS job related or holiday related?

About the non-member readers.

Sorry to say, but this is an EGATS magazine, primarily meant for EGATS members. Although, we do feel highly honoured to have YOU amongst us. Feel free as well to make any input to our INPUT.

About the address.

INPUT Magazine, Postbus 47, 6190 AA BEEK L., The Netherlands. ✱

don't forget (WRITE IT DOWN!) **NEXT COPY DEADLINE: DEC. 1 ST!**

AEA WHITE PAPER

The Association of European Airlines (AEA) produced a so-called "white paper", calling for a single air traffic control system in Europe.

Today (6 September 1989) in Brussels, the Association of European Airlines (AEA) published its White Paper on the future of Air Traffic Control (ATC) in Europe, and called for action from the governments of Europe. At a meeting of more than 200 interested parties, the AEA outlined the results of its study and its plan for action.

A costly problem

The AEA-commissioned study - Towards a Single System for Air Traffic Control in Europe - details today's problems and makes concrete proposals on how governments might proceed towards a single ATC system for Europe.

It takes as its starting point the current fragmented approach to ATC in Europe. The ATC system as it stands is costly and inefficient. Delays of more than 15 minutes on AEA European flights have again worsened in 1989, with an all-time high of 30 percent of flights delayed in June and July.

"The fragmentation of ATC is the main cause of the present crisis. In Europe there are 22 different national ATC systems, operating through 42 control centres" said AEA Secretary General Karl-Heinz Neumeister. "These centres operate with different levels of performance and technology, with no commonly agreed standards, and a lack of compatibility between the different systems". One result of this is that the workload of the controllers is unnecessarily high, which accentuates staff shortages.

Given the chance to design a European ATC system from scratch, no-one would choose what we have today. There is no joint authority in charge of ATC in Europe, yet all the evidence points to that being the solution to the problem.

A single system would be cheaper and more efficient. In 1988 it cost about US $ dollar 1.6 billion to produce en-route ATC services in the 22 European countries of the European Civil Aviation Conference (ECAC). The US system costs about the same amount, but handled over 3 times the volume of flights. The study estimates that the traffic in Europe in 1988 could have been handled by six en-route facilities instead of the present 42, with a saving of US $ 500 million. Savings accumulated from a single system in the next few years would exceed the US $ 2,200 million to be invested by ECAC states over the next five years.

The AEA recognises that European states have spent considerable resources to improve the situation in recent years. However, the AEA feel that crisis management measures and efforts to harmonise procedures have not been enough. The answer lies in a concerted move towards a unified European ATC system.

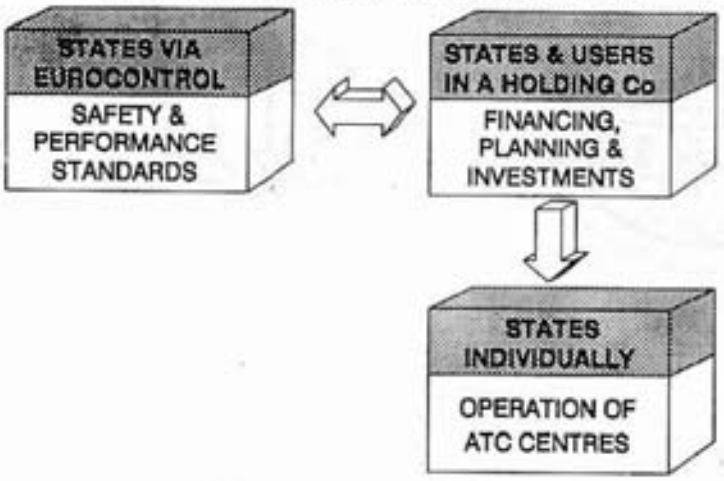
The AEA, whose 21 members operate the bulk of scheduled flights through Europe's congested skies, estimate the cost penalty of today's piecemeal ATC system as US $ 4,200 million in 1988. Shared between all European air travellers, about 8 percent of the ticket price is wasted in delays, inefficient ATC operations, and circuitous routeings.

Towards a solution

The transition to a single ATC system for Europe will not be rapid or simple, but the AEA study makes proposals to European governments for an evolutionary approach, which must be initiated without delay.

The proposals foresee three layers of organisation: Eurocontrol, a new body called the Central Holding Company (CHC) and initially, the national ATC systems.

TOWARDS A SINGLE ATC SYSTEM



Eurocontrol would be the body through which governments co-ordinate their policies. Thus issues of public interest, such as safety and security, and political control would remain the responsibility of governments. Initially, the national centres would continue to be responsible for the operation of ATC.

A new body, the Central Holding Company, would be created and owned jointly by governments and private interests. Its main functions would be to finance air traffic control in Europe, to direct investments, and in the long term to reduce the number of ATC centres.

The CHC's main source of income would be the user charges paid by airlines. These are currently paid back to individual governments. The organisations' initial expenditure would be to purchase ATC services from the national systems. Investment capital would be borrowed on the financial markets against future revenue. As a result, governments would be relieved of the need to provide money for ATC investments, and the CHC would be allowed to function as a commercial enterprise.

A central fund would also ensure that investment in the system as a whole as made, as opposed by separate authorities. The board of the CHC would comprise governments and users, giving the latter a direct say in how the charges they pay are spent.

It would not be essential for all states to join immediately. All that's needed is that enough countries create a critical mass to start the process of change. Membership of the CHC would not await a consensus-like agreement by all EC or all ECAC states, but could be built up gradually.

"The beauty of the proposal is that it uses the components of the present system from the outset, but introduces a more business-like approach", said Karl-Heinz Neumeister. "Todays's system has been shown not to work on a European level, and this is why we need a new approach to maximise existing expertise while improving efficiency and making the system more cost-effective".

The AEA consists of:

AMC AZA AUA BAW FIN IBE ICE JAT KLM
DLH LGL MAL OAL SAB SAS SWR TAP THY UTA

"It is the nature of the business of ATC that changes have to be brought about gradually, while keeping the present system running. Investment and research must continue within the present national systems until investment plans have been developed by the Central Holding Company".

A call for action

The AEA ends its report by calling upon the governments of ECAC Europe to urgently convene a meeting at ministerial level. It urges them to take a political decision supporting the principle of a single ATC system in Europe with a timetable leading to a conclusion in 1991.

It also calls on the European Parliament, the EC Council of Ministers, and the European Commission to create a political climate to ensure the programme of change is pursued with urgency. It makes a plea for the people of Europe to speak out to ensure the governments of Europe put in place a single European air traffic control system without delay.

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Karl-Heinz Neumeister said the report was not to be seen as a definitive blue-print, but as a positive attempt by the airlines to look at solutions. "We have presented Europe's decision makes with concrete proposals that cannot be ignored", he said. "To do nothing in the face of the overwhelming evidence in our report makes no sense. If the proposals are rejected by the countries concerned, then they must present alternative solutions".

"Our members have had the vision to look to the future. Now we're asking the politicians to do the same". ✱

OF ELECTRAS AND SEALS

by Andy Barnby

The plan was: Tuesday fly out to Anchorage, see something of Alaska and Friday fly home! Thus on Tuesday afternoon Kees Scholts, Danny Grew and myself gathered at Schiphol for a 1645 departure. The flight was more or less a straight line leaving Amsterdam for GREFI and thence northbound over Greenland, at a distance of 600 miles from the North Pole, which we had hoped to cross. Drowning our sorrows in Champagne we started down the other side, reaching the Alaska coastline near Barrow where the two whales were stranded last winter and landed at Anchorage just before six o'clock the same evening! A flight of 7,250 kms in eight hours and nine minutes with hardly any wind component. There were only four of us leaving the aircraft in Anchorage. The other hundred and fifty or so were continuing onwards after a short stop of an hour or so, which meant an easy passage through Immigration and Customs - this is clearly the easiest and best place to enter the United States!

We had decided on the aircraft coming over, firstly to hire a car and then look for a hotel and there in the corner of the terminal instead of a row of Avis, Budget and Hertz desks was a line of six or seven telephones hanging on the wall. As we had a Budget card we tried that - no car! then National; first car available - 1st July! all the others were the same story! It was the middle of the Salmon fishing season which we hadn't realised - the closest connection we had to fish was with chips! Back to Budget where a little pressure was applied reminding them that we had a Gold Card - "Ah! yes, well, we do have one car. So we went downstairs to the desk, signed and were directed to "parking bay 12 - first floor in the lift and left through the doors".

It was a bit more than "Blues Brothers"-six or so meters long and black. A huge Ford Sedan big enough to hold the Guild A.G.M. in and with the three of us sitting in it in dark jackets and sun glasses the effect was complete - the Mafia was in town!! So with Danny driving, myself navigating and Kees wallowing in the back seat we set off in search of a hotel. After two circuits of Anchorage, which is about the same as the standard Holding Pattern, time wise! we had sized up and discussed the various offerings and decided on the Holiday Inn. There we discovered the going rate was $ 126 plus tax, or more important, $ 80 plus tax "Airline rate" including an extra bed in the room. Whilst Kees and I were filling in the forms we were confronted with the question; type of

car and registration number. I knew it was a Ford but not the number or type and we told the girl "the black one out there". "Oh! the Mafiamobile" she said looking out of the window! Whether it was the car or the sight of our Guild Flight Department Chief sitting in it at the wheel which brought the point home I'll never know! We had wheels and a base but were very tired after an extra long day due to the time difference and so we did the obvious-a couple of beers a steak and bed at about 2100! Of course we were all awake extra early, again due to the time change more than the 23 hours daylight factor. Danny wanted to photograph aeroplanes back at the airport so Kees and I agreed to meet again at the hotel around 1130 and then drive to the Portage Glacier, a thousand year old, half mile deep, chunk of pleistocene ice creeping forward at fifteen inches a day whilst receding at the same time! Danny departed after an excellent American buffet breakfast, at 0830 and Kees and I wandered off to discover that the shops didn't open in this part of the world until ten o'clock, probably due to the daylight hours in winter- or lack of them!

We arrived back at the hotel at 1130 to find a grinning Danny who announced "Tomorrow we fly in an Electra to St. Paul" - one of the Pribilof Islands west of Anchorage, direction Russia in the Bering Sea about two and a half hours flying at 300 kts. It seems that the Chief of Operations at Reeve Aleution Airways, Tom Dolen had stopped for a drink in the "Airport Inn" at Maastricht Airport whilst on holiday.

He had noticed Eurocontrol across the air-field-fame at last! The connection was there and we had the tickets, the only problem being that St. Paul is very prone to getting fogged-out while the outbound flight was on the way or worse still, whilst parked during the turnaround on the island. We had to leave Anchorage on our return flight to Amsterdam at 1215 the next day, anyway we decided to go, we couldn't refuse and also I wanted to fly in another aircraft type, my 36th-nothing compared to Danny's total! The next day Captain Gary Lintner, First Officer Wayne Russel and the Flight Engineer Eddy coordinated brilliantly

to lift the Lockheed L188 Electra off the Anchorage runway at 1135. Kees was in the Jumpseat and Danny and myself were comfortably seated in the 1950's cabin behind the Combi's cargo hold, which we had to walk through in order to get "up front". We flew more or less in a straight line out to St. Paul Island turning only at Cape Newenham-nine degrees to the right. The total distance was 664 NM in a time of 2 hrs.14 mins. After running abeam the island, we turned right on to Final Approach landing on a gravel strip which was quite a shock to Danny who was now in the "Jump Seat".

Whilst talking to the crew after take-off Kees had mentioned that we were flying "out and back" with them but that "Ops." would arrange for us to see something of the island while we were there. "Forget that" said Garry laughing, "we only have a thirty minute turnaround!" Their smiles disappeared when, as the props were stopping, a pick-up truck arrived at high speed and the Station Manager Mike "Zee" shouted "Back in ten minutes to clear you off Captain, I have to show these three the seal colony!" Off we bumped at a rate of knots over the featureless horizon to arrive four minutes later on a very windy cliff edge full of seals-big ones. With a warning that seals were very protective of their territory we left the pick-up and inched forward.

At a distance of about five metres one large bull seal took a liking to Kees and galloped forward, putting him promptly into reverse. Unfortunately the magic eye didn't record the event as I was also busy running! They were very large!

After another couple of minutes we all squeezed back into the pick-up truck and rocked and rolled back to our aircraft sitting in the middle of a field. It was now my turn to get a view from the front windows. Entering the cockpit the main differences immediately noticeable are, firstly that the Flight Engineer is sitting in the middle 'facing forward using the centre console between the two pilots. Secondly, there is a double set of throttles-one each for Captain and Copilot. Our Electra had flown around 40,000 hours in thirty years, not bad when you consider that there are Boeing 747s with almost 70,000 hours!

A rapid engine wind-up completed, we gravelled along to the end of the runway, the Captain pointing out the marks where the First Officer had touched down - "Not bad" was the phrase used!

We climbed out to FL 210 very rapidly, with no freight and only about twenty-five passengers on board and very smoothly moaned our way for two hours and thirty minutes direction Anchorage. Kees was once again in the "Jump-seat", for the landing. Deplaning was immediate and we cruised off in search of a drink. We had arranged to meet Terri, one of our Electra stewardesses for a drink at 2030. Whilst waiting for her in the bar we were amazed and entertained by the gullibility of an American girl who was curious as to our origins. The tale we spun was most amusing and was swallowed hook, line and sinker-but that's another story!

At last Terry turned up on her Mountain bike at 2115 and we rolled out into the street in search of food. We dined in the restaurant recommended by the Reeve Aleution flight crew and afterwards set off to inspect some of Anchorage's watering holes. The evening ended at 0230 next morning when we dropped Terri off at home - the Mafiamobile's boot having swallowed her bike easily! After a short sleep followed by a large breakfast we found ourselves the only pax boarding at Anchorage for the flight back to Amsterdam via Copenhagen. Arrival in Amsterdam was "on time" but too late to catch the City Hopper flight for Beek much to my companions'annoyance, so we all slummed it south on the train accompanied by a couple bottles of Champagne which didn't survive further than s'Hertogenbosch!

It was a most enjoyable few days, demonstrating all the hard work necessary in order to write an article for Input!✱

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(F)LOW MANAGEMENT

by Edo Brandt (courtesy VNV)

The European Air Traffic Control System is falling to pieces. Insufficient capacity due to lack of controllers, electronic aids and runways as well as the inefficiency of mutual communication and coordination between national ATC centres in Europe cause, especially during summer, daily delays of an up to now unknown magnitude. CTMO (Central Traffic Management Organisation) was established to resist the growing problems, but is, according to IFATCA (International Federation of Air Traffic Controllers' Associations) heading in the wrong direction.

During the mid seventies, the saturation point is reached at various bottlenecks of the airway system over Europe and the air traffic controllers charged with separation can no longer handle the traffic being offered to them. Apart from having to work with very poor equipment, the fact that because of expenditure cuts, staff shortages are hardly compensated. In addition to this, the growing charter market causes enormous peaks in the air traffic. During the summer of 1976 clog-ups caused considerable delays.

Through its fragmented structure, its national interests and its lack of communication and coordination between centres, the European ATC-system cannot cope with the situation which has developed. To control the causes of air traffic which come running at us, a careful start was made with what is being called "Flow Control", an institution which does not occupy itself with separation but more with regularisation of air traffic.

ATFM

Instead of organising a regulated continuous flow of traffic the national centres react defensively. They start to protect their airspace against the invasion by aircraft. In particular the "Green One", the only traffic artery through which the total traffic flow from the U.K. to Greece has to be squeezed knows a very disturbing bottleneck over Austria called Villach. The initiative of Flow

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Control is basically a good one. No one appears to be willing to transfer any authority over one's national airspace to this organisation. The organisation is transformed into the ATFM (Air Traffic Flow Management) system a copy of the fragmentary European Air Traffic Control System consisting of 12 FMUs (Flow Management Units) London, Paris, Madrid, Frankfurt, Rome, Benelux, Copenhagen, Praha, Belgrade, Athens, Istanbul, Moscow. But there will not be any direct computer links, not even between neighbouring countries, and telephone connections are primitive. This Flow Management suffers from the

same shortcomings which caused its coming into being: through differences in equipment and language the international thresholds are too high to bring about a good coordination. That it will not work was shown beyond all doubt during the summer of 1988. The delays of often many hours with which almost every holiday maker in Europe was confronted were such a hot issue for the news media that not a single politician can minimise the problem - let alone - ignore it. Some recent "horror stories" from Maastricht Control speak for themselves. Canaries ACC closed due to heavy rain and thunderstorms at Teneriffe.

Maastricht

A day in January 1989, Canaries ACC informs Madrid ACC that due to heavy rain and thunderstorms no traffic for Teneriffe can be accepted. Madrid passes the message to the French, it is picked up by Reims and they pass it to their neighbour Maastricht with the message that they will not accept traffic with destination Teneriffe. As a consequence a KARAIR DC10 from Helsinki has to divert to Brussels. Half an hour later, the DC10 is at 4000 feet on final, after having dumped fuel, Reims phones Maastricht with the message "disregard - Teneriffe is open again". On 1 February 1989, 0200 UTC London passes the message that due to expected fog at Heathrow the 17 aircraft per hour which can normally be accepted from Maastricht, have to be reduced to 2 per hour. Maastricht starts working to make sure that slots are arranged. At 0600 UTC a sunny voice from London reports: "Good morning, the weather is good this morning, the restrictions are not necessary, you can disregard them". Four hours work down the drain and seven aircraft kept on the ground for no reason at all. On 3 February 1989 at 1000 UTC the German Flow Management centre reports that considerable delays are to be expected during the whole day at Frankfurt due to fog. Aircraft divert to Düsseldorf, Cologne and Nürnberg. At 1930 UTC a Lufthansa aircraft informs Düsseldorf that it will divert to Nürnberg. The weather at Frankfurt has improved but all slots until midnight have already been distributed. Just to make sure the captain decides to ask Rhein Control what sort of delay is to be expected if he were to go to Frankfurt. The answer: "No delay - not one aircraft landed in the last hours!" At 2000 UTC, "ah there we have it, the Frankfurt ACC supervisor reports that

due to lack of work after the distribution of slots the complete staff of the flow management unit has gone home".

Every link between the planning and execution phase is missing. Every European airline pilot can add to these examples from his or her own experience. Let it be clear where the shoe pinches, every link between the planning and execution phase is mis-

sing. Too often obtaining a slot after a long wait on the ground results in further waiting in the air or flight levels which are much too low - or, what is even stranger, one "direct" after the other. What to think of four hour delay for a flight from Palma to Düsseldorf when the flight from Palma to Brussels at the same scheduled time has no delay. Apparently, flow control does not look beyond the requested routeing.

Delay Management

A glance to the other side of the Atlantic clearly shows the shortcomings of the European ATC system. Ten thousand air traffic controllers work in the European system. In 42 centres they work with 22 different electronic systems which are not compatible. The U.S.A.> cover an area which is roughly twice Europe and divided over 20 centres. In those 20 centres work 15.000 air traffic controllers using the same system and in addition speak the same language.

The maximum handling capacity of the busiest European airport, London Heathrow is 72 aircraft per hour. In peak hours the busiest airport in the U.S.A. Chicago O'Hara, handles 135 aircraft per hour. Apparently the capacity problem in Europe is not only caused by lack of efficiency of the electronic equipment but also by lack of runways. Still the U.S.A. know their delays although these are caused by another phenomenon, the weather! Gigantic thunderstorms cause 65 % of the total delay while only 27 % is accredited to clog-ups by overloading. Relatively good weather conditions in 1988 reduced the delays by 5 % in respect of the 1987 delays. The central centre of Atlantic City is directly linked to the 20 ATC centres and 400 control towers.

In order to limit delay the so-called "Delay Management" was established in the U.S.A. A staff of 50 - of whom 20 are flow controllers passes, through on-line connection with 20 ATC centres and 400 control

towers, pass so-called "Selected Controlled Departure Times". The centre is equipped with VDU's which display the total U.S.A. traffic. Computer generated radar pictures are updated every five minutes. Thus this centre can react directly to every development which occurs in the traffic flow. E.g. when a developing squall line is observed the most favourable route around it can be selected and the best possible uninterrupted flow of traffic achieved through direct communication lines.

CTMO

In America the development of delay management took 10 years. Instead of wasting a similar period of time by re-inventing the wheel a comparable system modelled after the American example will be introduced. To this effect the CTMO was established. It is the intention that a staff of 450 (!) will control a central data bank which will be connected with the various flow management centres.

The first step on the road of improvement was made in March 1989 with the foundation of CEU (Central Executive Unit) West made up of the flow management centres of London, Paris, Madrid, Frankfurt and Rome, which are connected by means of a conference telephone system. Three times a day they contact each other to inform the others on the actual situation and lay down new restrictions, thus avoiding the previous frequent occurrence of double restrictions. A second step is foreseen for 1991 and consist of the establishment of CEU East - Moscow and Praha. In 1993/1994 these two units will have to be merged and will the 12 Flow Management Centres receive the status of FMP (Flow Management Position). The new centre is most likely to go to Brussels where the Eurocontrol Central Data Bank already exists. This data computer which at this moment is fed with data from the airline time tables but in future will have to process real time data, is in principle suitable for this task. However, the capacity will have to extended. According to IFATCA a start has to be made as soon as possible to develop a compatible computer system for the whole of Europe.

The wrong way

The objection of IFATCA against the European plans for CTMO is that the improvement is mainly administrative in nature. Although CEU West should be operational 24 hours a day the French part will be closed during week nights. The German part will be closed after 20.30 on weekdays. Even better than this, due to shortage of staff the total West-European Unit will be closed during the week-end! The week-end planning, the busiest period of the week will be made on Friday and not be modified, c.q. updated. Furthermore the CTMO will be denied any executive power: every state can determine its own capacity and how much traffic it wishes to accept. Neither equipment nor staffing number can be forced on them; in practice capacity will be made to suit the number of controllers one wishes to employ.

In fact the plan shows an amazing likeness to the original set-up of Eurocontrol in 1960. In these past 30 years nothing was undertaken to get rid of the actual obstacles which undermine the striving for uniformity; the desperate making lack of uniformity in respect of language, method of working and especially electronic equipment - for a proper traffic management centre depends on computer links. These links expect to find a powerful and compatible computer at the other end. And exactly this in the present day Europe - in particular across the Alps - is a rare to be found item.✱

Airshow Canada

AIRSHOW CANADA 1989

by John Vermeer

Thanks to the courtesy of Canadian International, I was able to visit the Airshow Canda (10-12 August 1989) in Abootsford (BC), situated on highway 1, about 40 miles east of Vancouver. Preceding the airshow, there was a seminar and a trade show, which I intended to visit as well, but circumstances didn't allow me to join these two items.

The reason was, after having been on the flight-deck to Vancouver, I got a tip from the 1st officer to contact a controller, a friend of his whom he had met during an ATC course, a couple of years ago. He said this person was prepared to give me a tour of the Vancouver ACC Operations Room. I was allowed to stay on the flight deck for the remainder of the flight. We had a beautiful view, when passing the Rocky Mountains and I could clearly see the Icefield Highway between Jasper and Banff, together with the Columbia Icefields, It was quite an experience to see this, if you can imagine that the year before I was on a camper trip driving this same Highway. Anyhow, after a 9 hours flight we touched down and after clearing customs I tried to book a hotel which was very difficult because of the Airshow/Symposium. Next morning I phoned the above mentioned controller, and although he was off duty he was prepared to show me around, very briefly, however, because he also invited me on a boat tour that same day; amazing this hospitality, because we even hadn't met each other before. The visit to the Operations Room was really very short, and unfortunately I can't give any further details here, apart from the fact that their area is a lot bigger than ours and they still work with 20 cm. strips!

That same day, we started our boat trip at 10.00 a.m. which lasted until 19.30 p.,. It was a beautiful boat, equipped with micro-wave, shower, dual-steering, autopilot, etc... We first toured the Vancouver harbour, to make a couple of 360s around the USS Independence, an aircraft carrier visiting Vancouver. After having exchanged some caps, which fell into the water (we managed to catch them) we set course to Gibson's landing, where we had lunch. After this boat

trip, the colleague brought me to Abbotsford (a one and a half hours trip by car) where I stayed the rest of the period; amazing, the friendliness and willingness of these people to help someone.

Now as far as Airshow Canada is concerned: there were 3 symposium days.

Day 1 Theme : the world of the aircraft.

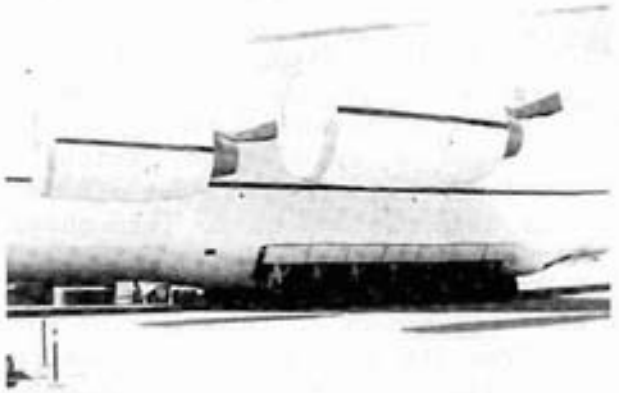
Day 2 Theme : Uses of space and near space/ATC communications and systems surveillance.

Day 3 Theme : Getting to 2020-Needs and challenges.

These 3 days were held in the Vancouver Trade Centre, downtown Vancouver.

The Symposium included a talk by the winner of a competition open to B.V. post-secondary students, who were asked to design an airport. This winner will travel to Amsterdam and Moscow, and to the site of the new Denver Airport.

Back to the Airshow in Abbotsford: The airshow has always been one of the most popular events of the year, attracting thousands of people to witness the fighter squadrons, novelties, wing-walkers, historical aircraft and static displays. Major industry aerospace exhibitors were there from several countries, which included China, France, U.K., U.S.A. and the U.S.S.R. It took months of delicate negotiations to bring the U.S.S.R. to the event. Of particular interest was the Soviet intention to show their new MIG-29 jet fighter together with their An-225, the world's largest aircraft (6 engines).



A full day is needed to really appreciate everything that there is to see, from the flypasts to the huge static display. This year's flying performers included: the Canadian Forces Snowbirds, the U.S. Forces Thunderbirds and the Brazilian Esquadrilha de Formaca, the B-I bomber, the AV-8B Harrier, F-14A Tomcat.

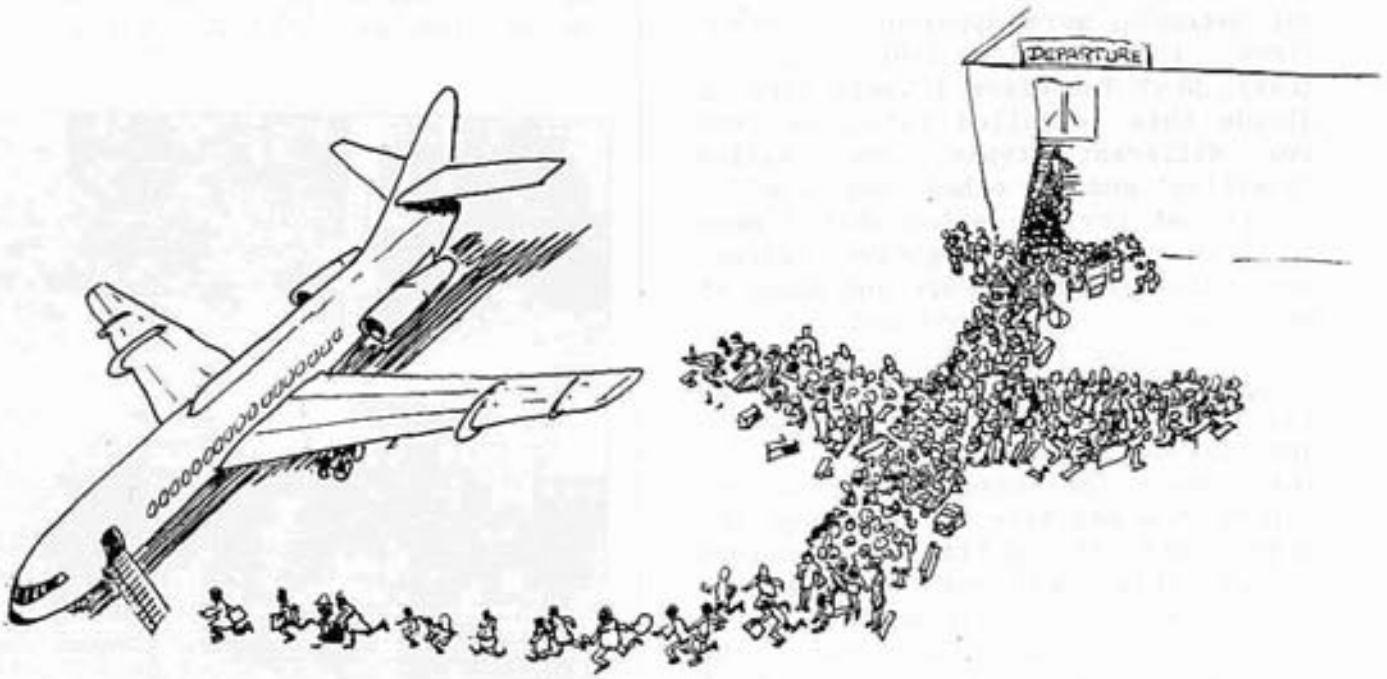
Civilian flying displays included the Rayban Gold Aerobatics Team, the Royal Albanian Team, Sopwith Pup, Pitts special and lots of others.

First to arrive at Abbotsford were two examples of the MIG-29 fighter, the single and 2-seat version. They were escorted to Abbotsford by a pair of Canadian Armed Forces CF-18's. A couple of hours later the massive AN-225 came in. This world's largest aircraft will be used to transport over-sized payloads, such as oil rigs and mining equipment. It can carry payloads up to 80 meters long and

about 10 meters in diameter, weighting up to 250 tons. It can be carried internally or attached to the top of the fuselage. The AN-225 brought in all of the Soviet exhibit material, including a KA-32 helicopter and a SU-26 aerobatic sport plane.

After having walked on the apron for about two hours, in between some 94.000 people and that on a Friday afternoon, having seen most of the static display, I came to a brilliant idea to go up the tower. After a lengthy discussion with a lady, who said that it wasn't possible at all, because of the workload at that moment, and a supervisor who was very busy, I finally managed to get approval. At the time I was up in the tower, the MIG-29 was about to do its performance. It appeared that there were some language problems in ATC communications, so a Russian interpreter, together with a Russian controller had to come up to the tower, to give the fighter pilot the necessary clearances, in the Russian language.

On Tuesday, August 15th, I flew home again, but was rerouted from Edmonton via Clagary to Amsterdam due to a full load out of Edmonton. Once again, thanks to the courtesy of Canadian International, who also supported the airshow, I was able to enjoy a couple of very interesting days in British Colombia, Canada.✱



TERRORISM IN ATC ?

IT IS NOT EXACTLY WHAT
YOU THINK.
BUT THINK ABOUT IT, AND
YOU'LL FIND OUT EXACTLY
WHAT IT IS.....

(Author's name is known
to the Editor).

Terrorism is a word loaded with emotions. Therefore I would like to explain first the meaning of this word and the reason why I use it. According to my dictionary, terrorism is: To reign with fear or terror. In other words: Establishing an atmosphere of fear. Making people afraid and filled with fear. This is exactly why I use the word terrorism in this meaning in this article about: Terrorism in air traffic control, or the reign of fear in ATC.

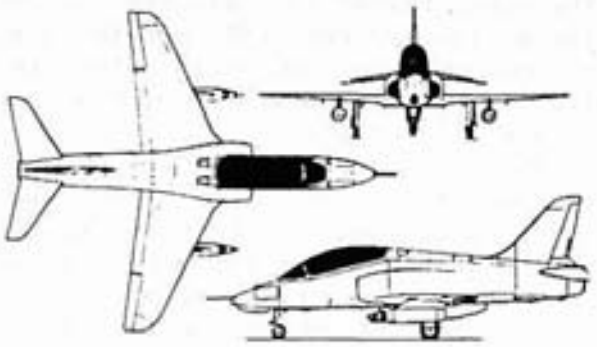
Equipment inadequacies, communications problems, etc... are well-known features effecting in a negative way air traffic safety. Less known may-be, but becoming more apparent in recent times, is terrorism (the reign of fear). Why? Therefore I would like to divide this so-called terrorism into two different types, one called 'positive' and the other 'negative'.

Let me try to define what I mean by these two types. 'Negative' terrorism indicates the mis-use and abuse of existing ATC regulations and rules by a minority of controller staff. This behaviour is caused either by sheer laziness or in a desperate attempt to justify one's own negative attitude. This abuse of regulations affects safety in a negative way, although the regulations are defined to improve safety. This inert attitude leads to the shrinking of responsibility and forces the obligations onto the colleagues of the next working position, be it in the same area or the adjacent or subjacent area.

Although one might expect these phenomena to happen in an environment with an overall lack of motivation, e.g. due to poor salaries, shortage of personnel, inadequate equipment, uncertain career aspects, etc..., such attitudes happen to appear as well among otherwise motivated groups of control staff, simply because they are subject to the negative influences of certain characters and/or strong personalities around them. As such the remaining members of control staff not initiating this behaviour themselves, have no legal means of safeguarding against the passive attitudes of these individuals, which in turn can and will lead to the creation of tension, stress or even aggression within the working environment. An attempt to advise the passive controller of a need of more conscientiousness and a more expeditious handling of the air traffic concerned is invariably in vain because the controller concerned can and will cover his attitude with his interpretation of responsibility and/or of the existing regulations. Questions arising in this respect are: Is the exaggerated use of ATC regulations acceptable in order to hide one's inability or unwillingness and is air traffic safety compromised through this practise? How should and can a more motivated controller react in this case? What is the duty and personal responsibility of the direct superior? And what, if the latter is one of them as well? To what extent

does the passive controller influence young trainees with his attitude? Should the problem be kept at and solved at working level?

Let's move on to the so-called 'positive' terrorism; in this case it is with reference to a minority of controllers whose actions and initiatives are such that they attain perhaps unconsciously a position of domination. Hereby the others around him are affected, because they do not feel safe with the consequent traffic situation or the negative atmosphere inflicted upon them, from which it is hard, if not impossible, to escape. Although most controllers do realise the implications of accepting traffic



in an unexpected way from a dominant controller and they do know their responsibilities for the traffic in their sector, however, they are fully aware as well of the impracticality of rejecting traffic or even returning it back to where it came from (the dominant controller). Whilst the negative terrorising controller has been described as passive, the 'positive' one is hyper-active. Symptoms are easily recognised: He assumes an air of superiority, he employs his own interpretation of the regulations, he treats his colleagues' complaints with contempt, he will in an effort to prove his own ability, comply with almost all pilots' requests, even if a negative response would have been more appropriate, and he transfers traffic to a colleague at a time where refusal is practically impossible. Again questions arise, such as; who should challenge this attitude and how should that challenge be effected? How does

one approach such a controller in order to convince him of a dangerous situation, created by his action?

Although teamwork within ATC can and fortunately often does create an atmosphere of strong social contacts, which in turn will contribute to safer handling of air traffic, it can, however, have an adverse effect by inhibiting official reports about colleagues, since this will be seen as a contradiction to the prevailing team spirit.

I don't think that this terrorism as indicated in my story is valid for certain ATC environments only. It has become a more widespread occupational disease by now. Nevertheless a cure, whereby stress and aggression are turned over into an increase of safety is still not readily available. I sincerely hope, and this article is meant only that way, that the above will stimulate thought and discussion on the subject so as to break the taboo that currently seems to exist and to bring it out to the open in order to find solutions there where it does exist.

A healthy and positive attitude towards air traffic control and air traffic safety, efficiency, collegiality and a better understanding for each other's circumstances will eliminate or at least reduce the effects of these phenomena.✱

PILOT'S PROBLEMS

How should we deal with the capacity crisis?

A two days conference organised by the Royal Aeronautical Association earlier this year. Here the pilot's part.

by Captain A.G. Liddle, Chairman, Technical Committee, British Air Line Pilots Association, representing the International Federation for Air Line Pilots' Associations (IFALPA).

Summary.

The title of this Conference, "HOW SHOULD WE DEAL WITH THE CAPACITY CRISIS?", reminds me of the theme of CONVEX87, the controllers' conference and exhibition, held just over a year ago, which considered the problems caused by the finite amount of, or lack of, airspace, particularly in the London Terminal Area, and the shortage of terminal and runway capacity in this area. The consensus, then, was that there were serious deficiencies in these matters and that a determined effort, with the necessary financial support, was required, not immediately, but 'yesterday', as the system was already overloaded and traffic was continuing to rise.

A year later, traffic continues to increase, there has been some investment but, as we all know, there were big problems in 1988. I shall mention some of the problems experienced by my colleagues and shall try to make some constructive suggestions.

Introduction.

The immediate effect of lack of capacity, to the pilot, is congestion. This affects his working life in different ways. To illustrate this, I would like to consider two flights, a long-haul one from Heathrow to Chicago followed by a shorter one from Gatwick to Larnaca.

Long Haul: Heathrow to Chicago

The first consequence is at the flight planning stage when deciding the amount of fuel required. The Company will have provided a Fuel Flight Plan, which will plan the flight at the optimum levels to Chicago, with, either a close fuel alternate, thirty (30) minutes reserve plus a five per cent (5%) contingency, or, instead, an en-route alternate, with the contingency reduced to fifteen (15) minutes.

The first consideration is the time of departure - is it a busy period, are there likely to be departure delays? Again, depending on the time and thus the traffic, is there a good chance of obtaining the track requested at the planned flight level?

Then, the time of arrival - is it going to be a busy time, with landing delays? Busy periods seems to be stretching and, in places, almost linking up.

For all these reasons, it might be necessary to carry extra fuel. This is assuming good weather: if the forecast is not good, that will be another reason for carrying extra fuel - if it can be carried. With heavy payloads, it may not be possible to carry extra fuel. Remember that it wastes fuel to carry it around if not absolutely necessary. Once out at the aircraft, requesting start clearance introduces the problem of frequency congestion. Heathrow is acceptable but at some North American airports, such as Chicago, Kennedy or Los Angeles, just getting a clearance becomes an exercise in sharpness on the R/T button. Again, when changing to ground control, for push-back and taxi clearance, an increasing problem is the blocking of the channel by simultaneous transmission. The fitting of a device to avoid this is long overdue -

but I believe that such a device is now available, trials having been carried out on British aircraft in 1988.

The entry to the Atlantic Tracks varies from day to day, depending on the winds, but the route to the entry point is restricted to controlled airspace. There seems to be a feeling, among some non-airline pilots, for example military and general aviation pilots, that controlled airspace is an infringement of their basic right to go where they want to when they want to! I can sympathise with this view, having been a fast jet jockey a long time ago and even now, occasionally, when strapping a light aeroplane to my bottom. However, the airline pilot,

who is directly responsible for millions of pounds worth of equipment and hundreds of lives, wants to work in a known traffic environment. In committees, such as NATMAC (National Air Traffic Management and Advisory Committee) the weight of opinion appeared to be to reduce controlled airspace, thereby increasing congestion. Following a recent change of Chairman, there appears to be a more reasonable approach, from the airline pilot's point of view, with, for example, a small extension of controlled airspace near Detling. Naturally, this arouses opposition by bodies, such as AOPA (Aerodrome Operators and Pilots Association), but the allocation of airspace in this crowded country has to be a delicate balance of priorities.

Returning to our Transatlantic flight: with increasing traffic, the chances of being assigned the planned track at the requested level are becoming less; a nearby track, a different level or a delaying turn are becoming more common - resulting in greater fuel burn. Once across the Atlantic and off the tracks, the radar environment of North America allows direct routeings and the use of optimum flight levels. Approaching Chicago, speed control is often introduced to control the flow of traffic; this is more fuel-efficient than descending to a relatively low altitude and holding, as is customary in the London TMA. However, research at the Royal Signals and Radar Establishment (RSRE) at Malvern may produce the equipment to permit such linear holding in due course.

What is becoming unacceptable is the overloading of approach, tower and ground control frequencies at busy airports, such as Chicago. The changes of mis-hearing clearances and not being able to give proper read-backs of those clearances is increasing. The use of an automatic data transmission system to relay essential information, without overloading communication channels, is becoming necessary. With the increase in workload, both for pilots and controllers, in Terminal Areas, an additional safeguard to avoid the risk of collision is required, such as Traffic Collision Avoidance System (TCAS). I must emphasise that this is a system to complement the controller - not to supplant him.

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Once on the ground, congestion is again a problem; at peak periods, the risk of collision increases as ground facilities, taxiways and number of stands fails to keep up with increasing traffic.

Shorter-haul, Gatwick to Larnaca

At the Flight Planning stage, many of the above considerations apply. An additional constraint on the European flight is the allocation of ATC Take-Off Slots. Due to the congestion on the routes over Europe, ATC has to regulate the flow of traffic by allocating slots for take-off from the various airports in the U.K. before joining the airways system. This puts an additional burden on the pilot as the slot will have been pre-allocated. However, only after arrival at the aircraft and after discussion with ground engineering, catering, the senior cabin crew member and the ground handling agent, do any problems that might delay the aircraft become known. The probability of achieving the slot time is not known until a later stage. If there is an unavoidable delay, then a new slot has to be negotiated - increasing the workload for all concerned.

One of the most common radio transmissions at Gatwick, where I am based, is "Sorry, cannot make the slot, may I have a ten minute extension?" or "Cancel the slot and I'll call back when we are ready". I used to think that the duty-free shop, that Aladdin's Cave between the check-in and the aircraft was the reason for delayed passengers. Now I know that Security and Immigration checks are more likely causes of missing passengers. Then there are problems with the availability of re-fuellers, or de-icing rigs, or the baggage conveyor belt has broken again, or a coach, bringing the passengers to a remote stand, has broken down or the driver of a catering truck has been denied access to the Airside and so on: the list of excuses is endless. However, they all increase stress and workload for the pilots and the controllers. Another consideration at Gatwick is Runway Allocation Time. Some aircraft, such as Twin Otters or Dash 7s, en route, say, to Plymouth, clear controlled airspace quite quickly and therefore do not need slots. They do have to be fitted into the rest of the slot-restricted traffic and are given these runway times, when necessary.

In 1988, a big problem was the need for airline operators to telephone the flow control regulators at West Drayton to request slots. In the early Summer, the telephone queue was so long that it was taking hours just to get through to the regulator. The regulators then had to coordinate these movements with other control centres along the route. The adjacent centres, at Maastricht and in France,

are linked to West Drayton by VDUs, expediting the flow of information. Other centres along the route are linked by telephone, sometimes unreliable and certainly slow. Quite simply, the telephone is an anachronism - there must be computers and VDU screens, throughout Europe, to process and transfer the information quickly, from the operator right along the route to the destination.

Another complication over Europe is that the airways system is still based on national boundaries, rather than a truly European-wide system. Although radar coverage is quite extensive, navigation is still mainly based on point-source aids rather than area navigation. With modern IRS or other area navigation systems on board, it seems a waste to fly along meandering airways. More international coordination, using bodies like EUROCONTROL, is required, particularly in the Mediterranean area. The European Civil Aviation Conference (ECAC) states that the area is not yet ready for a unified system and that, in the meantime, national systems must be integrated. Some politicians are committed to retaining the sovereignty of their countries: aviation is an international activity, needing no boundaries. The introduction of a unified, European system must be hastened.

There are other complications, for example, when trying to avoid weather such as a line of thunder clouds, requiring detours. Weather, of course, has always been with us, causing problem of aviation. Now, for Cat III aircraft, foggy weather is a minor problem - when going to a suitably-equipped airport, like Heathrow or Gatwick. It is annoying when the ground aids are not up to airborne standards, causing diversions and delays.

One has to be aware of certain countries, such as Albania, which must not be overflown. Other political conflicts provide difficulties for navigation, like the dispute over the control of airspace between the Turkish-held sector of Cyprus, ERCAN, and the rest of the island under Nicosia control. Danger and prohibited areas must be avoided, although how often mid-Channel firing ranges are active in the middle of the night at weekends, I do not know, except that they are promulgated as being permanently active, which involves, probably unnecessary, detours.

Further restrictions leading to congestion are the night jet noise bans introduced at many airports. This introduces waves of aircraft, the first arriving as the airport opens in the morning, after holding over Sussex, for example, for some time. The aircraft are then turned round and all try to rush away an hour or so later depending on slots. Then perhaps a couple more waves in the day before the big exodus just before the night curfew starts. It seems a funny system really: rectification to smooth the peaks and troughs is required.

Earlier jet aircraft, such as the B707, Trident and the BAe. 1-11 were very noisy, but now the B757, B767 and Airbus 300/310/320 are much quieter. Perhaps it is now time to re-consider the night jet bans. The debate rages at Gatwick where the protagonists state that their investment in quiet aircraft is wasted unless they can use them at night and that, if the restrictions were to be relaxed, more invest-

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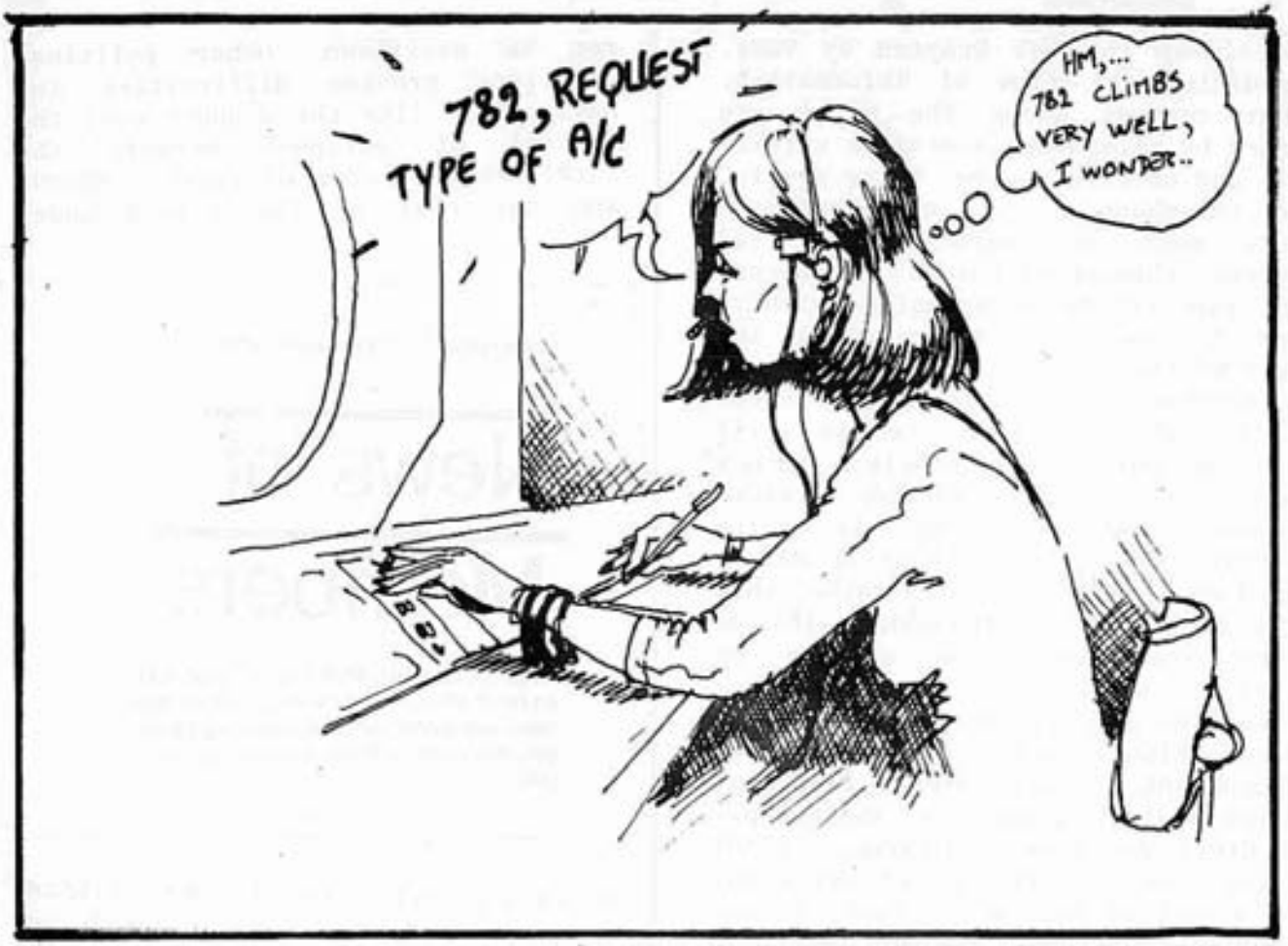
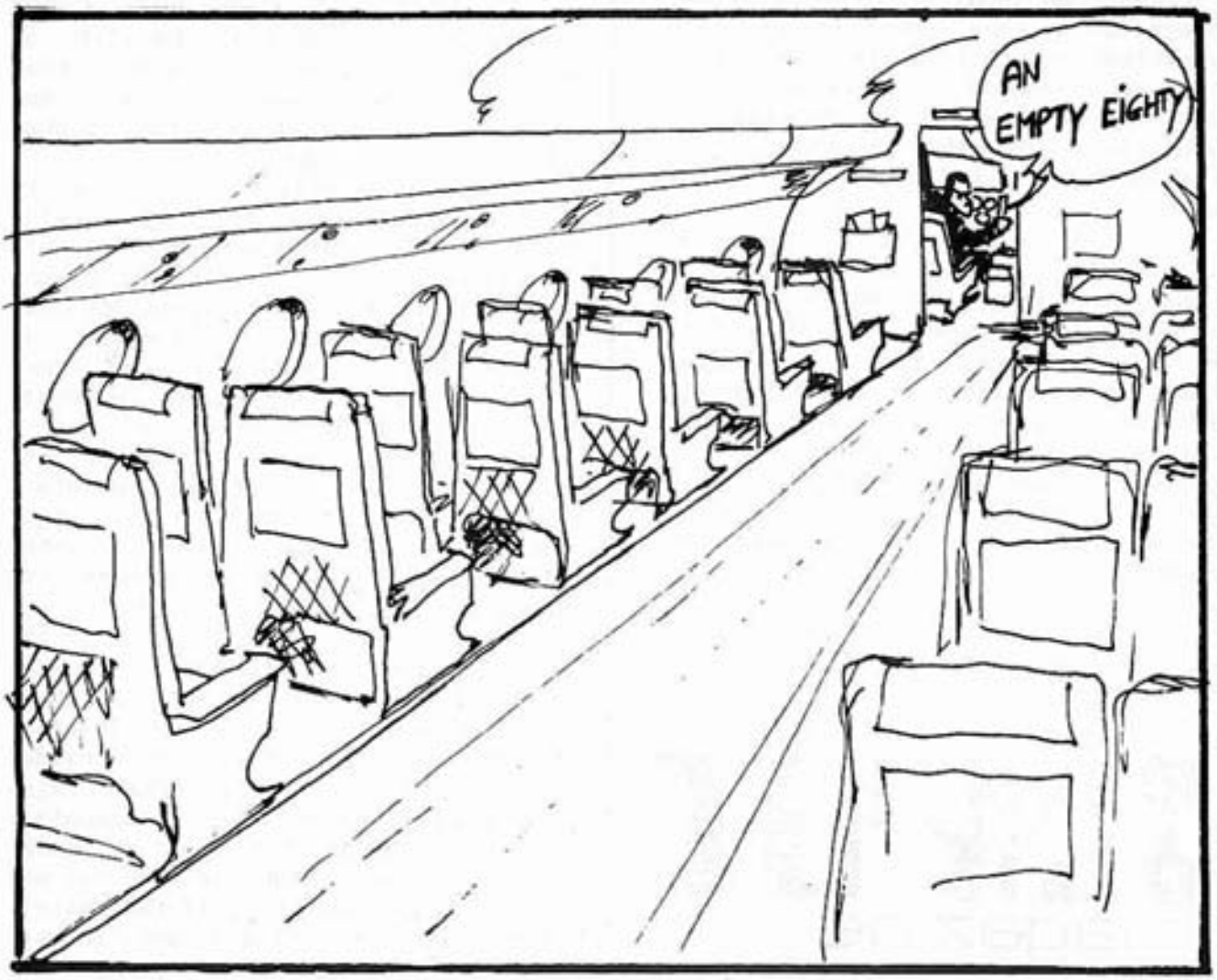
News of Members

Roger S. Bartlett, AMRAeS, until recently an Air Traffic Control Training Officer, has been appointed Documentation and Licensing Specialist at Eurocontrol, Maastricht UAC.

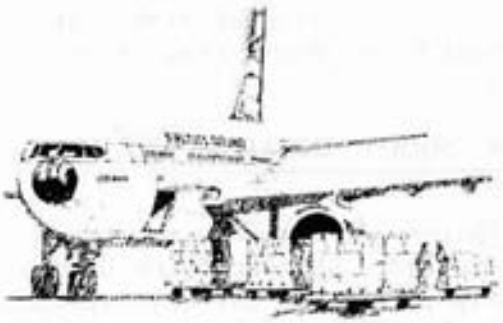

782, REQUEST TYPE OF A/C
HM,... 782 CLIMBS VERY WELL, I WONDER..


AN EMPTY EIGHTY

ment in quiet aircraft would follow. The residents, naturally, say that there is no such thing as a quiet aircraft: any aircraft will disturb their sleep.

On reaching Larnaca, or almost any other Mediterranean destination, it often appears that the departure slots, allocated to different types of aircraft, at different airports and using different routes, are cleverly engineered to ensure that they all arrive simultaneously, thereby delaying the approach and slowing the turnaround. After preparing the aircraft for the return to Gatwick, there are usually further delays, not only to fit aircraft into the local traffic flow but to meet a slot time at the London Area boundary.

On Saturdays, apparently a thousand aircraft converge on Geneva, or on Sundays, on Munich, with Winter skiers: or Malaga on Sundays throughout the year, or Corfu on a Summer Tuesday, although now, other weekdays are almost as busy. I know that there were advantages and economies when all beds were changed on one day and a coach could go to one hotel with its passengers from aircraft originating from several UK departure points. With the colossal capital cost of modern



aircraft, the expense of unnecessary mileage and holding, awaiting landing clearance, and the cost of reduced utilisation, caused by unpredictable delays, a better scheme must be devised to spread the load.

On my first flight, I mentioned sharpness on the R/T button in the States. At Gatwick, at busy times, the same applies. Whilst the prime means of communication between the controller and pilot is voice, then, with the airspace becoming more congested, with more operators, the chance of callsign confusion increases. BALPA and IFAPLA have been promoting, for a number of years, an alpha-numeric system of callsigns which, although not receiving universal acceptance, does provide a system to virtually eliminate the problem.

The future

In future, there will be data link to reduce the amount of R/T traffic. Although this will help, it will introduce other problems. At present the pilot hears messages, not only

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those addressed to him, but to all other aircraft in the vicinity. Thus he can construct a mental picture of the overall traffic situation and plan his flight accordingly. Data link will render him deaf and dumb and this advantage will be lost.

The ICAO Future Air Navigation Systems (FANS) Committee has been looking forward twenty years in anticipation of traffic level 50 % higher than the present. Improved navigational accuracy in four dimensions, (including time), with much more automation, will enhance airspace capacity. Runway capacity will then be the limiting factor at principal centres of population. Currently, skilful judgement by controllers and the skill and cooperation of pilots, familiar with local procedures, can increase runway utilisation by 5 or 10 % above the theoretical maximum. Capacity cannot be increased easily due to the requirement for aircraft to vacate the runway before the next landing or departure and these have to be spaced, depending upon the wake characteristics of the aircraft involved. The 4-D navigation will

improve the consistency of high runway movement rates without so much dependence on individual skills. However, to attain that 50 % increase, more runways will be needed. Dare I say that I think extra runways will be needed rather earlier than the two decades considered by FANS? An article in the Sunday Times (19 February 1989) discussed the need for additional runways in the South East of the United Kingdom, by the year 2000, and was critical of the British Airports Authority (BAA), which holds a virtual monopoly in the London area, for its apparent lack of concern about the need for more runways. It is hoped that the BAA speaker at this conference will reassure us that this is a misconception.

Clearly, increasing the capacity of aircraft helps remedy the runway and airspace capacity problem but then introduces terminal congestion. Already there is a clear trend towards larger aircraft, such as the B767, the A300 and the B747, but, bearing in mind the capital cost, full utilisation has to be guaranteed - not just at peak periods but throughout the year. However, there will still be a requirement for smaller aircraft for commuter and feeder services between small regional airports and the international ones.

Solutions.

More runways, fewer night restrictions, more ATC automation, suitable airborne equipment, additional ground aids, more airspace made available for airline operation, bigger, quieter aircraft.

- more MONEY - higher fares - fewer passengers! (self-regulating?)

Conclusion.

For the pilot, a lack of capacity means congestion. This means that he cannot operate his aircraft as efficiently as he would like and increases costs for his company and, ultimately, the customer.

It also puts pressure on safety standards. By the nature of aircraft operation, it is relatively easy for a company, following an economic upswing, to expand rapidly by buying, or leasing, aircraft to try to operate more services, whilst it takes time for the ground services at airports and the air traffic control systems to expand to meet the additional demand. 'SLOTS' are devices to regulate the number of aircraft in a given airspace at any one time to maintain safety levels. By definition, this means that aircraft, passengers and crews are subjected to delays - which is a strain on all concerned.

A lack of CAPACITY produces CONGESTION, DELAY, FRUSTRATION AND STRESS: these are simply not acceptable. I trust that this conference can put forward more practical and expeditious solutions than my obvious, glib suggestions. The whole industry agrees that immediate improvements are necessary but realise that political will is clearly required for prompt action.

Thank you for giving me the opportunity to outline some of the pilots' problems. It is an honour to be invited by the Royal Aeronautical Society to address you.✱

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