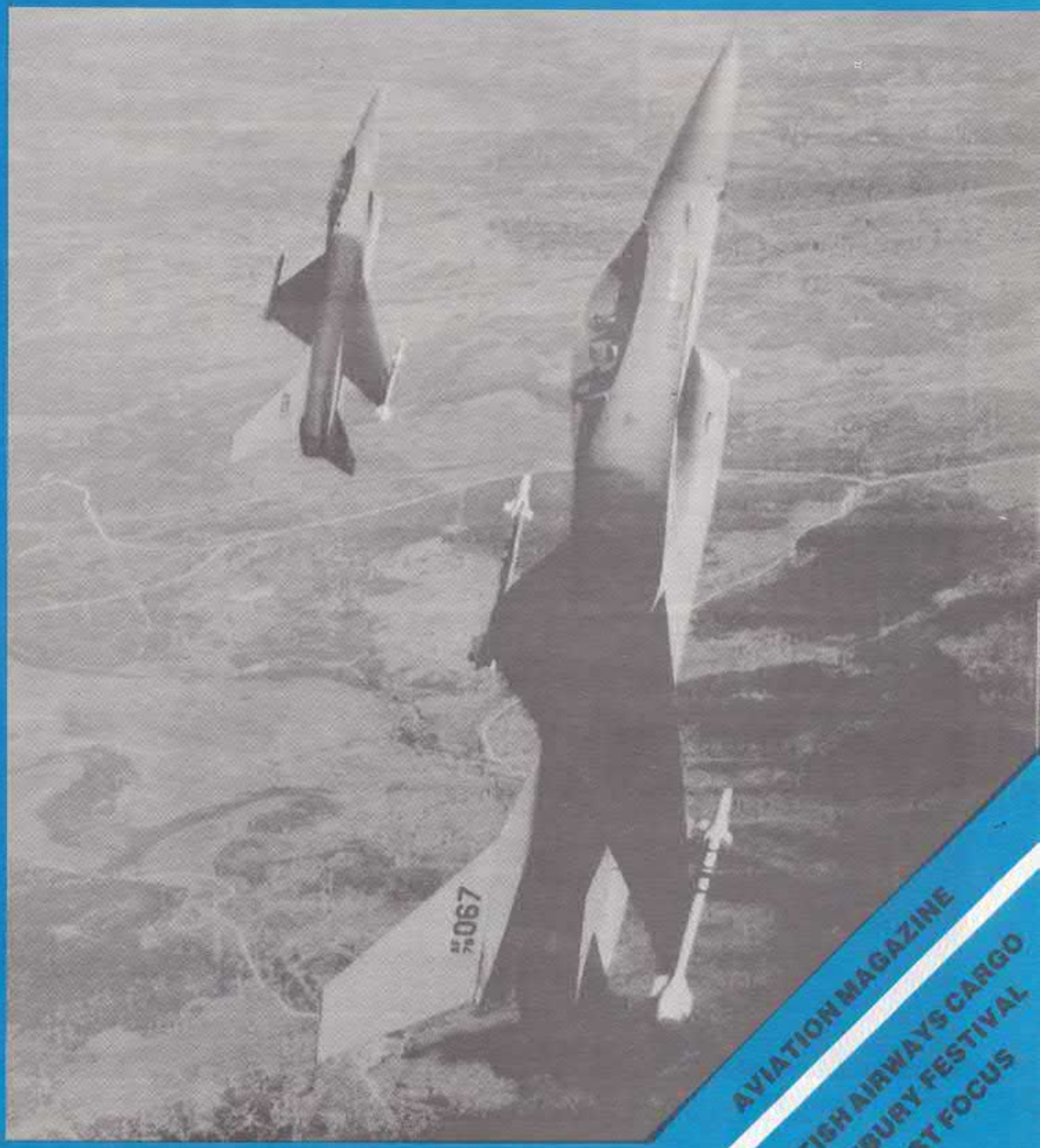
JUNE 1980

FLASH



AVIATION MAGAZINE

BRITISH AIRWAYS CARGO

NEWBURY FESTIVAL

BEST FOCUS

DUTCH NF-5s ON EXCHANGE IN PORTUGAL

Photo's by Bram de Ridder, Oct1979

COVER PHOTO: F-16A 78-067 during a test-flight from Forth Worth.(GD)

FLASH

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EDITORIAL

INTRODUCTION OF NEW TECHNOLOGY AIRCRAFT

Introduction of new aircraft within an air force creates new problems. New aircraft are, normally speaking, ordered to replace old ones and increase the capabilities of the air force by introducing new technology. Documentations for maintenance crews have to be changed, operation procedures change according to the new aircraft/s capabilities, the training syllabus for pilots changes to familiarize the future pilots with the new instruments. Nothing more than routine procedures every air force has to go through every fifteen years when it takes new aircraft on strength. The extend of problems attendant upon this introduction depends on the level of new technology included in the new aircraft.

Once an aircraft has entered service and is being used operational, the structural problems, unforseen by designers start to appear. A very illustrative example is the F-111 'swing-wing'. When it was introduced it was an aircraft far ahead in technology but also a complex aircraft. The latter made it a nightmare to maintenance crews. Today the USAF's F-111Ds cannot stay in the air more than 12 minutes before something goes wrong and the aircraft services its prupose for 39.4% of its life. Although this is relatively low, the real problem is the average amount of 98.4 men-hours needed to fix malfunctions. The complexity of the aircraft requires cannibalization everytime of a malfunction.
Designers of the new aircraft entering service today, anticipated this problem. Retaining the complexity the F-15 Eagle, F-16 and Tornado are very accessible. The engines can be removed in no time while the avionic systems have been built up in black boxes. Once a malfunction occures, the board computer indicates the malfunction and the maintenance crew can easily replace the indicated black box by another.
Of the three types mentioned, only the F-15 Eagle has a service record long enough to produce a picture about structural problems. Initial problems as the P&W F.100 engine and lack of spare parts have been solved but the specialist repair workshops still do not function properly. The maintenance crew assigned to an F-15 sends the removed blackbox with a malfunction to a specialist repair workshop. However, the test equipment in these centres is out of order many times and often cannot detect the reported fault at all.
Although the use of black boxes in operational service has only a short record, it can carefully be concluded that this innovation met its goal and increaseed the operational readiness of the aircraft. However, the problem now lies in workshops but this is likely to be a matter of proper attention and time to be solved as well.

A more serious problem is encountered in the operational service of these new technology aircraft. When the F-15 Eagle was introduced it was the first fighter aircraft to enter service with a 1.4:1 thrust/weight combat ratio. Using this enormous thrust power immediately implies an increase of forces working on the body of the pilot.
For operational service the F-15 Eagle has been adjusted to a maximum of +7G. This figure is rather unimpressive as the F-104 could also fly at +7G. However, the difference lies in the fact that the enormous thrust of the F-15 allows the aircraft to sustain at +7G, whereas the F-104 can only instantaneously fly at +7G.
Were the problems resulting from these high-G forces minor for F-15 drivers, the +9G forces of the P-16 is becoming a serious problem. The main problem being the greyout (dimming of vision), or blackout (loss of vision) or even complete loss of consciousness due to the high-G forces. Loss of consciousness is not a new feature for fighter pilots. Over the years, however, most were due to pressu rization or oxygen system failures. Loss of consciousness due to high-G forces is a rather new feature. Studies on this subject date back to 1947 but with the introduction of the F-16 into service the problem has become topic. A

continue at page 4.

MILITARY AVIATION NEWS

FROM A FACILE PEN

JAGUAR COLLISION OVER BRUGGEN
Overflying RAF Bruggen and entering the short final pattern, two Jaguars of No.17 squadron collided on May 28. One aircraft crashed with in the boundaries of the air base while the other crashed just outside the airbase. One pilot was killed while the other ejected safely.

OPEN DAY CANCELLED
The open day at RAF Upper Heyford, U.K., has been cancelled. Originally the 20th TFW intended to celebrate its golden anniversary on August 16. Construction projects currently underway on the flight-line have been delayed and it was decided to cancell the event. The base hopes to be able to hold a NATO open day in 1981.

LOW-LEVEL FLYING IN CANADA
From July till October, Luftwaffe Phantoms will deploy to CFB Goose Bay, Canada. The Phantoms will practise low-level flying missions in the special areas around this Canadian air force base. In the long-term it might be decided by the Luftwaffe to use this base for low-level training of Tornado pilots.

NORWEGIAN F-16s
By early June, Fokker had completed the assembly of 3 F-16As and 2 F-16Bs for the Norwegian Air Force. F-16Bs 301 & 302 had been delivered as well as F-16As 272, 273 & 274. F-16A 275 had made its first flight on May 27th.

PROUD PHANTOM
Twelve F-4E Phantoms of 347TFW, Moody AFB, deployed to Cairo West, Egypt during July. During this deployment the F-4s will fly dissimilar air combat manoeuvres against the Egyptian MIG-21s. 'It should be more realistic than Red Flag' said Brig.Gen.J.T.Chain, AF director of operations and readiness.

FRANCE

• Aerospatiale installed a flexible host-type boom and a receiving probe on a Transall C-160F. The manufactures wanted to study the use of these systems for inflight refuelling operations. First real inflight testing will take place between May and October next year on the first two aircraft of the new batch of 25 C-160s.
Of these 25 new Transalls about half will be refuelable inflight while the other half is expected to be able to operate as tankers as well. These aircraft will become part of France's Strategic air force together with other Transalls presently on strength and which will be modified. The new production-line at Toulouse for Transall will also include three C-160s for Indonesia.

HOLLAND

• One week prior the official start of the MOT&E programme, four F-16s flew in at Leeuwarden from Hill AFB, U.S. On June 17, F-16As J-212, J-213, HL78-039 and F-16B HL78-099 arrived at Leeuwarden at 21.00 hrs, ending an 7,700km flight which was flown over the icecap. Pilots who set for nine hours in these aircraft were the Commander of MOT&E Col.G.Lewis, Maj.S.Hjort/Danish AF, Col.O.S. Rasmussen/Norwegian AF, Capt.H.Kuijper/Dutch AF and Capt.F.T.Case/USAF. More details on MOT&E on page 18 & 19 of this issue.

At Soesterberg, Holland, ex French AF T-33A 1611 arrived recently. The fate of this aircraft is not yet known. Although it is expected to be used as an Aircraft Battle Damage Repair (ABDR) training aid, it has also been reported to be taken apart for spare parts for the Klu T-33A in the air force museum. (F.E.Dölz)

continueing from page 4.

few remarkable results of a more recent study were published in Aviation, Space, and Environmental Medicine, January 1979:
- The threshold for onset of greyout, blackout and LOC depends on the rate of onset of +G, duration, experienceness of pilot, heart rate, blood pressure.
- Loss of consiousness can occur very suddenly, and even experienced pilots are sometimes unable to recognize either its onset or overall occurrance.
- Loss of consiousness induced by +G stress induces an average incapacition of 15 seconds.

Some pilots might have a natural high-G tolerance or perform a good protective straining manoeuvre (straining of mussles in combination of certain breathing techniques) but during Air Combat Manoeuvres (ACM) it can be expected more LOCs will take place. Therefore F-16 pilots shall have to be in good condition and posses well-developed mussles to perform the severly fatigueing straining manoeuvres. F-16 pilots shall also have to be familiar with their own specific G-tolerance limits and protective straining ability.
Subsequently it has been decided for all F-16s pilots to undergo G-training under the controlled conditions of a centrifuge. The high-G training programme will serve to achieve greater pilot awareness of limiting symptons of rapid onset and sustained high-G, including possible unconsiousness with probable complete loss of control of aircraft for a minimum of 15 seconds. Jac van Tuyn

N.B. Due to the summer-vacations, the July- and August-issues will be combined into one issue. As usual it will appear around mid-August. Ed.

A rare visitor at Antwerpen Airport, Belgium, this C-47D Dakota of the Aeronavale. (Ben Ulinga/API)

• The Ministry of Defence announced the purchase of two Fokker F.27M Maritimes to be stationed on the Dutch Antilles in the Carribean Sea. Both aircraft will replace the three MLD Neptunes which are on permanent detachment at Hato. Delivery has been scheduled for September 1981 and February 1982.
Although the MLD has ordered Orions to replace their Neptunes, there were numerous reasons to order the F.27Ms. The advanced avionic systems aboard Orions and Atlantics would require an extensive expansion of ground facilities at Hato, whereas the aircrew would only incidentically been able to use the systems due to less military naval activities in the Carribean Sea. On the other hand the F.27M Maritime can be used for additional operations as well i.e. transport of persons.
The mission requirements for the F.27Ms, apart from the military defence rôles, include:
- Searching for survivals during rescue operations
- Tracing of oil-dumping at sea.
- Patrolling on sea-smuggles (i.e. drugs)
- Patrolling on unidentified vessels
- Guarding and protecting of installations at sea
- Scientific sea- and fishery research
- Transport of persons (i.e. evacuation or police in case of calamities)

• Agreed upon by NATO, the Klu decided to repel their air defence rôle within NATO when replacing the F-104G Starfighter by the F-16. The only air defence squadron presently operational within the Klu is 323sqn. On August 1, however, this squadron will also become non-operational to convert from the F-104G to the F-16. Six F-104s will remain at Leeuwarden in service as target-tugs. On May 1, 1981, 322sqn will be the first to become operational on the F-16, followed by 323sqn on April 1st, 1982.
Meanwhile the Dutch air force would have been completely without air defence capabilities. Subsequently tests are conducted by NF-5A K-3001 carrying AIM-9 Sidewinders. Once the equipment of NF-5s with Sidewinders is proven to be possible for operational use, 315sqn at Twenthe will guard Dutch airspace till the air defence capabilities of the F-16 become available in 1981.
Early June, 11 F-16As and 5 F-16Bs had been delivered by Fokker to the Klu.

SWITZERLAND

• This summer a part of the new motorway No.9 from Luzern to the Gotthard pass, will officially be opened. In May, the Flugwaffe turned a 1300mtr straight track of this motorway, just in between two bends, into an airfield. Helicopters flew in anti-aircraft artillery, a high-tension pylon was

PORTES OUVERTES AT AVORD, FRANCE

AVORD, France. Situated 10kms east of Bourges, Central France, this air force base opened its gates for the public on May 15th. Based at Avord are MD.312 Flamants of Groupement Ecole 319 for twin-engined conversion training of all air force pilots.

STATIC:		FLIGHT LINE:	
OG/312735	C-135F	67-IB/Z020	Alouette 3
TC/101	CAP.10B	7-PK/A5	Jaguar A
BY/52	Mirage IVA	314-TI/E42	Alpha Jet
DD/250	Mirage IIIB	12-YO/44	Mirage F1C
319-DZ/196	MD.312	FLYING DISPLAY:	
319-DE/148	MD.312	63-WU/175	N.2501
319-CM/146	MD.312 (monument)	64-KE/205	N.2501
		CI/12737	C-135F
12-YF/48	Mirage F1C	CH/61	Mirage IVA
16764	T-33A	BD/31	Mirage IVA
312-BP/90	N.2501	319-CA/218	MD.312

Report by P.Bigel and photos by P.Peulmeule.

turned into a control tower, the guard-rails of the motorway had been removed to allow Hunter operations and markings were painted on the asphalt for taxying manoeuvres.
For familiarization the Hunter pilots first made a few overshoots prior arrival. At both sidesof the track, high-tension cables required the pilot's to be cautious. The exercise called for 36 landings with full ground servicing, checking of the aircraft and take off again.

• In a test programme the Swiss Flugwaffe evaluated two helicopters during the last week of March. The Flugwaffe considers the purchase of 15 helicopters to equip one staffel to provide extended air transport to the Alpenkorps. The final evaluation took place between a Sikorsky Black Hawk and an Aerospatiale Super Puma on the mountain Jüngfraujoch.
Air force pilots Jean Brunner and Fred Brennwald flew both machines at five different altitudes: 400, 1000, 2000, 2800 and 3400 mtrs. Simulating the weight of 17 fully-equiped soldiers, 2 tonnes of equipment was attached to the helicopter's belly throughout the test programme.
The Black Hawk was not equipped with skis and a scouting unit had to position three planks on all landing sites to prevent the aircraft's undercarriage to disappear in the snow. Sometimes the pilot had to hover for 15 minutes to get the undercarriage on the planks. Due to whirling of the snow the pilot's view often reduced to nihil and was subsequently unable to see the directions given by the groundcrews.

UNITED KINGDOM

• Mid-May the test-rig at British Aerospace's Warton factory was 'switched on' starting a nine month programme of strenuous fatigue tests on an ex-RAF Lightning Mk.6 Batteries of computer-controlled rams will flex and tear the aircraft's wings and structure continuously, night and day, to simulate thousands of hours of further sub- and supersonic flying.
When the Lightning came into service in 1962, it was envisaged to be used against high altitude targets. Today's operational need is for the increased flying of the more demanding low-level intercepting sorties because this is considered to be the most successful tactic for future aerial attacks.
Since the RAF wishes to prolong the in-service life of the Lightning and to extend the training and operational rôle of its two existing Lightning squadrons, BAe was contracted to test the aircraft's fitness for this additional operational service and under even more strenuous conditions then originally envisaged.
The fatigue testing wears and tears the airframe until signs of approaching acceptable local failures appear. Repairs or replacement actions will be taken and the testing will continue its progressive stages.

The first Westland Puma (ZA934) of a new batch of eight, was recently handed over to the RAF. Note the new multi-purpose air intakes. (Westland)

Joined pilot training

SHEPPARD AFB, U.S. For the first time in its history, NATO is going to train its fighter pilots on the same place, in the same programme. All this will take place at Sheppard AFB, Texas, from October 1981 onwards.

First course at Sheppard AFB in October

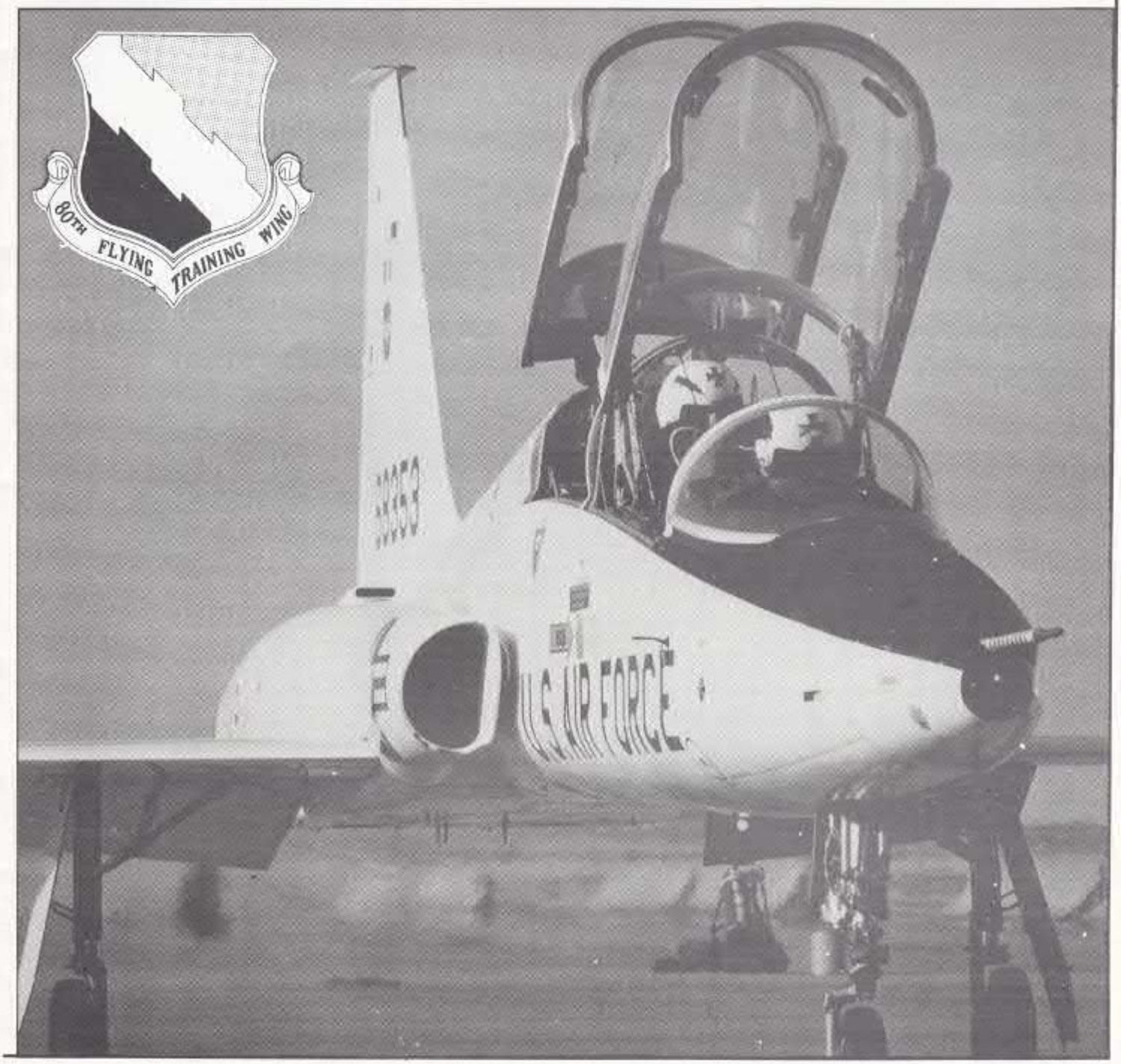
This huge ATC technical training center is situated near Wichita Falls, some 150 mls. north of the Dallas-Forth Worth area and provides a working place to some 17,000 men and women.
At the moment both the German Luftwaffe and Marine as well as the Royal Netherlands air force have their future jetfighter pilots trained at Sheppard. During 14 years, over 1,000 Germans have received their wings and last May the first 10 Dutch pilots completed the programme successfully.
The programme is conducted according to a syllabus based on the USAF's Undergraduate Pilot Training (UPT) but largely adapted to the needs of the Germans. This is because graduates from American UPT get assignments ranging from UH-1 and B-52, to T-37 and F-16, whereas graduates from the GAF programme are assigned to fighter aircraft only.

The programme is very basic during the T-37 phase and doesn't get started with the specific jet-fighter items until the T-38 phase (140hrs).
Here, emphasis is laid on tactical two- and four ship formation flying (60hrs) including some high speed low-level navigation rides at 360/420 kts. 500ft. Another important part of the hours is flown 'under the bag', practising instrument penetrations and approaches, including many GCAs.

This Euro-NATO Joint Jet Pilot Training (ENJJPT) will be taking care of UPT and PIT (Pilot Instructor Training) which will involve 320 and 110 people resp. every year. Countries participating in this adventure are: Belgium, Canada, Denmark, Germany, Greece, Italy, the Netherlands, Norway, Portugal, Turkey, the U.K., and the U.S.A.
Although there is some unused space available at Sheppard, since the departure of the Iranian students, the 80th FTD still will have to grow quite a bit to handle the ENJJPT programme. A nice example of this is the number of usable aircraft: presently the wing has some 40 T-37s and 32 T-38s. This will become 101 and 103 in a year's time. However, a real problem will be the airspace necessary to fly so many aircraft.
So far the experiences with Dutch and Germans in one classroom are very good. Bringing together so many nationalities, however, in such large numbers might cause some unforseen problems.

• The grounding of the RAF Buccaneers is expected to be raised any moment now. All Buccaneers have been inspected and signs of metal fatigue was discovered in the wing spars of about 40 aircraft. 'The situation is not as grave as we initially believed', said the Minister of Defence following a meeting of senior RAF engineers and technical experts from the Royal Aircraft Establishment. The RAE is in the final stage of a test programme carried out on two Buccaneers, one of them airborne and the other on a rig.
Most of the Buccaneers had been found to be free of any fatigue or had such minor cracks that they could be repaired easily. Once the RAF has assessed the results of the test programme, these a/c will be cleared for flying soon. The other aircraft in which severe cracks were discovered have to undergo more extensive repairs.

for all NATO air forces



At Laarbruch pilots of No.15 & 16 squadrons try to maintain some flying hours by flying Hunter trai - ners. For this purpose up to seven Hunter T.7s of 4FTS are operated out of Laarbruch regularly.

• Four Greek A-7H Corsair IIs arrived at RAF Coltishall for a squadron-exchange on June 17. The aircraft flew from Soudha Bay to the U.K. via Grossetto, Italy.
Flying in the opposite direction were four Jaguar GR.1s of No.54sqn. The RAF aircraft flew via Nice, France. During the fuelstop at Nice, one Jaguar suffered a blown tire and had to stay behind to rejoin the others later on.
The missions flown from Coltishall mainly consisted of tactical formation flying of 2 A-7Hs and 1 Jaguar at 500ft AGL. Also a visit of two A-7Hs to Soesterberg, Holland was part of the exchange.

• An RAF Hercules left the U.K. for the frozen wastes of the Canadian Arctic on a routine training flight on May 20. Aboard was a tri-service expedition team that would spend three months surveying the flora and fauna of Allesmore Island. In addition the ten servicemen and two civilian scientists would gather meteorological data and note any traces of early Eskimo settlement in the area.
En route for Thule Air Base, Greenland, the Hercules - of No.47 squadron - landed at Resolute Bay on Cornwallis Island to drop off the 12 men expedition team. Upon arrival the team transferred to a chartered Twin Otter light aircraft for the 450 mile flight to their main base at Princess Marie Bay, some 600 miles south of the pole.
After the Hercules had finished its task at Thule, it returned on May 22 to the camp area to air-drop vital bulk stores and fuel to the expedition.

Royal Danish navy Lynx S-142/G-BHHL & S-134/G-BHHM prior to delivery. (Westland Helicopters)

• The first Lynx for the Royal Danish Navy G-BHHM/S-134 was delivered aboard HDMS Hvidbjoernen. This Danish fishery protection vessel had moored in the Thames near Tower Bridge to take delivery of the Lynx on May 15th. In total the Danish Navy will receive 8 Lynx helicopters which will principally operate from the Nvidbjoernen and its sister ship for coastal surveillance and fishery protection duties in Greenland, the Faroes and the North Sea. With a helicopter deck of only 25ft and 43ft, and a displacement of 1,600 tons, the Danish vessels are the smallest for which Lynx has so far been ordered.
Westland Helicopters announced the total sales of Lynx recently to have increased by 32 to 283. Ten will go to the Royal Navy, 14 to the French Navy and a further eight to an un-named South American customer. Deliveries will be made over the next three years.
Also news from the Puma helicopters. On May 23rd, Puma ZA934 was handed over to the RAF,, being the first out of an additional Puma order for eight helicopters. The new helicopters differ from the original RAF Pumas in two major modifications. First are the new rotor blades of composite which increase the aircraft's lift capacity by 600kg to 7000kg. The second major difference is the addition of new multi-purpose air intakes, which controlled by the pilot,can prevent ice getting into the engines, operate as sand filters or straight through intakes.

• At British Aerospace's Samlesbury airfield, the last of 23 Fuerza Aerea Venezolana Canberras was handed over to Col.Emilio Hung, head of the FAV technical team. This ended BAe's contract to refurbish all Venezuelan Canberras.
The contract for overhaul was placed in 1974 and a BAe working party went to Venezuela to assist with dismantling of the Canberras. Wings were transported to the U.K. in huge Super Guppy freighters. While the fuselages were carried in C-130 Hercules. The first batch (G-27-254/265) involved B.82 1131, 1183, 1339, 1364, 1511, 2001, 1529, PR.83 2314, T.84 0621 and B(I)88 0240, 0269, 0426. Of this batch B.82 1183 was the first to return to Esc.39 at El Liberatodor, Venezuela in July 1977. Redeliveries took place via Lajes, Azores and latest throughout 1978.
In 1979 the second batch (G-27-301/311) was delivered to Salmesbury and involved B.82 1233, 6315, 6409, 1425, 3246, B(I)82 1280, 1437, T.84 0619 and B(I)88 0129, 0453. On June 11, the last overhaul was completed.
All Venezuelan Canberras were stripped for inspection, renovated in detail on the re-built and fitted with up-dated radio, navigation and weapons equipment, during the course of the two years overhaul.

UNITED STATES of AMERICA

• Problems in the fuel system of KC-10 90433 has delayed the aircraft's maiden flight which had been scheduled for April. If problems can be solved, McDonnell/Douglas hoped to make the first flight about the time this is written. The flight will start from Long Beach Municipal Airport and the landing at MCAS Yuma. For a six month period an Qualification Operational Test & Evaluation team will test the aircraft operating from this Marine Corps Air Station. At the end of the year the aircraft will be delivered to the USAF at Barksdale AFB. Follow-on testing at this Air Force Base will focus on the aircraft's operational effectiveness both in aerial refuelling and cargo missions.

• On June 13th, the first F-15C Eagles arrived at Soesterberg on delivery for 32TFS (CR78-546, 78-547, 78-548, 78-574 and 79-015). The F-15C Eagles will replace the current operational F-15A models. Some of the latter were flying around without the CR-code prior their return to the U.S. Such a return involved F-15A 77-081, 77-082, 77-085 77-086, 78-091 and 77-095 which flew to Eglin AFB on May 23.
The external difference between the A- and C-models is hardly visible as only the wing root of the C-model is thicker. In September the difference will become more apparent when the F-15A Eagles start operations with Fast Packs. Containing fuel, avionics or armaments, these Fast Packs are containers attached to the fuselage and wing root.
Air Force Chief if Staff Gen.Lew Allen announced the selection of 32nd TFS to be winner of the 27th

Hughes Trophy. After evaluation of operational performance, readiness capabilities and significant achievements, the Hughes Achievement Award for 1979 went to a F-15 squadron for the first time for outstanding air defence performances. The smooth conversion by 32nd TFS to the F-15 Eagle was instrumental in the selection.
Not since 1966 has the Hughes Trophy been awarded to an U.S.Air Force squadron in Europe. At that time, the 32nd Fighter Interceptor Squadron flying Convair F-102 Delta Daggers from Camp New Amsterdam was the recipient.

• The use of Forward Operating Base (FOB) by B-52Ds has been started up this year. Three B-52Ds of 22BW operated out of Marham during early May (see FLASH Nr.116/p.6). Missions flown during this deployment included dropping dummy mines to block the harbour at Charlestone, South Carolina, and patrols along the German border as target for SAM missile sites.
The following deployment took three B-52Ds of 7th BW from Carswell to RAF Fairford. These aircraft flew high-altitude operational training missions over Europe and supported AAFCE's exercise Cloudy Chorus.
From July 15 till 18, another three Stratofortresses from the 96th BMW, Dyess AFB, will operate out of RAF Upper Heyford. In addition to flying high altitude training missions over Europe, they will support the United Kingdom's air defence exercise 'Priority'.
Finally three B-52Ds from the 22BW, March AFB, will operate from RAF Brzie Norton from August 25 till 29, flying similar high altitude missions.

• On April 29, F-111E UH68-057 crashed near Wareham, Dorset. On a low-level training flight, the leading aircraft of the two-ship, lost contact with its wingman. Eyewitnesses reported to have seen an explosion aboard the aircraft prior the crash. Both crewmembers were killed on impact. This crash was the fourth one within seven mmonths to involve an F-111 of 20TFW: 30.10.79 UH68-012, 12.12.79 UH68-045 and 19.12.79 UH68-003.
During an emergency landing at Sembach on March 24, an F-4 Phantom of 52TFW crashed, killing both crewmembers. One mile prior touch-down the aircraft was reportedly to have exploded and ended up on the ground up side down.

WEST GERMANY

• In April MBB Hamburg delivered HFB-320 16-25 to the Luftwaffe. This aircraft is the first of a batch of four new HFB-320s ordered by the Luftwaffe in late 1977 for operational ECM-training purposes. Last year the aircraft had made its first flight at Hamburg and was flown to Rome, Italy, for the installation of the ECM equipment. All four aircraft are to be delivered per every other three months.
The order for this 2nd additional batch of HFB-320s was made because of the satisfying operations with the new HFB-320s used for ECM training which had been delivered in 1976. Totally the Luftwaffe will operate 15 HFB-320s: 6 for VIP transport, 2 for experimental purposes, 8 for ECM training (and one minus due a w/o).

• The German subsidary of VFW, Rheine Flugzeugbau recently ordered four IAI Westwinds. Delivery of the first aircraft is expected to take place in early 1981. All will be operated by RFB as target-towing aircraft on behalf of the Marine. The targets will be radar-reflecting and primarily used for anti-aircraft training.

• An RF-4E Phantom of AXG-52 crashed into the Fjörlandsfjord in Western Norway on March 26. The accident was a classical one to occur in Norway as the aircraft hit a high-tension cable. Both pilots ejected safely and were recovered from the water in 15 minutes.
Damage to the cable cut off electricity of many houses in the area for two weeks. The local farmers had to use generators to milk their cows electrically.

From 2 till 12 June Jadgbombergeschwader 35 at Pferdsfeld had a squadron-exchange with the Norwegian 338Skv. Four F-5As & two F-5Bs were guests of No.1 staffel, wenn at the same time four F-4 Phantoms were guests at Orland in Norway.(Gerd Lammers)

Seventeen air force units participated in TAM

Tactical Air Meet 80 at Ramstein from June 20 till July 2

FLASH
SPECIAL REPORT

RAMSTEIN, West Germany. Divided over three U.S. air bases in W.Germany, Allied Air Forces Central Europe (AAFCE) sponsored its 1980 Tactical Air Meet. Bitburg hosted all air defence fighters involved in TAM80. Zweibrücken hosted the reconnaissance fighters and Ramstein hosted the attack fighters. Totally 17 NATO air force units participated in TAM80 which was central directed from Ramstein from June 20 till July 2.

Red Arrows display first flying activity at TAM

In the afternoon of Friday June 20, all participating team-members in TAM80 had gathered at Ramstein to attend the official opening ceremony. During the following two weeks the pilots of these teams flew missions in a tactics phase and a competition phase. The tactics phase encoperated offensive air support, air interdiction and offensive counter air. For this purpose two base attacks had been planned at Söllingen & Laarbruch. The competitive phase features weapon delivery, navigation, reconnaissance, and operational turnarounds. The latter is a new element in TAM and mainly depends on efficiency of the ground crew to prepare a returning aircraft for another mission consisting of reloading the aircraft with its various required weapons as well as servicing including fuel.

Belgian air force introduced F-16 at TAM

The most remarkable team to participate in the second TAM was the Belgian team of 1Wing introducing the F-16. Despite the short period this aircraft type is in service, it operated alongside the F-15 Eagles of 36TFW and for the first time, the F-16 & F-15 teamed-up to participate in a highly realistic air force exercise over Central Europe. Another introduction in the TAM was the A-10A Warthog of 81TFW which operated from their Forward Operation Location at Sembach.

Although France is not a full member of NATO, AAFCE had invited two French air force teams to participate in TAM80. The invitation was accepted and the Armee de l'Air send a team of EC.13 from Colmar and ER.33 from Strasbourgh, both operating Mirages.

So far the initial 'Special Report' on the Tactical Air Meet at Ramstein. In our next combined July/August issue, an in-depth report will be published on this significant air force meeting. □

2 Sqn	Mirage 5BA	Florennes	Belgium A.F.
1 CAG	CF-104	Soellingen	Canadian A.F.
FBW 31	F-104G	Norvenich	German A.F.
FBW 32	F-104G	Lechfeld	German A.F.
31 Sqn	Jaguar	Bruggen	Royal Air Fo.
86 TFW	F-4E	Ramstein	United States
1AWX wing	F-16A	Beauvechain	Belgium A.F.
FW 74 M	F-4F	Neuburg	German A.F.
19 Sqn	Harrier	Wildenrath	Royal Air Fo.
36 TFW	F-15	Bitburg	United States
42 Sqn	Mirage 5BR	Florennes	Belgium A.F.
TRW 51	RF-4E	Bremgarten	German A.F.
306 Sqn	RF-104G	Volkel	Netherl. A.F.
2 Sqn	Jaguar	Laarbruch	Royal Air Fo.
26 TRW	RF-4C	Zweibrueck.	United States
10 TRW	RF-4C	Alconbury	United States

Newbury Air Festival at Greenham Common

A report by Jacob Struben and Barry Bailey-Hickman

GREENHAM COMMON, U.K. An understanding between SBAC and Tattoo Committee only allows the Air Tattoo to be held on alternate years - when Farnborough is not being held. On the other years the Tattoo Committee organise a smaller air show, the last one being held at Bassingbourne in 1978. This year the show was to be held at Bristol Lulsgate, then it was moved to Bristol Filton but ended up at good old Greenham Common. The show in 1978 was concentrated on vintage and civil aircraft, but the 1980 show was different.

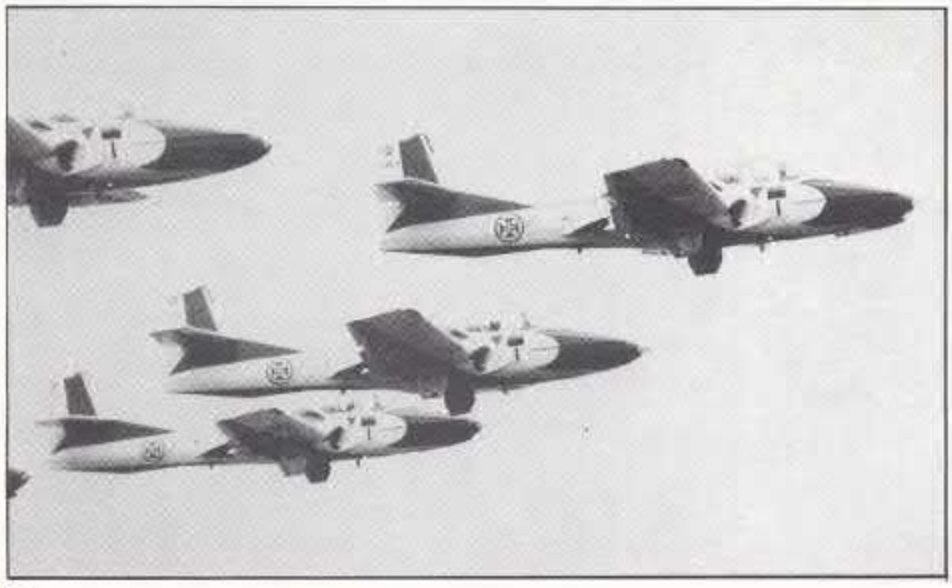
The move to Greenham Common undoubtedly made the show. If it had been held anywhere else it could not have possibly been as good. It was like a 'mini' Air Tattoo, but as usual it was well attended by both the public and participating aircraft. Unfortunately for the Committee bad weather on the first day meant fewer people visited the show than expected. The second day was much better and those people who did go had a great day out and saw a brilliant show on this Sunday .

There were over 80 aircraft in the static display alone and another 70 participating in the flying display. Seven military display teams made up the bulk of the flying, and it was good to see the 1CAG Starfighters, Karo As and Asas de Portugal back in the U.K. again. The Red Arrows were still flying with only 8 aircraft, after the loss of XX262 at Brighton.

The Air Festival celebrated the sixieth anniversary of the founding of the De Haviland Aircraft Co. by a De Haviland Meet, featuring twelve De Haviland types ranging from the DH.51 of the Twenties to the DH.125 (produced as the HS.125 and Dominie) of today. Also on display were four De Haviland of Canada types, as well as other De Haviland products such as the Goblin jet engine and the revolutionary Gispy light aircraft piston engines.

Undoubtedly the undisputed star of the show was the Norwegian P-3B 'Otto Sverdrup' followed closely by the Norwegian Twin Otter and two 27th TFW F-111Ds from the deployment at Boscombe Down. The Klu F.27 Troopship put on its impressive aerobatic display again, tracing lines all over the sky with smoke from its twin Dart Turboprops.

A superb air display which will be very hard to better in 1980. Roll on 1981, so that we can have another Air Tattoo

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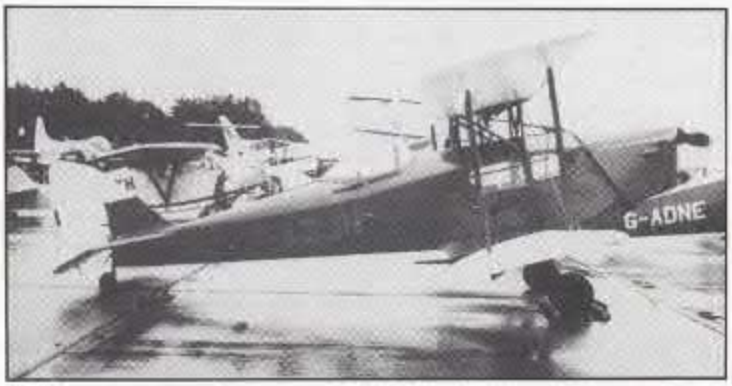


DE HAVILAND MEET

DE HAVILAND DH.85 LEOPARD MOTH G-APKH is a high-wing three-seat cabin monoplane of which 132 were built between 1934-1937. G-APAM in the background is a Thruxton Jackaroo conversion of the DH.82 Tiger Moth, the most numerous De Havilland type. More than 8,000 examples were built of this type between 1931 and 1945, the majority during the second World War when the type was the standard primary trainer with the British Air arms, allied air arms and USAAF, The Jackaroo conversion is a four-seater with an enclosed cockpit.

DE HAVILAND DH.83 FOX MOTH was represented by G-AOJH, a DH.83C which is the post-war Canadian version, built by De Haviland of Canada from DH.82C Tiger Moth components. The type has a nowadays rarely seen layout of the cockpit behind the passenger cabin.

DE HAVILAND DH.87B HORNET was represented by two examples including G-ADNE. 165 of these two-seat side-by-side cabine biplanes were built between 1934 and 1938. Many of these spent the WWII in military service, as did most light aircraft flying in Britain and the Commonwealth when war broke out.

DE HAVILAND DH.51 G-EBIR was the oldest type being the only airworthy example in existance The DH.51 was much larger and heavier aircraft than the first truly succesful light aircraft designed by Sir Goeffrey de Haviland, the DH.60 Moth, which unfortunately wasn't represented at the show.

DE HAVILAND DH.89A DRAGON RAPIDE G-AGSH and DH.106 COMET Mk.4 XV814 were parked side-by side, showing two transport types from different stages of the airliner's history.

DE HAVILAND DH.85 LEOPARD MOTH G-APKH is a high-wing three-seat cabin monoplane of which 132 were built between 1934 - 1937. G-APAM in the background is a Thruxton

DE HAVILAND DH.98 MOSQUITO is likely to be the most famous type and was represented by British Aerospace's Mosquito T.3 G-ASKH (painted as RR299/HT-E) here seen taking off during the air show.

Reconnaissance fighters focused at Eggebek

NATO exercise Best Focus from May 30 till June 6

A report by Gerd Lammers and Georg Büning

EGGEBEK, West Germany. On Friday June 6, Allied Forces North's biannual tactical air reconnaissance exercise BEST FOCUS came at an end. For three days air force reconnaissance elements of five nationalities competed against each other in four international teams. In 84 missions, targets had to be detected, photographed and interpreted according to tactical value. For three days the air force elements of NATO's northern flank showed their skills in aerial reconnaissance.

Guest teams included Canadian CRF-5s and US-based RF-4C Phantoms

The first participants to arrive at Eggebek was the Canadian team with four CRF-5s in the week prior to the meet. Also arriving one week earlier to Best Focus were two RAF Canberra PR.9s. Assigned to the Directing Staff of the competition, both latter aircraft operated from Eggebek to assist in the selection of some 100 targets which were set out within a range of 250 n.mls around Eggebek.
Using the Canberra's long flight endurance, low minimum speed, the aircraft supplied the Directing Staff with many photos of the targets from all possible angles.
Except from the Canadian team, all other arrived at Eggebek on Friday May 30th. The Canadian CRF-5s had arrived earlier to familiarize in the area and in particular with recce missions over sea. Like the American team, the Canadians used Best Focus to practise in deployment operations in connection with their European commitments. The CRF-5s came from CFB Cold Lake and flew to Germany via Goose Bay. The USAF had selected 187TRG of the Alabama ANG to represent the U.S. at the Best Focus. Eight RF-4C Phantoms flew directly from Montgomery to Eggebek requiring seven in-flight refuellings per aircraft. The third guest team was No.41 squadron from RAF Coltishall with Jaguar GR.1s. This unit has war-time commitments to Northern Europe and reinforces the aerial reconnaissance capability on the north flank in case of a conflict.
Participating teams of Allied Forces North were Esk.729 (R.Danish AF), 338Skv (R Norwegian AF), AKG-52 (Luftwaffe). All teams were hosted at Eggebek by MFG-2 which also participated with their RF-104G Starfighters.

Two days for familiarization and three days competition

After a weekend spent on sight-seeing trips in Northern Germany, both the monday and Tuesday were used to familiarize the participants with the rules of the competition. Unfortunately not all training missions could take place as a strong cross-wind

NEC BEST FOCUS 80
NAS EGGEBEK

PARTICIPATING TEAMS

ALLIED FORCE NORTHERN EUROPE

336 skv	RF-5A	Rygge
Esk.729	RF35 Draken	Karup
MFG-2/1	RF-104G	Eggebek
AKG-52/1	RF-4E	Leck

ALLIED FORCE NORTHERN EUROPE

336 skv	RF-5A	R.Nor.AF
Esk.729	RF35 Draken	R.Dan.AF
MFG-2/1	RF-104G	Marine
AKG-52/1	RF-4E	Luftwaf.

GUEST TEAMS :

41 Sqn	Jaguar GR1	R.A.F.
187 TRG	RF-4C	Alab.ANG
434 Sqn	CRF-5A	Cana.AF.

DIRECTING STAFF

39 Sqn	Canberra	R.A.F.

grounded the German RF-104Gs and the Danish Drakens on Monday. On Tuesday, however, the wind broke and excellent weather during the rest of the week provided optimum flying conditions.
On Wednesday the competition really started and 168 take-offs were carried through against 70 land targets and some 20 naval targets. Many of which were opportunity targets, for instance the Warsaw Pact fleet returning from the North Sea. The target area reached from the Southern part of West Germany to the Southern part of Norway including as well the Netherlands and Denmark. Out of the 84 missions flown only one was completely unsuccesful while 15 were carried through with a 100% score.

The structures of the competition phase of Best Focus had been improved succesfully when in 1978 the traditional competition of national teams, changed for a mix and international teams were formed. Not only it provided a better exchange of techniques and procedures amongst the participants but also the difference in the various equipment capabilities was no longer a major set back for teams with less sophisticated aircraft which subsequently always ended up amongst the losing teams.
Just like in 78, this year again four international teams were composed, taking one aircrew from every participating unit. In this way the sophisticated reconnaissance sensor package of a Luftwaffe Phantom made up for the less equipped Norwegian RF-5s, while the well-skilled Marine pilots made up for the less-skilled Canadian pilots in air reconnaissance missions over sea.

About air reconnaissance.....

A Luftwaffe RF-4E Phantom cruises at 800ft AGL and 780 km/h. The course is correct and a railway is reached at three minutes. Next reference object is a motorway entrance at 7 minutes. 10 minutes!?! A little too much to the right - slight correction - back on course. First turning point, second turning point. Seven minutes and the target will appear. The Initial Point is clearly visible. The last course correction and the stop-watch is started. Wood at 10 seconds, roadjunction at 25 seconds, no course correction, railway, camera ready, fingers at the camera controls. Suddenly a scream: 'Bridge in sight'. The cameras are started. What does the target look like? A railway bridge on six piers, concrete, 250mtr. wide, no activities. Cameras are stopped. Remain on original time schedule. Stop-watch switches off. Four minutes to next turning point. The accompanying Norwegian RF-5 watches the manoeuvres closely to report the Directing Staff whether the mission was carried through according to the rules of the meet.
A bridge, a well-camouflaged tank in a wood, a radar site, all kind of land targets to be photographed during Best Focus. Every morning first the two Canberra PR.9s flew out the targets to take photos just prior the participants of the competition would start shooting up their films. The photos made by the Canberras were considered to be 100% and were used to be compared to the photos made by the participants.
To check whether the competition rules were obeyed every mission was accompanied by a chase-plane, acting as judge. Crews from other teams acted as judges flying different types of aircraft from the type to be observed. Subsequently during Best Focus the rarest formations were flown as have been illustrated in this article.
Not only the photos of the targets were important during Best Focus, but also the interpretation of these photos. Within 30 minutes after arrival of the aircraft at Eggebek, the films had to be unloaded, developped, the best shots to be printed, and intellegence personnel had to be able to tell details about the targets. For this purpose seven international Imagery Interpreter Teams had been formed. Every team existed of four persons which used the printing facilities of the seven national squadrons. E.g. four interpreters used the printing facility of No.41 sqn for photos made by Jaguars of No.41 sqn. Within 30 minutes after arrival of the aircraft, a complete report on the mission had to be presented to the Directing Staff.

Naval reconnaissance— a matter of precise navigation

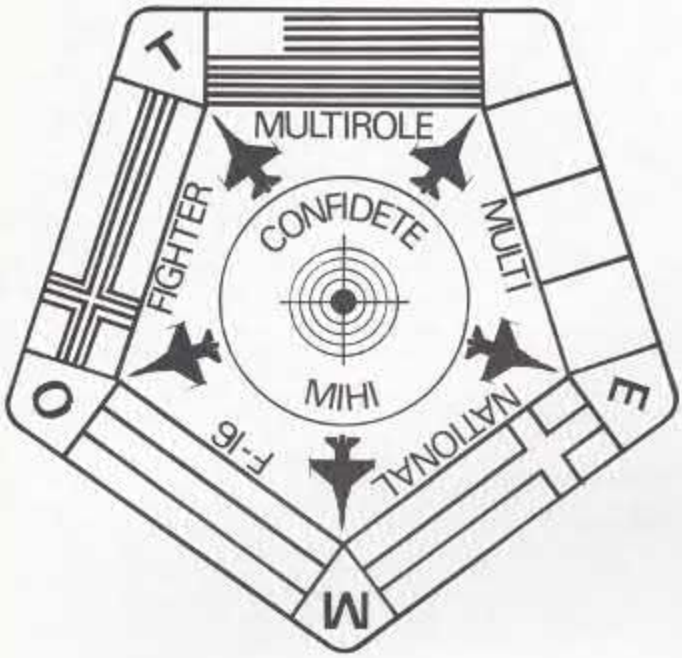
Of the best individual scores CaptLt.Janssen of MFG-2 of Team C reached the highest score of 76%. Also for naval target reconnaissance MFG-2 scored high. Of course to nobody's surprise as the unit played a home game and No.1 Staffel of MFG-2 is specialized on naval reconnaissance. For pilots used to land targets, the navigational part of the mission is extremely difficult. Used to recognition objects as railways, villages, roadjunctions, etc. the pilot fails all these objects over sea which only displays a vast of water. Keeping deadly on course and retaining precisely the calculated speed are essential to reach the co-ordinates were contact was been predicted with the target.
Also noteworthy were the good results of the RF-4C/E Phantoms. Well-equipped with three kind of reconniassance systems: side-looking radar producing a high-definition picture on film of the terrain on each side of the flight-path, infra-red detection to detect heat-generating targets under cover or at night, forward & side-looking cameras including panoramic models with many lens elements for horizon to horizon pictures. Furthermore the double crew is a great advantage. The enormous workload to be coped with when over-flying the target can be shared. The pilot is responsible for keeping the aircraft in the correct position while the observer in the back-seat can control the cameras, and take a good look at the target.

Best Focus 80 ended on Saturday June 7, when CinC AF North Gen.Farrar-Hockley presented the prices to the winning aircrew team B, the winning interpreter team 6 and the Walker Throphy to a Luftwaffe unit which provided the best target.
The next Best Focus competition will be held in 1982 and is reportedly to take place at Karup, Denmark. □

TWO-SHIPS DURING BEST FOCUS 80

F–16s started European tour with MOT&E

Tactical evluation test programme of the F-16



F-16A HL78-038 upon arrival at Leeuwarden on June 17 at 21.00 hrs local. It flew in together with Dutch F-16As J-212 & J-213 and U.S. F-16B HL78-099

LEEUWARDEN, Holland. On June 23, eight F-16s started operations from Leeuwarden in the Multi-National Operational Test & Evaluation (MOT&E) programme. For six weeks, these F-16s will make 8 sorties daily, flying in a wide variety of scenarios, This Dutch air force base is the first location MOT&E attends. Till December 31, when the unit will be disbanded, also six weeks will be spend in resp. Denmark, Belgium and Norway.

EPG and USAF agreed on multi-national test programme

When the European Participating Governments (EPG) signed a Memorandum of Understanding in June 1975 to purchase 348 F-16s, the aircraft's capabilities had not yet been tested. Today with the F-16 entering service in six air forces, the test programme involving the F-16 is nearing its end. In 1981 analists assigned to MOT&E will write a handbook on the optimum use of the F-16 in the rôles it will be operated by the various air forces.
The short time between the aircraft's first flight and signing of the Memorandum by EPG allowed the European air forces to be involved in the test programme of the F-16 very closely. This test programme had four major phases, incl. flight tests conducted by General Dynamics, duration & acceptance tests by both General Dynamics and the USAF. As of October 1, 1977, the USAF took over the programme when 8 pre-production aircraft at Edwards AFB started Phase I of the Follow-on Operational Test & Evaluation. On January 2, 1979, the USAF started Phase II at Hill AFB including the Tactical Development & Evaluation, which is in Europe known as MOT&E.

Although European pilots from all four nations have been involved in the F-16 test programme when Phase I started, the real European contribution started in Phase II. Commissioned by Tactical Air Command and under responsibility of the Tactical Fighter Weapons Center at Nellis AFB, 4 USAF F-16s, 4 EPG F-16s and 2 reserves were operated as of January 1979 to verify the aircraft's capability to operate in war-time envoirements. Operating from Hill AFB the F-16s were initially flown according USAF mission operations, including participation in three Red Flag exercises at Nellis AFB. Known as MOT&E the F-16s are presently involved to verify the aircraft's capabilities to operate in war-time environments in Europe. Operating in Europe the F-16s are to be flown according to national mission operations.

In the sequence of air bases to be attended by MOT&E. Leeuwarden was chosen first. Skrydstrup second as late August NATO exercise 'Oskboel' will provide an excellent opportunity for MOT&E to verify the F-16's maritime capabilities. Beauvechain is the third location to be attended as by October the A-flight of 1Wing will be on deployment in the Mediterranean. The last station is Norway where MOT&E will stay for two months to operate under extreme winter conditions.

While operating from Leeuwarden, MOT&E will get priority above all local operations at Leeuwarden and missions will include gunnery runs at the ranges of Vlieland, Nordhorn and Helchteren, base attacks on De Peel, trips to West Germany and the U.K. Additionally operating from Leeuwarden in co-operation with MOT&E, are 2 OV-10A Broncos and 4 F-15 Eagles. Together with A-10s operating from Alhorn, the F-16 will be tested in the air-to-ground rôle, using the OV-10s as Forward Air Controllers The F-15 Eagles and F-5E Tigers will test the F-16's ability to operate in dogfights.

Common tactics for all F-16 operations

In April 1978, when the EPG signed the contract to participate in MOT&E, it was decided to develop common tactics for all air forces operating the F-16. Being closely involved in the test programme will assure great influences in the handbook for F-16 tactics and subsequently in the modifications on the F-16 which will be made to improve the aircraft's abilities in these tactics.

PROTOTYPE FLIGHT TEST PROGRAMME (1974)

Prior the fly-off against Northrop's YF-17, General Dynamics conducted flights to test whether the aircraft met the expected requirements. This programme was flown from Edwards AFB and involved both prototype YF-16s.

DEVELOPMENT TEST & EVALUATION/INITIAL OPERATIONAL TEST & EVALUATION (1975-1977)

Following the USAF's selection of the F-16, both prototype YF-16s were subject to duration tests and initial test by the USAF. This programme was also flown from Edwards AFB.

FOLLOW-ON OPERATIONAL TEST & EVALUATION PHASE I (1977-1979)

In co-operation with General Dynamics, the USAF tested the eigth pre-production aircraft on operational serviceability and capabiltiies. This programme included the European tour of three F-16s in May 1979.

FOLLOW-ON OPERATIONAL TEST & EVALUATION/TACTICAL DEVELOPMENT & EVALUATION PHASE II (1979 - current)

In co-operation with the European air force, the USAF evaluates and verifies the effectiveness of the F-16 in various mission modes in order to compile a hand-book including all aspects concerning this specific aircraft. The U.S. part of this programme (FOT&E/TD&E) was flown at Hill AFB, while the European part (MOT&E) is presently being conducted in Europe.

British Airways Cargo into the Eigthies

A report by Jacob Struben

HEATHROW, U.K. During the first week of December last year, Merchantman G-APEJ arrived from Stockholm Airport, Sweden, with a full cargo load on a scheduled flight to London. This would have gone virtually unnoticed had it not been the last British Airways Cargo flight powered by turboprops, nor marked the start of all-jet cargo operations. The only other European national carrier still operating propellor-powered Cargo flights are Finnair (using a Kar-Air DC-6 Swingtail) and a number of Eastern European airliners.

ABOVE: G-APEJ made British Airways Cargos' last turbopropflight. (Aviation Photos International)
BELOW: B.707 at Heatrow (British Airways)

After a trouble-some period of test flying with Vickers type 950 Vanguard, six 119-passenger type 951s (G-APEA to G-APEF) had been built against BEA's original order. The airline started scheduled services with the Vanguards on March 1st, 1961.

Vanguards of British European Airways & Merchantmen of British Airways

Conceived as a high-density short/medium-haul passenger aircraft with a large underfloor cargo hold, the Vangaurd was particularly suited to BEA's network, but the only other airline to order the type was Trans-Canada Airlines (now Air Canada) who ordered twenty-three Type 952s, an uprated (5,545shp) version for 120 passengers. BEA ordered another fourteen Vanguards, type 953s (G-APEG to G-APEU) which had the original engines but incorporated the structural changes of the 952 and could carry 132 passengers in a one-class configuration. Production ended in 1964 after only forty-four aircraft had been built.

Between 1961 and 1974 BEA's Vanguard fleet served the airline, and its successor British Airways, well. 21,874,770 passengers, 213,022 freight tonnes and 44,389 mail tonnes were carried during this period. With the Trident One and Two the Vanguard formed the backbone of BEA's fleet throughout the Sixties, but the introduction of the Trident Three in 1971 made the Vanguard redundant. However, there were plenty of hours left on most airframes, and nine aircraft were converted by British Airways into Type 953C Merchantmen. This primarily involved cutting a large freight door in the forward fuselage just behind the front passenger door, and adapting the cabin floor to take cargo pallets and containers. The large passenger windows were blanked over.

During 1976/77 the Merchantman fleet was reduced to five aircraft, two being sold to Europe Aero Service in France, one to Air Bridge Carriers (G-APES), and one being scrapped.

In eight years the Merchantman fleet carried 397,310 tonnes of freight as well as 12,735 tonnes of mail. During this time British Airways Cargo capacity was augmented by the airline's passenger aircraft, especially the widebody Boeing 747s and Tristars which have large underfloor holds capable of taking standard sized containers and pallets.

Also, three of the airline's nine Boeing 707-320Cs (G- ASZF, ASZG and ATWV) were converted permanently to freight configuration. A fourth Boeing B707 (G-AXGX) was also assigned to British Airways Cargo for all-freight flights but flies passenger flights more often than cargo.

Streamlining for the Eighties

During the late Seventies British Airways decided on a streamlining of its Cargo operations to enable the airline to operate profitably in the highly competitive cargo sector of the business during the Eighties. Rising fuel costs and the likelyhood of a less rapid growth in the business than previously forcast , plus the increasing age of the Merchantmen, led to the decision to phase out these aircraft. As mentioned above, the last revenue-earning flight by a British Airways' Merchantman was flown in December 1979, and the five aircraft were sold to Air Bridge Carriers, who intends to resell three.

As far as all-cargo flights are concerned, the ten European routes served by the Merchantmen have been replaced by two, London-Frankfurt and London-Gothenburg-Stockholm, flown by the Boeing 707s. This means that cargo transported by British Airways on average is moved by road for greater distances than before.

Incidentally British Airways Cargo plan to further increase their road haulage business by transshipping cargo from and to London to and from continental destinations. As this goes to press the first regular truck service across the English Channel is expected to have started to Belgium. Expansion of the road network will depend on there being sufficient demand. This service would be especially useful to those continental customers who wish to ship goods by British Airways Cargo to or from overseas destinations on the British Airways aircraft network.

At the moment the British Airways Cargo fleet proper is limited to the three Boeing 707-336Cs mentioned above, and these aircraft operate the two European routes, as well as transatlantic and other longhaul flights. All flights are scheduled as British Airways Cargo operate no charter flights preferring to offer a scheduled and frequent service to a large amount of destinations. The reason why they can do this lies in the fact that only 20% of freight handled by British Airways is carried on the Boeing 707s. The other 80% is carried in the underfloor cargo holds of British Airways' widebody passenger aircraft, Tristar 1s on the European routes, Boeing 747s, Tristar 200/500s on Middle Eastern and long-distance routes. The recent delivery of these long-haul Tristars (two 200s and six 500s) has meant the re-introduction of the Tristar 1 on a number of routes which were just being deprived of a Merchantman service. Furthermore the eight new Tristars represent an increase in cargo capacity on the long-distance routes.

The advantage to an airline of having a worldwide network of passenger services flown by aircraft capable of carrying large amounts of cargo are obvious. Indeed there has been a trend for some time now towards mixed operations, and not only by widebody airliners. Some airliners regularly operate mixed passenger/cargo flights where the cabin floorspace is partially occupied by cargo containers or pallets and partially by passenger seats.

British Airways is currently taking delivery of Boeing 737s to replace their Trident Ones and Twos, but they are not convertible models. The airline apparently didn't envisage the need for a short-haul freighter when they ordered the Boeing 737s, but now they are studying the possibility of buying some short-haul freighters. There is no urgency in this though, because most major European destinations are now served by both narrow and wide body aircraft.

Nevertheless British Airways Cargo forsee a sufficient volume of business in the Eighties to justify the retention of their current all-cargo aircraft, and indeed a considerable expansion.

Plans for expansion include new aircraft & new routes

Also there is a requirement for an aircraft capable of carrying outsize items of cargo. Understandable, the choise was made in favour of the largest freight aircraft in production, which has a large degree of commonality with a type already in service with British Airways, the Boeing 747F. An order for one aircraft, a Rolls Royce RB.211 powered 747-236F(SCD) was placed. The aircraft (to be registered G-KILO although originally G-BDXK had been reserved) is due for delivery in September 1980. British Airways intend to buy more Boeing 747Fs, but at present it is not known how many.

The airline has planned an intensive schedule for their first Boeing 747F, which will see it in the air for seven days a week. There will be four flights weekly between London and New York and one round-the-world flight every week routing Heathrow-Dubai-Hongkong-Tokyo-Anchorage-Heathrow. Thus the Boeing 747F will offer a dramatic improvement in

Vanguard G-APES operated by British European Airways. Today this aircraft is operated by Air Bridge Carriers. (Aviation Photos International)

the capacity available in three important market areas, the Northleastern United States, the Middle East and the Far East (combining Hongkong and Japan for the first time). In the latter area the yearly market size is estimated by British Airways at 5,000 tonnes to and from Hongkong and 6,000 tonnes to and from Japan. With a yearly capacity of almost 6,000 tonnes (52 flights) British Airways' first Boeing 747F can in theory handle more than half of that market, but since Dubai and Anchorage are also on the route that proportion will be somewhat smaller.

Other new routes to be introduced in 1980, mostly using passenger aircraft, include London to Seattle, Manila, Bologna and Salisbury. The latter being a result of the normalization of relations between this newly independent Zimbabwe and the United Kingdom, British Airways had hoped to start a service to Beijing (peking) but the British authorities who decide such matters, the CAA and the BAA, have refused to allow the Civil Aviation Administration of China (CAAC) to operate into Heathrow (instead of Gatwick - where all new services to London terminate), which has led to the indefinite postponement of these plans.

However, this is a minor setback for British Airways Cargo. The airline hopes to earn £.200 million a record figure for its cargo operations in 1980, and to increase its market shares. The way in which they use their aircraft is instrumental in the realization of these hopes, but so are improvements in the less glamorous and less visible side of operations, i.e. on the ground. The hub of British Airways Cargo operations is their large cargo terminal on the south side of Heathrow Airport, and a five-years improvement plan costing millions of pounds has recently been launched.

This plan aims at making the handling of cargo at the terminal a more reliable and faster affair, as well as providing more storage space. A new £.1.4 million system for improved handling of imported containerized goods has been installed already and is working satisfactorily. A system for handling the Boeing 747F's twenty-foot containers is being installed and should be ready by the time G-KILO enters service.

British Airways Cargo optimistic

despite world recession

Furthermore, improved control of British Airways' share of the market will be made possible by the installation at the cargo terminal of a computer which will integrate reservations, consignment tracking and capacity control, and will link all cargo markets British Airways operate in. This computer is due to come on line in October 1980.

British Airways Cargo are confident that these and many other detail improvements will increase their share of the highly competitive market that air freight now is, and which will become even more competitive if the current world recession deepens and lasts throughout the Eighites.

An increased market share will mean increased earnings, and recently these have increased by on average 9% in almost every sector of the airline's Cargo-operations, This is seen as the best indication that British Airways Cargo is going the right way about things. □

TOP:
Tristar 200 G-BGBC was delivered during May 1980, and is seen taxying onto a stand at Heathrow's Terminal 3 after a passenger flight shortly after delivery.
MIDDLE:
The British Airways Cargo terminal seen from Terminal 3 at Heathrow. Boeing 707-336C G-ASZG is being loaded on Stand 328.
MIDDLE:
Most cargo carried by British Airways travels in the underfloor hold of wide-body passenger a/c such as this Boeing 747-136 G-AWNK .
BELOW:
A standard sized freight container being loaded into the underfloor hold of 747-136 G-AWNG. (BA)

DUTCH REGISTER MAY 1980

Reg.		type	c/n	remarks		
PH-CBA	2996	Reims Cessna F.152	1777	Air Service Holland BV	to Staat der Nederlan. Min. van V & W, R.L.D. Rijksluchtvaartschool.	
PH-CBB	2997	Reims Cessna F.152	1782	Air Service Holland BV	same	
PH-CBC	2998	Reims Cessna F.152	1787	Air Service Holland BV	same	
PH-CBD	3002	Reims Cessna F.152	1791	Air Service Holland BV	same	
PH-CBE	3014	Reims Cessna F.152	1795	Air Service Holland BV	same	
PH-CBF	3015	Reims Cessna F.152	1799	Air Service Holland BV	same	
PH-CBG	3018	Reims Cessna F.152	1803	R.L.D. Dir. Rijksluchtvaartschool		(new)
PH-CBH	3019	Reims Cessna F.152	1808	R.L.D. Dir. Rijksluchtvaartschool		(new)
PH-CBN	3020	Reims Cessna F.172N	1985	Cantonair Holland BV i.o.	ex PH-AYA (III)	(new)
PH-FSW	1434	Agusta Bell 206A	8056	Philips' Gloeilampenfabrieken NV	to G-BHSG	(out)
PH-GRA	2088	Reims Cessna F.150L	1006	K.L.M. Aerocarto BV	to Air Service Holland	
PH-GRT	2555	Reims Cessna F.172N	1589	Gert van Puttens' Broederij BV	to G-DCKK	(out)
PH-KFF	2907	Cessna P.206	P206-0141	Netherlands European A.S. BV	to Brussel 4/3/80	(out)
PH-KOK	2132	Reims Cessna FR.172J	0477	Air Service Holland BV	to G-IRLS	(out)
PH-MER	3016	Cessna U.206G	U206-03573	Air Service Holland BV	to G-BHWW	(out)
PH-OTK	3007	Reims Cessna F.172N	1963	Air Service Holland BV	to K.L.M. Aerocarto BV	
PH-RLS	3032	SAAB 91D Safir	91.371	R.L.D. Dir.Rijksluchtvaartschool	ex PH-RLS	(new)
PH-RYF	3025	Hughes 269C	1050444	Ryfas Heli Service	ex OY-HCE,D-HKEP	(new)
PH-SKD	3021	Reims Cessna F.172N	1992	Air Service Holland BV	ex PH-AYB (III)	(new)
PH-SMD	2764	Piper PA-32-300	32-7840196	J.G. Storken	to G. Kuiters	
PH-SSH	3028	Aerospatiale SA.365CZ	5037	Luchtvaartmy Schreiner Airways	ex F-WXFG	(new)
PH-SSI	3029	Aerospatiale SA.365CZ	5049	Luchtvaartmy Schreiner Airways	ex F-WKQH	(new)
PH-SSJ	3030	Aerospatiale SA.365CZ	5050	Luchtvaartmy Schreiner Airways	ex F-WKQF	(new)
PH-SVS	2959	Reims Cessna F.172N	1886	Air Service Holland BV	to Vliegmat. Schiphol	
PH-TGV	2598	Reims Cessna F.172N	1640	Air Service Holland BV	to J. Boers	
PH-TVN	2471	Boeing 737-266	21193	Transavia Holland BV		(out)
PH-URI	3006	Piper PA-31	31-8012029	Netherlands European A.S. BV	to Furigas BV	
PH-VSL	2561	Reims Cessna F.172N	1610	St. Vliegmaterieel Hoeven	to Wing Aviation BV	
PH-247	3022	Rhönlerche II	165	J.A.H. van den Broek		(new)
PH-444	2664	Ka 8 B	8894	to Groninger Studenten Aeroclub		
PH-660	3026	ASK 21	21017	Gelderse Zweefvliegclub		(new)
PH-682	3027	ASK 21	21003	Zweefvliegclub Uden		(new)
PH-692	3031	ASW 20	20328	G.C.A. Schuit		(new)

This SV.4 Stampe arrived recently in Holland, and is now at Hilversum with Daams. It is however very unlikely that thisaircraft will receive a Dutch registration.

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F-14 Tomcat
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