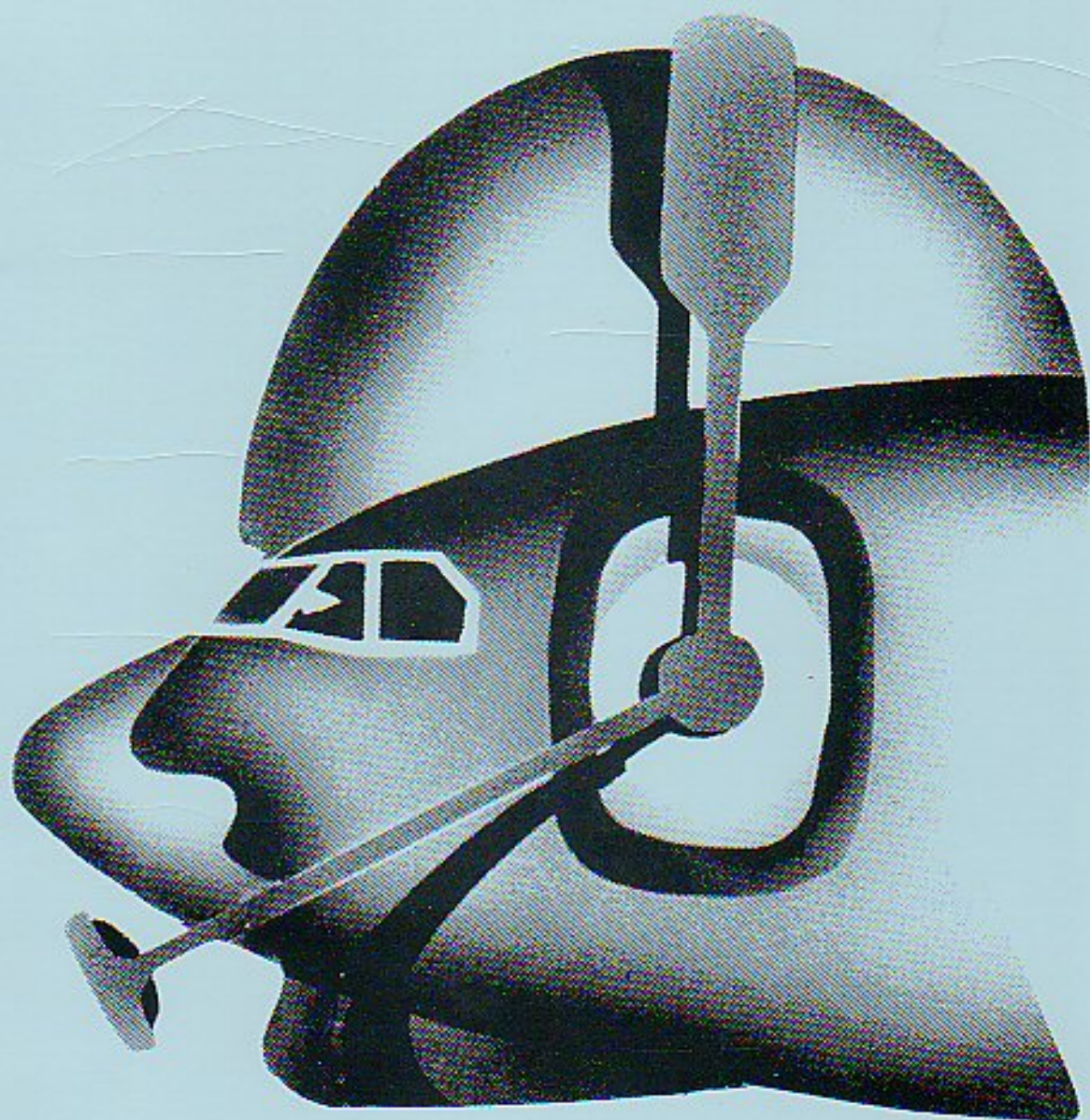


INPUT 1985-II



the magazine of the EUROCONTROL GUILD of AIR TRAFFIC SERVICES

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EDITORIAL

EDITORIAL PAGE

Gentlemen - and we use the term loosely - introducing the new editorial team. In the corner that famous middle-weight, Paul J. Hooper; in the red corner, that lightweight of remain: Joe Florax; seconds Geoff Gillett and Norman Brown; painting the corner posts: Martin Germans; referer to the whole show, your editor Patrice Béhier. What a team!

Yes folks! You read it right. The Hoop and Scoop are back in business. Dedicated to the cause of a free and merry Input; but above all free!

It is customary on the occasion of a hand-over of Editorship of this magazine, for the incoming sucker, er Editor, to thank the outgoing and extol his virtues. This we heartily wish to do. Rob Bootsma did a tremendous job as editor, crowning his term with the excellent report of the R/T FORUM in April. We all owe him a vote of thanks and hope that he has time to contribute occasionally to INPUT. We wish him well in the future.

Which brings us to the tricky bit. You folks all have something of interest to say, you are all experienced in aviation; why not let the others share your professionalism (Stop coughing Scoop!), your thoughts, at least the clean ones, your jokes, etc... All may be of interest. Come on, don't be shy, let's hear it for the mag. That goes for our "outside" readers too. We can use almost anything legal. If you would like to publicise your ideas, perhaps designs for a super new airborne loo, or just would like to put something to ATC in general, let us be your channel for publicity. After all - it's free!

On that somewhat hopeful note, we close this our first Editorial, and let you get on with the first of our efforts. Or chucking it in the bin.



Patrice Béhier



Geoff Gillett



Norman Brown



Martin Germans



Jo Florax



Paul Hooper

OBITUARY

It was with great sadness that we received the news of the sudden death of John Faesen, a respected colleague and active member of EGATS since its foundation. John, as the first acting secretary of EGATS, made an outstanding contribution to the production of our constitution and was a member of the first EGATS delegation to attend an IFATCA conference at Reykjavik in 1973. A regular attendant at meetings, including the sometimes marathon Annual General Meetings, he made a significant input to our Guild over the years and at the time of his death, was a member of the Technical Committee. Though never seeking to be in the spotlight, he regularly participated in EGATS affairs. His informed opinions and considered reasoning were well respected by his colleagues both in the operational and in the training environment.

Those of us who had the additional pleasure of contact with John outside the working environment, knew him as a relaxed, friendly family man with a subtle sense of humour. This untimely departure of a respected colleague and friend brings a gap in our ranks which cannot be filled and we hope that his family and friends find comfort in the many spoken and unspoken words of sympathy that have been expressed.

THE VICE PRESIDENT WRITES

Geoff Gillett

THE VICE-PRESIDENT WRITES.

I have heard it said that one of the qualities of a good manager is to be able to delegate. No doubt that also applies to Presidents, so we may conclude that in EGATS, we have a good man at the top. Jan Gordts, prior to his departure on annual leave, had left a message requesting me to write some contemporary comment for this edition of INPUT.

As this is the first number under the new editorship of Mr. Patrice Béhier, I will say "Welcome to the job!" To our members may I request you give him support by submitting articles, ideas or comments on what you would like to see in your magazine.

It was with great reluctance that the Executive Board of EGATS accepted the resignation of Rob Bootsma, our former Editor. Having fulfilled this task since the beginning of 1983 he has brought our publication to a high level of quality, content and lay-out. Input now has a wide circulation in the aviation world and is possibly admired and appreciated more among the non-Eurocontrol recipients than by some of our own members. Our thanks go to Rob for this outstanding efforts culminating in the production of the 72 page special edition containing the EGATS 1985 R/T FORUM REPORT.

Although the Forum has passed, letters and telephone calls continue to be received. It appears that it was an opportune moment to highlight some of the on-going problems of R/T communications and our effort has borne fruit in that the problems of frequency-blocking and simultaneous transmissions together with a possible technical solution, have been brought to the attention of an IATA Committee.

Participation by more than fifty different organisations, the Director General of Eurocontrol, the Director of Maastricht U.A.C. and Senior Management was indeed encouraging. In contrast, was the relatively few EGATS members who took the time to drive the short distance to Heerlen. It is difficult to understand why this was the case or to accept that there could be such a low level of professional interest.

On a final Forum note, the report was extremely well produced but with perhaps one omission. It could have been appropriate to list in appendix, the names of the organising committee and the many helpers, as a token of appreciation. The man/month amount of time and voluntary effort given by them resulted in the achievement of a superbly organised event of which they can be justifiably proud.



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WOENSDAG GESLOTEN.

AT FLIGHT LEVEL 230 ABOVE THE ALPS



By Manfred Jenz.

AT FL230 ABOVE THE ALPS - Information and impressions from a glider pilot.

Although normally flying at altitudes at which airliners are in the departure or approach phase of a flight, there are occasions for a glider pilot (mainly executing his hobby in the northern part of the FRG) when he may be lucky to get higher than the average maximum heights of about 2000 m (7000 ft) above ground level.

"Lucky" in this context means that you have to be at a certain place at the right time in order to have a chance to climb into the "upper airspace".

So, one week after Easter 1985, I travelled with my glider (LS 1 F) to Aosta/Italy. It was the third year of trying to reach higher levels in an area, where, under certain weather conditions, the so-called "wave flying" can be executed. For those who are not aware of the term "wave gliding": strong winds of up to 130 km/h, preferably from a direction perpendicular to a mountain massif, are necessary to produce rising airmasses within which an uplift to extra-ordinary heights can be reached.

The 16th of April 1985 was my day.

Brought up to 1000 m above Aosta airfield (elevation 550 m) by a light aircraft, I freed the glider from the connecting cable at 1318 Z and continued on my own, as normal. Searching for thermal upwinds I checked my oxygen equipment again, which on such a flight will become the most vital tool at heights above 3000 metres. Mask and apparatus OK, instruments, R/T equipment, camera and food: all OK and in place. In the meantime steady upwinds, partly very rough. Within 40 minutes after take-off I reached a height of 3000 m, including some ups and downs. For another 20 minutes I stayed at \pm 3000 m, looking and searching for "the wave".



The Valley of Aosta

As I was used to flying in rather bumpy air in this area between 2000 and 3000 m, I became very alert when suddenly the unsteady climbs and descents changed into a smooth and steady climb. The Wave!!!! Yes, indeed.

As this was the first time for me to "enter" a wave, I really was surprised how true the reports of glider pilots were about the very calm and steady climb under such conditions.



Above the Alps without engine

Within 5 minutes only I climbed from 3000 to 5000 m. If you calculate, you'll find out that this means a rate of climb of 6.6 m/sec. (+ 1300 ft/min).

Super!!! Unfortunately, it did not continue like that ..., another 10' up to 6000 m and further 20' to 7000 m, my final altitude above MSL.

During the calm climb phase I enjoyed the picturesque landscape around: Mont Blanc, Grand Combin, Matterhorn, Monte Rosa, etc..., after all the highest "ones" of Europe! A visibility of + 100 km even allowed for a sight into the flat land of the river Po, direction Turin, Milan.

A unique experience for me! I took several photo's which were not all successful, as I learned later. Having put myself into warm ski'ing dress and thus feeling comfortable at about - 25° Celsius outside temperature, the batteries of the camera were not protected against cold and so refused

service from time to time. Thus, some interesting (I guess) pictures from the Mont Blanc were lost!

Slowly, but steadily, the left and right inner sides of the cockpit became non-transparent because of frozen breath, time for me to start descent and return home. Circumnavigating some clouds right below I lost altitude rapidly by increasing speed and using speed brakes. After 2 hours and 5 minutes an exciting flight came to an end where it started.

The evening was spent in an Italian "ristorante" where the whole flight was passed through again and discussed, of course this time from the safe ground. That under the influence of some bottles of red wine a few details were exaggerated was no problem ... these were - under such conditions - anyhow not noticed anymore by my fellow glider pilots.

MAASTRICHT CONTROL HAS TIME FOR TIGERS!

By Arnold Booy and Jo Florax



F-16 - TIGER - 31st Squadron - Belgian Air Force Kleine Brogel

It has been a tradition for more than 25 years within the NATO member states, that several units with a Tiger in their emblem come together in order to organise the "Tiger Meet".

The 79th Tactical Fighter Squadron took the initiative to organize the yearly "Tiger Meet" and is in fact the oldest member of the NATO Tiger Association (79 TFS USAF).

This year the 31st SQN BAF was requested to organise the jubilee meeting at Kleine Brogel airbase in Belgium. And of course on such a day (july, 5th) one may expect to see the traditional fly-past, interception missions, solo demonstrations, etc...



General view of the Static display



A10 from Bentwaters UK



NIMROD from Royal Air Force



F111 General Dynamics

from Upper HEYFORD UK

The objectives of future Tiger Meets can be determined as:

- promotion of NATO solidarity;
- to establish firm professional and personal ties among NATO staff;
- to create a better understanding of NATO's military objectives and problems of the partners.



LTV - TA7H Corsair II

from Hellenic Air Force - 347 MIORA

One should really taste the real Tiger spirit by observing the USAF-RAF-FAF-BAF-RCAF-GAF all together. By the way, it was investigated that the 1/72 Sqn Oldenburg, later on the 431 Jabost GAF. designated a Fox in their emblem. To meet the conditions for participation the Tiger Meet, it was added: "Believe it or not, this is a Tiger".



*Mc Donnell Douglas F15C - EAGLE
from USAF - based in Bitburg*

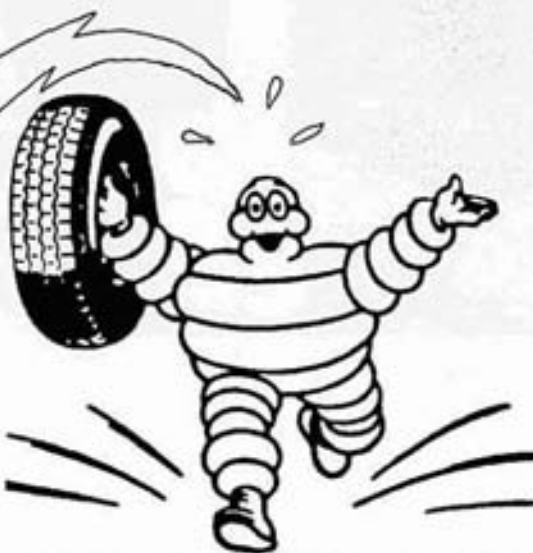
Indispensable on an event like this are the stunt teams, such as the Frece Tricolore. Not present, the famous Red Arrows. The latter hold the honorary

membership of the Tiger Association. For the squadron gaining the highest degree of professionalism, there is the Silver Tiger Trophy.



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EUROCONTROL WAS ALSO THERE !

LIEGE BIERSET AIR SHOW: June 22rd 1985

By Patrice Behier.



The EUROCONTROL stand

As can be seen from the picture, a stand similar to the one displayed in Kleine Brogel was installed at the Liège Bierseet Airshow, however, the stand was slightly bigger due to additional features (tower, antennas, photographs, etc...) produced by a well known European firm. Together with a

large airport mock-up and displays on tower and approach control, which were presented by the air traffic control specialists of the Third Tactical Wing of Liège Airbase assisted by RVA staff from Liège Tower, our joint air traffic control stand was really the centre of the exhibition.

This was the first appearance of such a Eurocontrol display at an air-show, being an initiative of our Deputy Head of Operations Division, Mr. Walter Endlich. It was produced under his supervision with help of several people in house and was well supported by Eurocontrol Headquarters at Brussels.



Unusual visitor

The response from the public was very encouraging and demonstrated clearly that, although people are in general interested in ATC they often have little knowledge of the "en-route" aspects or of the international nature of Eurocontrol.

As shown in the picture the "Concorde" made an appearance at Liège and was visited by many people. Several other spectacular air presentations attracted the attention of the many thousand visitors and made the "Liège Air Tattoo 85" a memorable event.

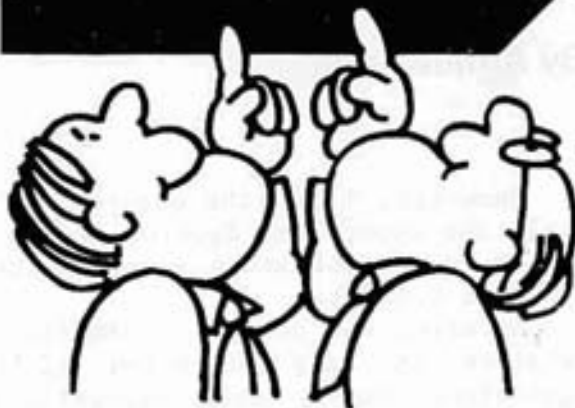
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IMPRESSIONS OF A VISIT TO RHEIN CONTROL

By Arthur Krahl.

Recently, I had the opportunity to visit the Upper Area Control Centre of Karlsruhe, better known among insiders as Rhein Control.

Entering the centre, I immediately realized the big dimension of the operations room, being approximately 1/3 bigger than that of Maastricht with the same number of sectors, namely six.

Impressive was the low noise level at the working positions with a two-man configuration per sector and decentralized sector distribution, which enables communication without headset.



Considering the two working positions per sector, the question immediately arose: "Why isn't that possible in Maastricht, where we still have great problems to accomplish sector work with three controllers even after installing the "in-line configuration" in the Brussels Sectors?"

There seem to be two main reasons to account for these facts compared with the Brussels Sectors of Maastricht:

1. The minor complexity of the Rhein Sectors;
2. The non-utilization of all technical resources of the KARLDAP system.

To item 1: considering the airspace structure of Rhein Control, one will realize that most of the flights are at cruising altitudes. Arrival and departures to and from Munich, Frankfurt, Stuttgart, Zürich and Hannover are not considered to be so important with regard to the total. In comparison within the Brussels Sectors of Maas-



tricht Control, about 80% of the traffic performs a climb or descent profile to one of the major airports of London, Amsterdam, Paris, Brussels or Düsseldorf.

To item 2: the position of the Assistant Controller comprises a big planning board on which one or more flight progress strips per aircraft are classified in time order and direction. On account of this layout in practice he marks conflicting traffic, plans the cruising altitude, if necessary, and telephones the estimates. Additionally, he assists the Radar Controller. Compared with Maastricht, this function represents our Planning Controller and Radar Assistant Controller in one person. A difficult task? - By no means!

Some Assistant Controllers still have time to read office notes and feel bothered if continuously contacted by Maastricht controllers, requesting a release between KIRN and RUWER.

The Radar Controller is positioned in front of a radar screen the quality of which is identical to that of Maastricht. Thus, there is no further basis for additional comparison. The Radar Controller is not in a position to see

the planned flight level (PFL) on the call-sign label; to identify it, a purposeful glance at the planning board is necessary where the PFL has normally been marked by the Assistant Controller. Concluding one can say in Karlsruhe, ATC is still "made by handcraft".

The absolute surprise is, however, the Display Control Panel (DCP) and Touch Input Device (TID) systems. A look at the latter reveals no display of data for the expected traffic within the sector; it is entirely left blank. Disregarding the resulting disadvantages, the Radar Assistant Controller (RAC) fortunately needs not to execute any Touch Input Device inputs, which is about 60% of the workload of the RAC in Maastricht.

The above mentioned statements lead to the conclusion that a two-man configuration per sector is possible in Rhein Control, but not in Maastricht Centre. Besides, I feel a little bit regretful that an ATC Centre with such brilliant technical possibilities - such as the KARLDAP system - has fallen into a position of the "Sleeping Beauty" since installation of the equipment by Eurocontrol.

Luckily, I found consolation in enjoying the regional wine and cuisine and I am looking forward to my next visit to another ATC Centre.

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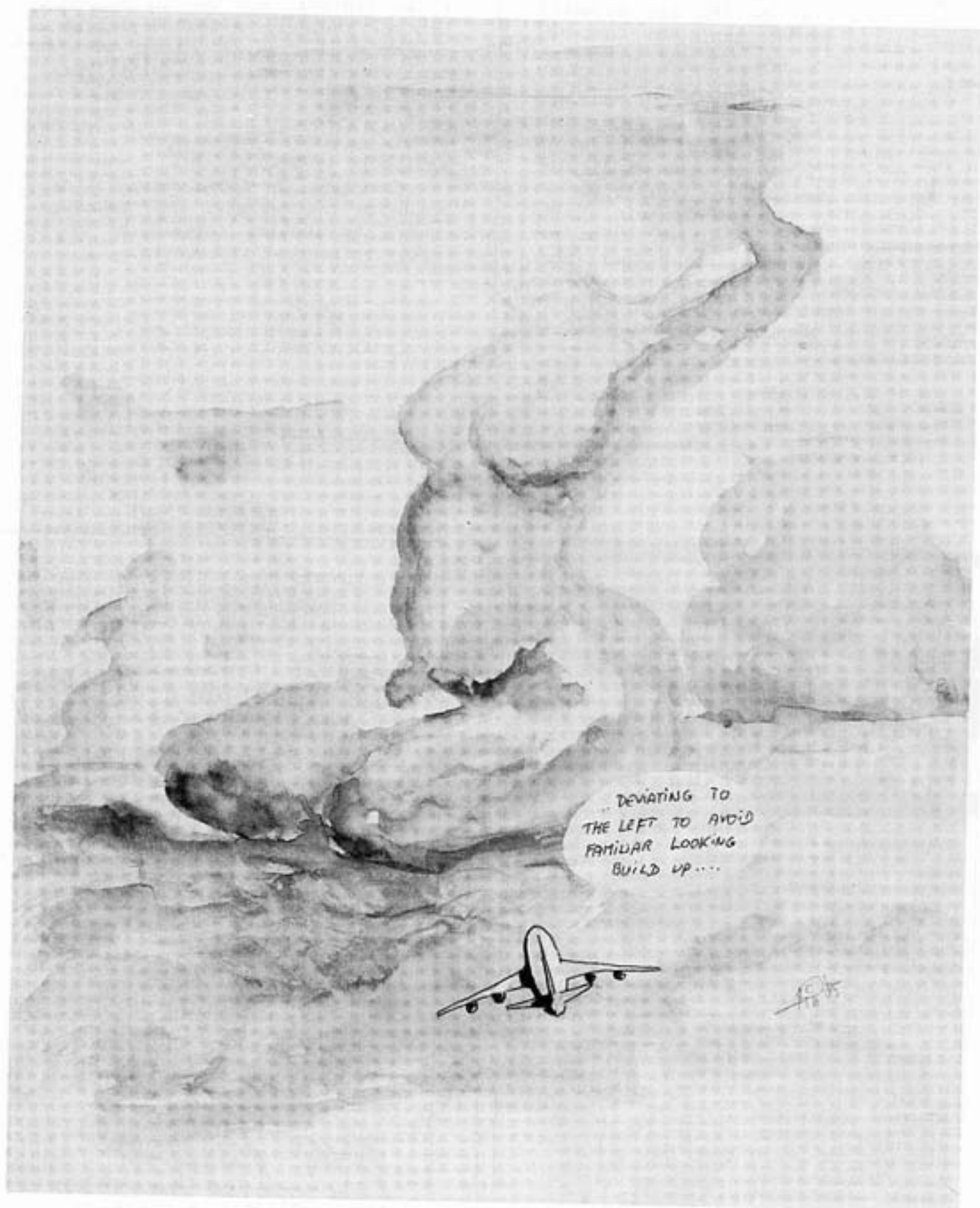
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MITSUBISHI BIZJETS

Compiled by Jo Florax.



Mitsubishi MU1 - Diamond I

Mitsubishi Aircraft International (MAI) is a wholly-owned subsidiary of Mitsubishi Heavy Industries (MHI) Tokyo, the business aircraft arm of one of the world's major aircraft manufacturers. MHI does not only manufacture automobiles but also a wide range of products like power systems of electricity generation, ships, etc...

As an aircraft manufacturer MHI has designed and produced thousands of airplanes since 1933 including the Mitsubishi Supersonic F-1 jet fighter now in service with the Japanese Air Self-Defence Force. Under license agreement with McDonnell Douglas, the company is constructing the F-15 Eagle. In this event MAI benefits from MHI. MAI operates a plant in Texas, USA, where the company's turboprops and jets are built from airframes manufactured in Nagoya, Japan. As from the start in the mid 1960's MAI has produced some 800 executive aircraft, comprising the Diamond 1A and Diamond 1L jets (see

photo's), as well as the Marquise and Solitaire turboprops. You will conclude that MAI is responsible for the overall marketing (except for Japan) of its aircraft manufactured by Mitsubishi. For Europe some 80 turboprops have been sold and they have high expectations for their Diamond 1L in the overseas market. For this purpose they set up nine maintenance centres in Europe and a spare parts warehouse in Frankfurt. A quick survey of the production line:

The Diamond 1A - their first, 796 kilometres per hour, 7-9 passengers, range 1,510 nm.



Mitsubishi MU2 - Diamond II

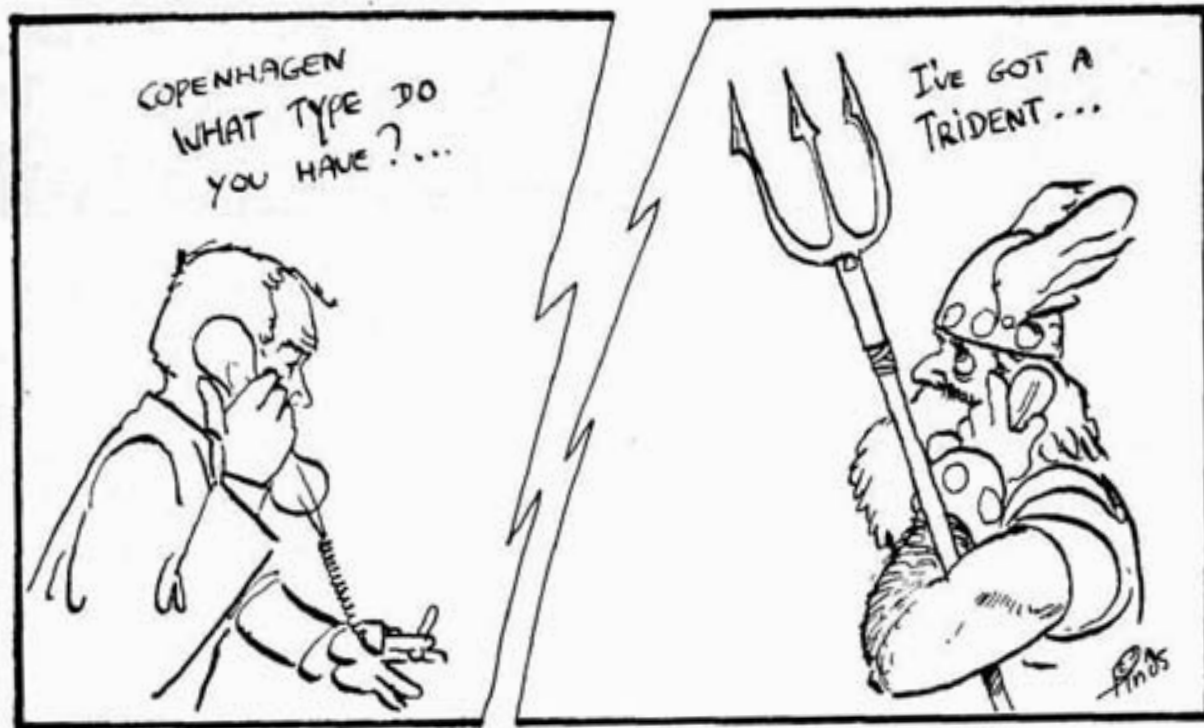
The Diamond 1L - a new Diamond with speeds up to 456 knots, with more range, e.g. 1,930 nm, possible certified altitude 41,000 feet.

The Solitaire - one of the fastest turboprops, cruising at 321 knots, rate of climb 2,350 f.p.m.

The Marquise, 0308 kts, range 1,395 nm, rate of climb 2,200 f.p.m.

Remarkable is the interest in the MU-2 (700 of 13 versions delivered since 1966).

A dramatic increase of used MU-2's has kept the staff busy. Where do they operate? In general in and out of African deserts and snow covered or short unimproved runways in the great North. Others are serving in search and rescue, reconnaissance, medevac and as liaison aircraft for remote villages (Swedair for example has got 9 Mu-2's).



T.C.A.S. IN FLIGHT EXPERIMENTATION

PART ONE

IN THE U.S.A

An article about TCAS published in a preceeding issue gave you an explanation of the principles and functioning of this system. In the meantime, practical experiments have been conducted in the U.S.A. in 1981 - 1982 by the FAA and the MITRE CORPORATION in cooperation with DALMO-VICTOR SPERRY (BELL AERONAUTICS).

Two aircraft have been used for these experiments, they were both equipped with TCAS and special recorders. Both aircraft totalled 928 flight hours over a four month period, one third being effected with an observer on board. During these 928 hours, 329 traffic informations TCAS were given and 32 manoeuvring orders given (for actions); however, due to technical problems, 45% of traffic informations and 21% of manoeuvres indications were erroneous. Out of 50 traffic informations indentified by the observer were:

- 29 airliners;
- 16 undetermined;
- 3 light planes;
- 1 helicopter;
- 1 commuter.

As far as conflict resolutions were concerned, out of 8 observations, 4 were due to general aviation traffic, in most cases the aircraft were in VMC close to an airport and in radio contact with ATC.

Conflicting areas:

Most incidents actually observed occurred in a layer of airspace between ground and 10.000 feet. In 62% of cases the altitude difference between conflicting traffic were between 500 and 1.500 feet, in 21% it was less than 500 feet. In 82% of cases the traffic was situated in the front sector of the equipped aircraft.

Conflict resolution manoeuvres:

Out of 32 actions, 18 were corrective, which means they intended to have the equipped aircraft to manoeuvre vertically. Example : An instruction "DON'T CLIMB" or "DON'T DESCEND" appears although the pilot was initiating a levelling off (10 cases) or just before he was about to do it (8 cases). The 14 other cases were preventive instructions indicating to the pilot not to climb or descend although he was on a level flight. No "minimum rate" instruction has been given.

Workload in the cockpit:

It seems that when the deficiencies have been cured, the United States airline crews would experience, on average, the following workload:

- 1 TCAS traffic information every 5 hours 13 mn of flight time;
- 1 conflict resolution every 37 hours 15 mn. This would mean about one conflict resolution a month which is quite acceptable.

CONCLUSION:

These experiments did not intend to test the capabilities of TCAS, many points remain to be clarified before such a system can be considered as a means of preventing collisions in IMC.

It appears, however, that when used within the present aeronautical environment, it does not affect the normal conduct of flights and does not increase the workload of pilots.

The TCAS is still being tested in the U.S.A. with several participating airlines and various aircraft. In Europe, Air France, recently conducted "in flight" trials with such equipment, between October 1984 and May 1985, the results will be published in INPUT, Winter Edition.

COLLISION STATISTICS IN THE U.S.A.

Preliminary near midair collision (NMAC) report figures show an increase for the first quarter of 1985. The FAA received 141 NMAC reports from January 1 through March 31, compared to 98 reported in the same time period in 1984. An NMAC is one in which the distance between the aircraft involved was reported as less than 500 feet. The vast majority of the incidents involved at least one aircraft not in contact with or controlled by ATC.

FAA states that the see-and-be-seen concept is a critical element of flying, and the release of this kind of information serves to make all who provide ATC services or who fly to be more aware of the potential for an NMAC during the spring and summer when more flying is done and such incidents occur with more frequency. It should also be noted that the increase in NMAC reports does not necessarily mean there are more NMAC's occurring, since it is not known whether the increased number of reports is as a result of improved FAA reporting procedures and renewed emphasis on pilot reporting.

ON A MAASTRICHT CONTROL FREQUENCY

MAASTRICHT:

- MAC 90003 report your mach number!

M90003:

- We are MAC 90003...

MAASTRICHT:

- M40611 contact Reims Control on 132,37. Goodbye sir.

M40611:

- Contact 132,37 and what is the name of that station?

MAASTRICHT:

- Reims.

M40611:

- Sorry, I did not get it!

MAASTRICHT:

- Reims, where the champagne is made.

Unknown American voice: Negative Maastricht, champagne is made in California.

MAASTRICHT:

- Speedbird XXX Maastricht, confirm your type of aircraft please?

BAXXX:

- Stand-by.

- ----!!!

BAXXX:

- Uh, I had to count the throttles, we are a Tristar!

HEARD ON THE TELEPHONE

LONDON:

- Hello, Maastricht, can you see the Britannia XXX and the CYPRUS XXX?

MAASTRICHT:

- Affirmative, I see them both.

LONDON:

- They have 6 NM both climbing out of FL235 for FL290 and FL330, respectively, do you take them like that?

MAASTRICHT:

- That's OK with me provided the first one is faster.

LONDON:

- Yes, he is definitely faster.

MAASTRICHT:

- Alright, then, let them come.

LONDON:

- But, I must admit, the second one is catching up slightly!!!...

REIMS:

- Maastricht, YY012 is a radio failure but I could not reach the pilot to tell him to squawk A76!!!

MAASTRICHT:

- Hello, London, the Dan Air XXX is a radio failure, maintaining FL310.

LONDON:

- OK Maastricht, copied, I request him at FL280!!!

PARIS LE BOURGET AIR SHOW REPORT

By Philippe Domogala.

The 36th PARIS-LE BOURGET Airshow news was this time made by the French and Russians, and the theatre, as usual by Airbus Industrie.

The French came up with a brand-new aeroplane to replace the Mirage series, called RAFALE, designed by Dassault, who else? This black bird was planned as a contender for the European Fighter programme but as the discussions were

dragging on between the British, the Germans and the Italians, Marcel Dassault got fed up and decided to go along with HIS aeroplane whatever the others would decide. Vive l'Europe!

The French C.N.E.S. (National Space Centre) wants its own Space Shuttle in order not to depend on U.S. or Soviets to send their astronauts (or spacionauts as the french call them) up there. The project, called HERMES, was to be developed and financed by the European Space Agency (ESA) but the British and the Germans were a bit reluctant to pour hundreds of millions into the project, so France decided to go ahead on its own and will charge full fare to the others. Vive l'Europe! (bis).



Dassault "RAFALE"



Piper "Malibu" the "long range" single

Aerospatiale and Dassault are the 2 contenders for the project and a final decision on who is going to build it will be taken by C.N.E.S. at the end of the year. A "scoop" picture of HERMES riding on top of an Airbus A300 was everywhere to remind the Americans that France always admired them...

PIPER

PRESSURIZED MALIBU

Engine (TCM TS90-520-BE)	310 H.P.
Take-off Over 50ft. Obstacle	2,025 Ft.
Rate of Climb @ Sea Level	1,143 FPM
Max. Speed	234 Kts.
Cruise Speed 75%	215 Kts.
Service Ceiling	25,000+ Ft.
Max. Range with 45 Min Reserve	1,555 NM
Landing Over 50ft. Obstacle	1,800 Ft.
Max. Ramp/Gross Weight	4,118 lbs.
Useful Load	1,652 lbs.
Number of Seats	6

The Russians came with their own "scoop": the giant Antonov 124 or Galaxyyski. Of course everything is bigger than the Galaxy, the length, the weight, the payload, etc... and the huge machine was there to show the world that Americans do not have the monopoly in building big planes.



Philippe, ready for duty flight in the "GALAXYKOFF"

I was invited on board and indeed the inside is very big. The upper floor can carry "up to 80 agricultural workers" and the main floor 4 combined Harvesters with their trailers and tractors. "No helicopters and tanks?" I asked; "Negative! This is an AEROFLOT aircraft, not military!" and when an

american gentleman said: "GEEE, it looks like a cathedral in here!" a Soviet Engineer replied abruptly: "No, Antonov 124 bigger than cathedral, Antonov 124 is biggest aircraft in the world!".

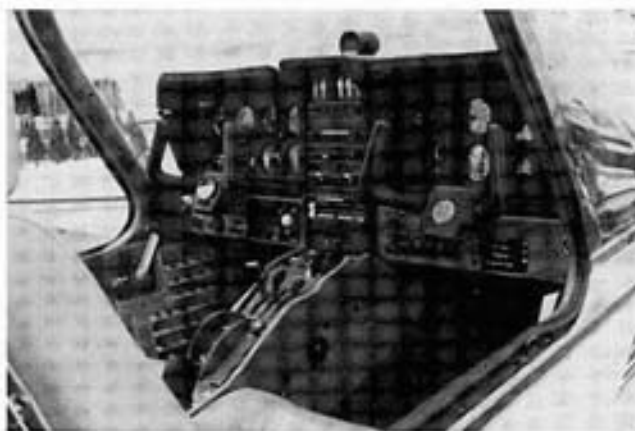


HERMES project



Aerospatiale "TRINIDAD"

And Airbus Industrie, as usual, caused a sensation by announcing during a Boeing conference that PANAM had just signed for 28 Airbuses and took 47 options on the A320. Vive l'Europe! (ter).



"TRINIDAD" clean cockpit

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- Greenhouses
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IN REPLY

„The Tenerife disaster“

By Philippe Domogala.

I read with great interest the letter of the old (not so bold) pilot concerning the Tenerife disaster in INPUT 1/85.

I know Los Rodeos (Teneriffe north or TFN) quite well having even had the rare privilege of sleeping in the Director's office last year; the whole administration building of the airport is now an hotel for Civil Aviation personnel and all former offices are now hotel rooms. The remarks about the weather in TFN are very true, as is probably the remark about the pilots operating that day to TFN not being familiar with that airfield, however, since TFN was the only alternate for years in the flight plans of all aircraft bound for Las Palmas, and as correctly stated they were bound to be diverted there one day, I do hope they had a field-check before accepting it as an alternate.

I am not particularly fond of Airport Directors but in their defence one must remember that, at that time, all the energy and money available for civil aviation on the island was diverted towards the new Reina Sofia (Teneriffe south or TFS) airport, then under construction, and everybody considered TFN as "condemned".

For me, personally, in the TFN disaster the main responsible factor was PRESSURE on human beings. Pressure on the pilots to divert to the CLOSEST available airport, pressure on the controllers to cope with an unexpected OVERLOAD of air traffic in bad weather conditions, political pressure on the Airport Director to ACCEPT and FACILITATE all traffic diverted due to a terrorist bomb planted in Las Palmas Airport (bombs are very bad for tourism!) and finally pressure from the

tour operators and the airlines on the crews to have their aircraft leave TFN as soon as possible in order not to EXCEED DUTY HOURS that would have grounded their aircraft in Las Palmas and disorganized their schedules completely.

All those pressures allowed aircraft to be lined-up on the same runway where other aircraft were backtracking, allowed both pilots and controllers to accept this situation in poor visibility, allowed jammed communications to go unchallenged and finally allowed an experienced captain to disregard advice from his cockpit crew.

Working under pressure and coping with the unexpected is routine for both pilots and air traffic controllers but there are limits. Where are the limits? We do not know. They lie between full efficiency and total security but are difficult to grasp. Managers and bureaucrats generally do not help. They hold lengthy meetings consulting each other in order to issue carefully worded statements mostly in order to cover themselves and partly to resolve the question.

As Capt. Vermeulen of the Dutch Pilots Association said during the recent EGATS Forum: "We ... cannot postpone decisions and cannot consult others. We do a surprisingly good job considering the inadequate tools provided by the bureaucrats and providers. We could improve if they consulted us before they come up with new rules and systems ...".

As to the 1000 \$ question: "Is another Tenerife disaster possible today"? The attached press release from the Washington Post of 5 April 1985 gives a tentative answer and the Minneapolis Airport Director, whose comment is also attached, won the 1000 \$ prize.

When the National Transportation Safety Board dispatched its "go team" to Minneapolis four days after two DC10's on which 408 people were riding missed colliding with each other by 75 feet, Minneapolis airport chairman Raymond Glumack said that the NTSB was highlighting "an accident that didn't happen". Glumack said both pilots took evasive action and avoided an accident, "so what's the big deal?".

Radio Transcript - April 10, 1985.

Jumbo Jets Barely Miss Each Other on Runway

Sunday Incident in Minneapolis Probed

By Douglas B. Feaver
Washington Post Staff Writer

Two Northwest Airlines jumbo jets carrying a total of 500 people narrowly avoided colliding on a slushy runway in Minneapolis Sunday night partly because the pilot of one plane had recently participated in special tests on low-speed flying, federal investigators said yesterday.

The National Transportation Safety Board is investigating an apparent communications breakdown in the air traffic control tower that allowed the two McDonnell Douglas DC10s to be on the same runway at the same time. One of the planes was taking off and the other was taxiing across the runway.

The plane taking off cleared the plane on the ground by 50 to 200 feet, depending on which crew member made the estimate, safety board Chairman Jim Burnett said.

D.F. Nelson, the captain of the plane taking off, is Northwest's top management pilot and recently participated in special simulator and actual flight tests on how to recover from low or stall speed brought on by dangerous low-altitude wind shifts, Burnett said.

"The truly astonishing thing about this is that he saw this aircraft in front of him when he was between 100 and 120 knots," Burnett said. "He rotated [pulled the nose off the ground] shy of V1."

V1 is the speed at which a pilot decides to continue the takeoff or to abort, and was calculated at 139 knots for this flight. The next critical speed is VR, the speed of rotation. VR for this flight was 145 knots. Thus Nelson pulled the nose and the plane off the ground several knots below what would be considered safe takeoff speed.

The other plane was crossing from left to right. "As he overflew the other plane, he dipped his left wing and raised his right wing to get more clearance over the tail," Burnett said.

The flight continued to Seattle, with the passengers apparently unaware of the incident, Burnett said. The plane that was taxiing subsequently flew to Phoenix.

The situation was reminiscent of the world's worst aviation disaster, when 577 people were killed in Tenerife, Canary Islands, in 1977 when a plane taking off collided with one taxiing. Then, too, the pilot of the plane taking off attempted to leave the ground early to avoid a collision, but did not have enough speed and succeeded only in dragging his plane's tail along the runway.

In that case, the pilot started his takeoff without clearance from the tower. In Minneapolis, "both crews were executing the air traffic control instructions they were provided, no question," Michael O'Rourke,

investigator in charge for the safety board, said.

Northwest Flight 51 to Seattle was given permission to take off by the "local controller" in the Federal Aviation Administration's tower. At about the same time, 9:04 p.m. Sunday (CST), Northwest Flight 65, taxiing out for the flight to Phoenix, was given permission by the "ground controller" to cross the runway. The crossing point was about 6,000 feet from where Flight 51 started its takeoff roll.

Local controllers handle planes taking off and landing; ground controllers handle the planes as they move around the terminals and taxiways in preparation for taking off and after landing.

The two controllers stand side by side in the tower. They use different radio frequencies in talking to the planes they are controlling and normally talk to each other without radio or telephone links. "You sometimes don't hear what you thought you heard," one controller expert said in speculating about what might have happened.

The board is studying tapes of radio transmissions by both controllers, but there is no recording of the conversation between them.

Visibility at the time of the incident was estimated by the controllers at 10 miles; the official weather service visibility listing was 20 miles.

Burnett said crew members of the plane taking off told him and other investigators that the only option they had other than to try and fly over the crossing airplane was to go off the runway, but that there were airplanes on both sides.

The airport was congested after a heavy snowstorm earlier in the day caused it to close for an hour. Several taxiways and runways were clogged with snow, contributing to the congestion and delays. The safety board is looking at snow removal plans and operations as part of its investigation, O'Rourke said.

The airport was closed after another airplane aborted its takeoff when one of its engines stopped because of slush on the runway, Burnett said. Another aircraft landed behind it "and they may have been on the runway at the same time," he said. Staffing levels and traffic flow at the airport will be an important part of the investigation, he added.

The local controller, board officials said, has 24 years' experience; the ground controller, a military veteran, only recently completed training to become fully qualified, and then transferred from Los Angeles to Minneapolis in September. Both controllers were relieved of duties after the incident.

THE WASHINGTON POST

FRIDAY, APRIL 5, 1985

A POEM FOR A PENSION

By Eurospéro.

You are old Supervisor, the young man said

And your hair becomes thin and quite white

Do you think at your age, you still can control

The air traffic - especially at night?

It's hard I admit, the old man said
To keep them always apart

It sure makes me sweat and you can bet

That it's awfully bad for my heart.

Then why don't you quit, the young man replied

And give us prospects for promotion

I'd welcome the chance to retire to the sun

But our bosses approve not such a notion.

Though some countries accept, that by fifty-five

One deserves a release from the stress

It seems the U.K. just doesn't agree

Nor will the Irish say yes.

But in Belgium, France and in F.R.G.

The Governments display more concern

And by getting an early retirement

There's time to spend what you earn.

So on we go to sixty or more

With medical checks every year

Increased is the wearing of glasses

And some of us hardly can hear.

Soon the youngsters will all become older

And the old'uns be quickly forgot

Though retirement might seem attractive

A.T.C. - We would miss you a lot!

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EINDHOVEN'S SPECIAL FLY IN

By Danny Grew.



The "Dak" from the Dutch Dakota Association

On an otherwise insignificant day fifty years ago yet another prototype airliner took to the air on its maiden flight. The date was 17th December, 1935. The place, Santa Monica, California. The airliner, a DST (Douglas Sleeper Transport) specially designed with sixteen sleepers to operate overnight transcontinental passenger services. As the aeroplane lifted off the runway not even the most optimistic of those responsible for its design could have perceived the impact which the "daytime" variant was going to make on the aviation world. A legend was born - the Douglas Commercial Three, or more simply, the DC-3.

The United States Air Force designation for it was C-47 and the Navy's was R4D. Their pilots affectionately called it the Gooney Bird. The Royal Air Force named it the Dakota and this

was commonly shortened simply to Dak. But whatever it was called the aeroplane was instantly identifiable, even to the most non-aviation minded persons, as it became a familiar sight both in peacetime and at war at airports, airfields and airbases the world over - as Douglas went on to build a total of 10,665 examples. A further 487 DC-3's were built under licence by the Japanese and, given the designation Li-2, an estimated 2000 by the Soviet Union.

The first commercial airline service of the DC-3 was operated by a DST variant of American Airlines on 25th June, 1936, flying between New-York and Chicago. The first transcontinental - coast to coast - service was launched on 18th September, the same year. This service took just 18 hours!

Today it is believed that possibly

as many as 750 examples are still in active military or civil service - a worthy tribute to an aeroplane which, contrary to some makers' claims, has never been truly replaced (although admittedly the Fokker F-27 is making a serious challenge).

To mark the DC-3's 50th Anniversary the Dutch Dakota Association declared the week 5 - 11 July 1985 as International Golden DC-3 Jubileum in The Netherlands. The highlight of the week was a DC-3 "meet" at Eindhoven's new airport, Veldhoven, on 16th July, as part of a small airshow featuring other vintage aeroplanes too.

Sadly, because most of the few European DC-3's remaining in commercial service were too busy earning a living, original expectations of more than a dozen Daks did not materialise and only six turned up. Nevertheless even six Daks parked nose to nose is a sight to behold at any European airport in this day and age. The ensuing mass formation start-up and flight was certainly a spectacular sight - and sound!

The six participating Daks, together with a very brief history were:

PH-DDA Douglas C-47A c/n 19109 - Dutch Dakota Association.

This aircraft first flew in November 1943 and was operated by the United States Army Air Force until purchased by Finnair in June 1946. The Finnish Air Force acquired it in June 1963 where it stayed until it was sold to the DDA in January 1984.

Total airframe hours : 36.250.

G-AMSV Douglas C-47B c/n 32820 - Air Atlantique.

First flown early in 1945 this aircraft was handed over to the Royal Air Force in March of that year. Apart from a short stint in France in 1980-1981 this Dak remained in the UK operating for several airlines including Morton Air Services and British Island Airways. It was acquired by Air Atlantique in March 1982.

Total airframe hours : 35.130.

G-AMPO Douglas C-478 c/n 33185 - Air Luton.

Delivered to the Royal Air Force in May 1945. This aircraft has also remained based in the United Kingdom operating over the years for a host of airlines including Starways, British



Most unusual nowadays at the "jet age"

Westpoint, Macedonian, Intra Airways and Air Atlantique until recently acquired by the newly formed Air Luton. Total airframe hours : 24.745.

N4565L Douglas DC-3 201A c/n 2108 - Hibernian Dakota Flight (Ireland)

This original DC-3 was about the 170th to be built and was delivered to Eastern Airlines in February 1939. It later passed through several US owner-ships before going to Argentina in April 1961 where it stayed until purchased by Hibernian in 1984.

SE-CFP Douglas C-47A c/n 13883 - Flygande Veteraner (Sweden)

Accepted by the USAAF in October 1943. Sold to DNL (Det Norske Luftfart-selskap AS) in September 1946. Operated in SAS colours from August 1948 until 1957 when it was sold to Linjeflyg of Sweden. In June 1960 the aeroplane was sold to the Swedish Air Force with whom it remained until acquired by Flygande Veteraner in March 1983.

Total airframe hours : 31.350.

N151ZE Douglas R4D6S c/n 26408 - Confederate Air Force (USA)

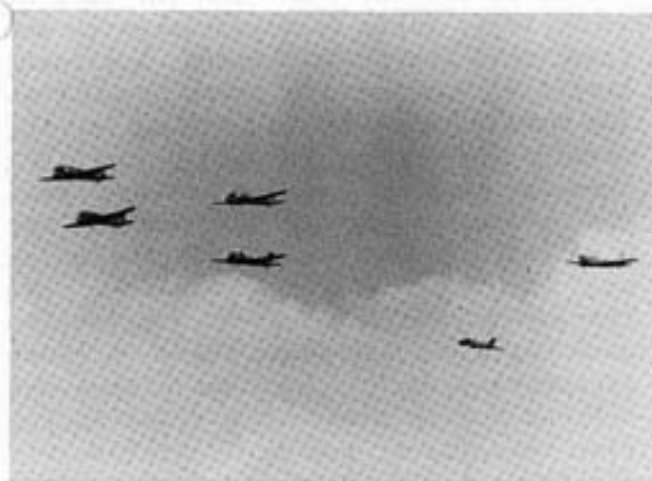
This aeroplane deserves a special mention since it flew to Eindhoven all the way from Grand Prairie TX. via: Dallas TX., Cleveland OH., Shawville (Canada), Frobisher (Canada), Sondre Strömfjord (Greenland), Kulusuk (Greenland) - where the crew had to make an NDB approach down one valley until visual with the field in another valley, Reykjavik (Iceland), Glasgow



(where's that?) and Amsterdam. This epic journey was accomplished in four days with a total flying time of just 38 hours.

This particular aeroplane was built for the US Navy in October 1944 as an R4D-6S. The "Gooney Bird" then embarked on an interesting and even mysterious career which is well documented in a CAF handout but too detailed to include here. She was purchased by the CAF in 1980. Amazingly, on landing at Eindhoven this bird was still a baby having only logged a relatively low 13.016 hours flying time.

For comparison purposes with regard to the total flying times of the above aircraft, KLM's highest time Boeing B747 is PH-BUC which first flew in May 1971 and by August this year had completed 55.704 hours flying and 12.693 cycles (a cycle = one take-off and landing). The highest time DC-3 known is still in commercial service with PBA airlines in the USA. The aircraft, N136PB, had logged an incredible 87.687 hours by 1st March, this year.



A busy airway

LONDON EUROPEAN AIRWAYS

By Paul Hooper.

Modern brightly coloured decor. A seat pitch to make IT operators shudder. Ample space under the seat in front for carry-on baggage and still room to stretch the legs. Large oval windows affording a magnificent view of the heavens whilst creating a light airy atmosphere in the cabin. This regular flyers dream is a totally impractical proposition to commercial aircraft manufacturers. But hold it right there. This is no dream - it's reality.



A significant date in this aircraft's history was November 14, 1957. On that day Viscount 802, G-AOYI, lifted off the short Weybridge runway and into its natural element for the very first time. Since that day the aircraft has performed over 40,000 take offs in almost as many hours. High time indeed, but she still looks as natural among today's aerial conveyances as she did among her contemporaries 28 years ago. She has in that time carried the colours and titles of British European Airways, Cambrian, British Airways, British Air Ferries, Polar and Guernsey Airlines. Today she sits alongside gate C38 at Amsterdam's Schiphol Airport proudly sporting the blue white and yellow livery of new owners, London European Airways, and appropriately registered G-LOND.

Off the blocks we embarked upon the taxi to runway 01L several and a half nautical miles away. Fortunately, on arrival at the numbers we were cleared to take it on the roll. At this stage

of its life the Viscount can be forgiven for conducting each and every manoeuvre at a leisurely pace, as one would expect of a respected, demure senior citizen; the take off and climb out was no exception. No sooner had we tucked away the gear and cleaned up (I refer to the aircraft!) we entered cloud, which for the next 15,000 of our 16,000 feet climb tried frantically to wrest our behinds from our seats and our cocktails from our very determined grasp. The hardened will of this imbibor won the day. Once in the cruise the air became more stable and one was able to spend more time eyeing the curvaceous young lady flight attendant, than struggling to establish contact between cocktail and mouth. The flight continued uneventfully to a touch down at Luton after 62 minutes in the air.

By no stretch of the imagination will the Luton-Amsterdam route set the aviation world alight or break any records with regard to passenger utilization. Nevertheless it does have a great deal to offer both the businessman and the leisure traveller. Luton International Airport has for some time attempted to market itself as a London airport and indeed has served the IT market in that capacity since the fifties. Scheduled operations at the airport have, however, been a little sparse to say the least and the lack of convenient, rapid transportation to and from the heart of London has done little to further its promotion within the considerable catchment area of the metropolis. Before embarking upon its opening project London European took the unusual step of contracting the City of London Business School to conduct in depth market research into the needs and wishes of prospective passengers within the Luton Airport catchment area. The catchment area was defined not in terms of a fixed radius from the airport but by careful consideration of passenger convenience factors over other airports. This took into account the various modes of transportation available to each of the airports and the calculated time taken to reach those airports by its use. Once the area and population had been



*In Pristine condition, G. LOND prepares for departure from Luton
in the colours of its present operator London European*

ascertained an estimation of the number of persons likely to avail themselves of scheduled services was made. This involved telephone contact with numerous individuals who were requested to verbally complete a questionnaire of twenty five questions. The outcome of this costly and time consuming effort was that the embryo airline was able to predict a total of 21,000 passengers in its first year of operation on the Luton - Amsterdam route and that there was sufficient potential to warrant application for licenses to Paris, Frankfurt and Brussels. Although market research would seem to be a logical process prior to any route application London European was informed by other airlines that this really was not the way things were done. Strange how professionalism can breed such naivety and contempt for logic!

I asked LEA's Managing Director, Nigel Harford, if he wasn't being a little too optimistic inaugurating a new service on a new route with a 71 seat Viscount. In the past he had observed that smaller aircraft, in

somewhat cramped commuter configurations, were not readily received by full fare paying passengers, although during the telephone survey it transpired that 80% of those asked did not particularly care about the kind of aircraft they flew in. Of the remaining 20% many mentioned the Viscount by name as their personal preference. High on the list of the prospective passenger's requirements was adequate leg room; the Viscount will indeed accommodate the tallest of people. From an operating point of view the airline was seeking an aircraft that would break even on the Luton - Amsterdam route at a load factor of 50% or less. Initial estimates concluded that the Viscount would require just 14 full fare paying passengers to make the route viable, however, this was based on the expectation that the large majority of traffic would be business oriented which has not in fact been the case: "Eurobudget" and "Latesaver" fares attracting a sizeable proportion of leisure travellers. According to Nigel Harford the service given to economy class passen-

gers has until recently been too good, to the point where Club Class passengers were not getting much more for paying much more. This anomaly has been redressed by reconfiguring the air-



*London European's directors,
seated from left to right:*

*Mike Harwood, John Cumberland
and Richard Shaker.*

Nigel Harford (with viscount tie!)

craft, which effectively reduced the overall seating capacity in favour of Club Class, upgrading the Club Class service and downgrading the economy service, thereby creating a readily identifiable differential. Nigel Harford sees this move as somewhat regrettable but recognises it as necessary if the airline is to attract full fare passengers. Marketing techniques were revised accordingly during the summer months with emphasis placed on promoting Club Class. If all goes according to plan and the airline achieves the passenger mix that it envisages a break even load factor of around 40% should be realized.

On board service is only part of the overall that London European has to offer its customers. On arrival at

Luton the airline provides a free bus service to the Sherlock Holmes Hotel in London's Baker Street. A similar connection is available for the outbound flight. Passengers using private car to Luton Airport are able to avail themselves of a convenient parking arrangement placed at their disposal by the airline. Cars may be parked in the short term parking lot, located right outside the terminal, at the long term rate and for an unlimited period. Business travellers intending to stay at Amsterdam's American Hotel may make their room reservations through LEA's reservation department. On arrival at Schiphol the hotel's limousine driver



will meet the passenger, convey his baggage to the hotel and complete the check-in formalities, thereby leaving the passenger free to conduct his business elsewhere in the knowledge that his baggage will be waiting in his room on arrival at the hotel later in the day. Alternatively, he may wish to take the limo directly to the hotel.

Nigel Harford's aviation career began in 1968 when he became involved in general aviation sales and charters. In 1978 he became a director of Euroflite. Four years later he was appointed managing director of that company, succeeding his present partner, Mike Harwood, charged with the task of selling the airline, an act he accom-

plished in July 1983 when the McAlpine organization took control. From then on Nigel Harford and Mike Harwood worked together on the LEA project and the two now own 40% of the company. Both the major shareholders exude a hint of



pride when revealing that London European Airways is the sole airline only operation to be quoted on the London Stock Exchange. The remaining 60% of the stock is distributed among holders in The Netherlands, Germany, Belgium and Switzerland.

The Euroflite saga finally turned full circle in 1985. As a result of the more liberal aviation policy prevailing in the UK in recent times Euroflite was also licensed to serve the Luton - Amsterdam route in competition with LEA. LEA's directors were not unduly perturbed by this challenge being of the opinion that their own product would quite easily overshadow

Euroflite's Jetstream operation. It was at this time that McAlpine's opted to put Euroflite up for sale the consequences of which LEA was not slow to foresee. Bids from eight other prospective buyers convinced LEA's directors of the possible severity of competition on their one and only route should Euroflite be acquired by one of the more established companies. In Nigel Harford's words "we felt we had to acquire Euroflite in self-defence". The LEA bid was successful and moves were immediately set in hand to prune the unprofitable sectors from the Euroflite network leaving the airline with a twice daily Luton - Brussels service in addition to the Amsterdam route. LEA's second Viscount is due for delivery in November of this year and it is hoped that extensive marketing of the Brussels service will enable the route to be upgraded to that aircraft from the presently leased Jetstream.

London European Airways has spent considerable time, effort and money in an attempt to provide its passengers, both business and leisure, with a complete package. The object of this is twofold. By encouraging passengers to utilize Luton International Airport they are encouraging them to fly London European Airways - and vice versa. LEA have proved that Luton is a practical alternative to London's other airports, and if their marketing efforts can convince the prospective passenger they've cracked it. We wish them luck, they deserve it.



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