

# FLIGHT



**October**

NR.109

**aviation**



**magazine**

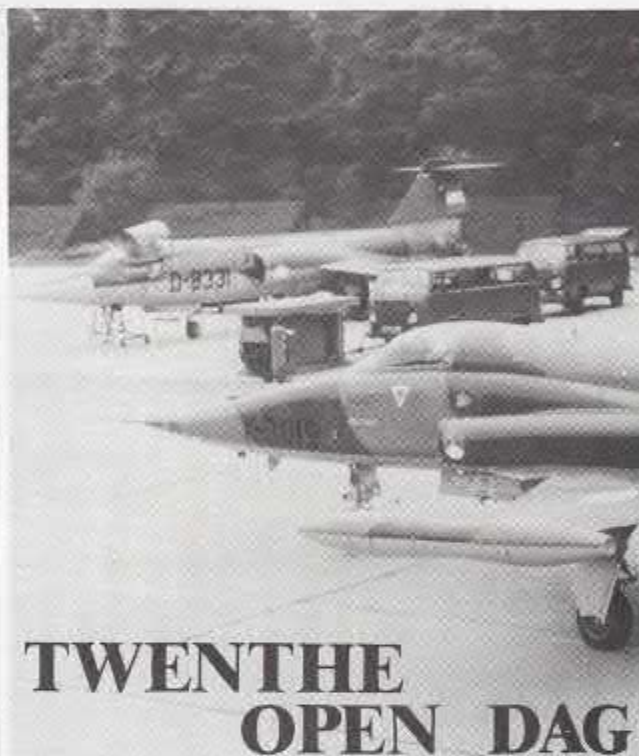


Despite the cold weather and the grey rainy clouds in the sky, some 150,000 people attended the annual KLu Open Dag at Twenthe. The static show displayed 13 aircraft including NATO's latest acquisitions: A-10, F-15, F-16. But also one of the two recently camouflaged OV-10A Bronco's could be seen.

Great plans for an impressive air display had to be abandoned due to the international fuel crisis. Instead a small air show had been organized lasting only two hours. Including many of the KLu's aerobatic displays: NF-5A by 1lt.Hans Konings, F.27 by Maj.Soons, Capt.Hans van de Werf performed his last display in D-8331 which had been provided with a sharkmouth and the national flag.

Totally new was the display of Capt.Wim Sneek in F-16A J-213. Unfortunately this display coincided with a rain shower. Ending the show was the mass-attack of 8 NF-5As of 315Sqn.

STATIC		HANGAR	
XZ381/CD	Jaguar	RAF	K-3001 NF-5A TGKLu
12-YH/54	Mirage F.1	FAF	K-4002/4003/4015/4030
LN73-711	F-111F	USAF	NF-58a KLu
14641	OV-10A	USAF	
30-51	Piat G-91	WGAF	
CR77-085	F-15A	USAF	
WR77-233	A-10A	USAF	
SP66-759	F-4D	USAF	
J-259	F-16B	KLu	
K-3042	NF-5A	KLu	
38-01	F-4F	WGAF	
018540	CH-47	USA	
252	SP-13A	MLD	
XW530/Q	Buccaneer	RAF	
P-171	F-84F	KLu	
E-8338	F-104G	KLu	
SHOW			
12-YC/25	Mirage F.1	FAF	
C-7	F.27	KLu	
XV792/N	Harrier GR3	RAF	
K-3003/05/11/12/19/35/51			
K-3052	NF-5As	KLu	
256	SP-13A	MLD	
A-246	390/470/521/H67		
	Al.IIIs	KLu	
J-213	F-16A	KLu	
K-3041	NF-5A	KLu	
D-8331	F-104G	KLu	



## TWENTHE OPEN DAG

Open Dag at Twenthe on September 15



PHOTOS: G V/D VEEN



AVIATION MAGAZINE

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HOLLAND

**EDITOR**

Peter van de Krommenacker

**ASSISTANT EDITOR**

Will van Loon

**CIVIL EDITOR**

Coen van de Heuvel

**PHOTOGRAPHIC EDITOR**

JanPieter Bergmans

**MILITARY EDITORS**

Frank Klaassen  
Frank Swinkels  
Jac van Tuyn

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**AGENCIES**

U.K. Barry Bailey-Hickman

27 Hitchman Road  
Leamington Spa  
Warwickshire  
CV31 3QH

Italy Frank Smith

Viale della Pace 164  
36100 Vicenza

West Germany Gerd Lammers

& Georg Büning  
4281 Raesfeld  
Weidengrund 26

Switzerland Stephen Kunz

Altweg 762  
4205 Brittnau

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## EDITORIAL

The editorial of the July/August issue concluded the international fuel crisis had not yet affected the air displays during open days. It would be unrealistic to suggest this will continue as Klu's annual open day at Twenthe strongly indicated the contrary.

Organizers of air displays have to be cautious not to encourage campaigns against the high fuel-consumption by aircraft. It was for this reason that the air display during Twenthe open day was minimized to a level which could only just pass muster with this predicate.

The international fuel-crisis is a heavily discussed subject which has a two-folded background: power policy by oil-producing countries and shortage in the long term. It is not up to FLASH to take a closer look at these backgrounds in general but what are the effects on aviation?

Power policy by oil-producing countries created a drastic increase of the oil price. In one decade crude oil ran up from \$2,-/barrel to \$20,75/barrel this year. This to great concern of both civil and military aviation. But it is the civil aviation that suffers most as it can disturb the retreat from deep discount fares.

The drastic increase of crude oil fed the great concern for the expected shortage of oil towards the end of this century. Subsequently all kinds of fuel saving projects are speeded up as well as research for alternative energy. In saving fuel, NASA recently reached a milestone in aircraft engine control technology. A digital computer monitors and controls the engine's fuel flow, exhaust nozzle area, compressor blade/fan and compressor variable vanes. Although the project was set up to ensure a greater engine life and reliability, this 'Smart Carburetor' can easily be programmed to reduce fuel consumption.

Lockheed recently revealed far going research on LH2 fuel. On an international symposium on Hydrogen in Air Transport, vice president-aircraft of Lockheed Mr.W.M.Hawkin announced the plans to modify a Tristar to run on Liquid Hydrogen (LH2).

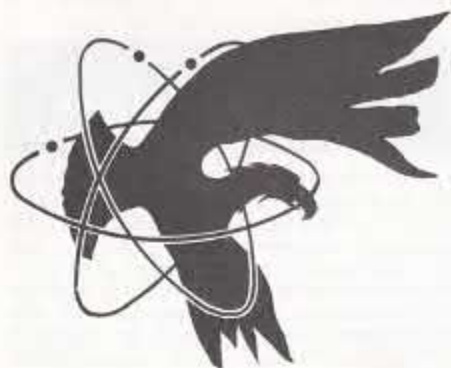
Other statements made during the conference in Stuttgart in September were revealing. If they are to be believed LH2 is THE solution to replace motor oil. Lockheed envisioned a Tristar with its surface cooled by hydrogen as it converts from liquid to gas prior to being burned in the engines. Because of its high-energy hydrogen fuel, such an aircraft could fly fast enough and far enough to do a non-stop trip around the world in four or five hours. Hydrogen burns consistently and with almost absolute purity so without pollution.

Mr.D.Brewer,Lockheed's manager of hydrogen programmes,said it would take another two or three years to know more about storage, distribution, how to be used, etc.,prior to start producing hardware.

Gas, spritze, peut.... All kind of names for a product which is the corner-stone of modern society. Whether this is oil, hydrogen, coal, nuclear, solar or wind, the influence of energy on society will keep growing, hence be always at the mercy of politics. But being one of the most universally available energy medias in the world-in the air and in water - Mr.Hawkins prediction carries an important message: 'Hydrogen is an energy medium that mankind will find hard to resist'.  
Jac van Tuyn



.....LH2 burns with almost absolute purity.



# MILITARY NEWS

## HOLLAND

● Last year when 314 squadron operated from Gilze Rijen, the squadron used all facilities of 316 squadron. Being board on days with bad weather the idea rose to make a combined flag to replace 316's flag in front of the old tower. This flag became 'official' property of 630 sqn. A similar 'squadron' was recently founded at Leeuwarden. As Leeuwarden is preparing to become operational on the F-16, 323 squadron had to move in with 322 squadron. Operating closely together the squadron commander of 322 became vice-commander of 323. For the crews a reason to create 645Sqn.

● Recently some preserved aircraft arrived in Holland while others have been moved around:

● '964' Harvard IIB (s/n 43-12964) was moved from the Anthony Fokker School to the War Museum in Overloon. Serving as B-69 in the Klu, this Harvard was camouflaged but now it is displayed in yellow-overall USAAF markings.

● G-9-428/E-410 Hunter F.51 was moved from Hatfield, U.K., to the Avidome Museum at Schinhol. Since the withdrawal of this aircraft from service with the Danish air force, it was returned to Hawker Siddeley at Hatfield. The Hunter will be displayed in the museum and is likely to maintain its original registration and markings.

● P-231 F-84F (s/n 53-6742) is now gate-guard at Eindhoven. Eversince its withdrawal from 314 sqn, the aircraft was used as a decoy at Eindhoven. At the main-gate of Eindhoven it joins F-84G TB-1

● LETS-1 F-104G is a new aircraft used for maintenance training of Klu personnel. This aircraft is an ex-Luftwaffe machine.

● In the planned replacement and increase programme by the MLD up to 36 helicopters, a new period commenced on September 12th. On this day the first SH-14B Lynx, 266 (c/n WA076) arrived at Marinevliegkamp De Kooy. The helicopter had been handed over to the MLD at Marignane, France, where Aerospatiale had installed the aircraft with the French Alcatel sonar system.

All 10 ordered SH-14Bs will be equipped with this system. Initially they will supplement the AH-12 Wasp helicopters of VSQ-860 sqn but around 1983 they will replace these aircraft. With VSQ-860 the up-rated SH-14Bs will be used primarily in the ASW (anti-submarine warfare) rôle. On order are eight Lynx helicopters designated SH-14C. Also equipped for the ASW-rôle, these machines are installed with the MAD system for tracking submarines.

● Movements at Volkel included:

- Jul. 20: 21-15 and 23-16 F-104G Bundesmarine MFG-2  
K-3067 (314sqn) and 4020 (316sqn) NF-5A/B  
23: BR-09 Mirage 5BR BAF 42Sqn/2Wing  
24: AR-107 & AR-115 S.35XD Draken RDAF Esk.729  
25: XZ112/G (2Sqn), XZ118/F (41Sqn) Jaguar RAF  
27: XX843/T Jaguar T.2 RAFG 2Sqn  
XW544/H Buccaneer S.2 RAFG 15Sqn  
K-3036 and 3015 NF-5A 314Sqn  
30: 84-84 CH-53G Heer  
Aug. 1: 26-29 F-104G Luftwaffe JABOG-34  
K-3027, 3055, 3067, 3069, 4021 and 4023 all  
NF-5A/Bs 314Sqn  
JO67-461 and 67-438 RF-4C USAF 363TRW  
2: CR77-089 F-15A USAF 32TFS  
21-19 and 23-09 F-104G Bundesmarine MFG-2  
3: JO67-438 and 66-476 RF-4C USAF 363TRW  
8: FX-100 F-104G BAF 10Wing  
10: 3-12/MM6609 & 3-47/MM6529 F-104G RMI 3Stormo  
13: K-3050 and 3072 NF-5A 314Sqn  
17: D-8048, 8114, 8256, 8266 F-104G (making a  
fly-past over Uden during the funeral of  
Lt. Ron Smit, who was killed in the accident  
on August 12)  
Sep. 7: WV118 Hunter T.8 RAF Laarbruch St.Flt.  
IA69-208 and 72-253 A-7D Corsair Iowa ANG

Capt. Wim Sneek in F-104 J-213 prior his impressive demonstration during Twentieth open day. (G.v.Veen)





## CANADA

• A crew of 7 arrived in a DASH-7 at 7.35 p.m. at CFB Lahr, having logged a total of 77.7 airframe hours. Talking about superstition. The aircraft involved was 132002 of 412 Transport Squadron making its debut in Europe on October 3. Once familiarization with this STOL aircraft has been completed it will replace the CC-109 Cosmopolitan.

## FRANCE

- Movements at Le Bourget/Paris included:
- Apr.28: 5U-NAF DC-6 Niger Government  
OY/298 and OZ/300 DHC-6 Twin Otter PAF  
401-02/T.11-1 Mystere 20 Spanish AF
- Jun.15: TN230 Nord 262 Congo AF  
TR-KJA Nord 262 Gabon AF  
5-9002 Mystere XX Iran AF  
3, 4, 34/10-KJ CM-170 Magister (dismantled)
- 16: 1306/AG SA.316B Alouette III GLAM.1/60  
102 and 5 SA.321G Super Frelon Aeronavale  
67-IF/2102 SA.316B Alouette III EH.67

ABOVE: DASH-7 132002 arrives at CFB Lahr. (CAF)  
BELOW: Some French AP N.2501 Noratlas of ET.64 are camouflaged incl. 64-BJ/156 and 64-BA/206. The latter is here seen during the Portes Ouvertes at Tours on September 9.

BOTTOM: Mirage IIIC 10-SC/7 on display in the Musee de l'Air at Le Bourget. (E.Lesau)



## FROM A FACILE PEN.....

### AGAIN PORTUGUESE TALONS IN HOLLAND

On September 18, again two Portuguese T-35A Talons were on squadron-exchange in Holland. This time Reg.201 exchanged with 316 sqn at Gilze-Rijen. Involved in the exchange were T-35s 10915 and 10868. Transport was provided by CASA.212s and noted on 24.9 were 6506 and 6510. From September 4 till 14, four Italian Starfighters exchanged at Leeuwarden. Aircraft involved were 4-1, 4-3/MM6849, 4-6, 4-11/MM6819.

### EAGLES SURGE BY

Recently 37TTS/Scoesterberg set a new record when an F-15 flew 10 times on one single day. During a seven day's 'SURGE' exercise, the squadron logged 439 air combat training missions using an average of 13 Eagles per day. All missions were flown against RAF Phantom FG.1s of 438sqn, these aircraft were on squadron exchange at that time.

### WHO INFORMED AIR STAFF

A selection between principal contenders for the AST-405 specification is expected to be made before the end of this year. The requirement calls for a new communication aircraft to replace the various ancient machines used for this role: 14 Pembroke's, a few Devons & Sea Devons. The contenders being the D&C Jetstream 31 and Beech Super King Air 200. Some 30 aircraft are reportedly to be needed. Besides for use with RAF and RN, some will be used by the FAA for fishery protection patrols over St. George's Channel.

### SECOND PLACE FOR DASSAULT

On a survey compiled by Flight International, Dassault is second with 28 operators flying this company's fighters. First is Mikoyan with 36 operators. Dassault is closely followed by BAE and Northrop with 26 each.

According to this survey, the following Mirages are on order:

Argentina .....	7	Mirage III
Bolivia .....	17	Mirage V
Iraq .....	136	Mirage F.1C
Jordan .....	36	Mirage F.1C
Pakistan .....	32	Mirage V
Spain .....	48	Mirage F.1C
South Africa .....	2	Mirage F.1C



## AIR DEFENCE OVER THOUSAND LAKES

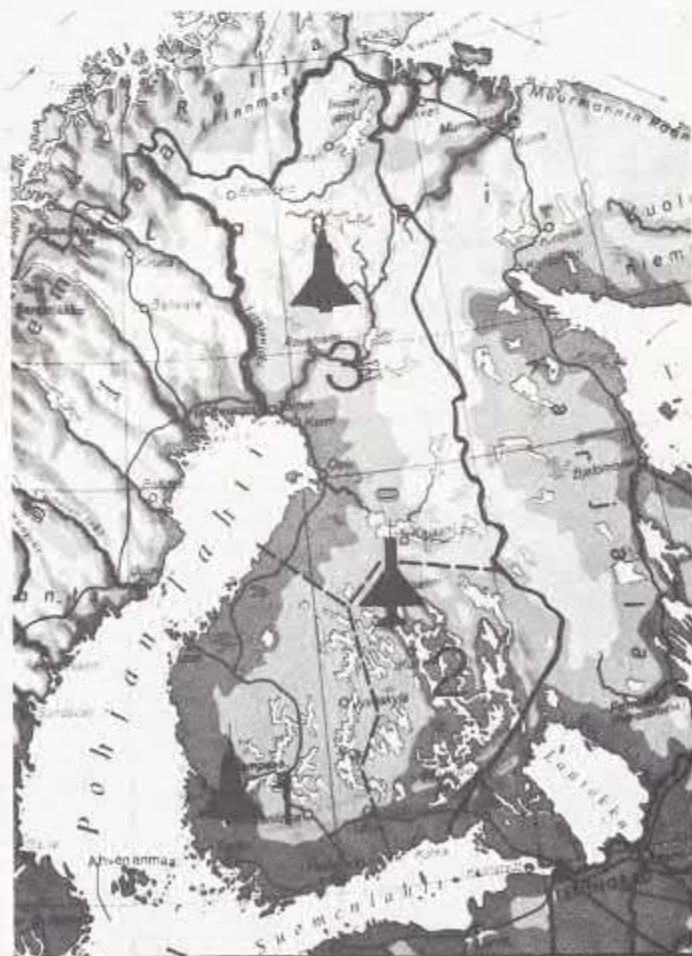
Bordered on the Sowjet Union/East Block for 1219 km and on Norway/West Block for 716km, it is obviously a limited, though well trained, air force can only protect neutrality when government and population take up a neutral position. Despite the 158 aircraft operated by the ILMAVOIMAT are considered to contribute to Finland's neutrality.

Military strengths are stipulated by defence budgets which normally are related to the Gross National Product or to commitments as part of a certain Pact. Not so in Finland. Military strength in Finland has been laid down in the 'Paris Peace Treaty 1947'. This treaty was the result of peace negotiations between Finland and the Sowjet Union following World War II. Being the loser, Finland had to pay an enormous price to regain its neutrality: U.S. \$ 300,000,000, 32,809 km<sup>2</sup> territory ceded to the Sowjet Union and restricted armed forces. But the preceding two wars demanded high offers from the population as well. In 1939, the Sowjet Union attacked Finland to ensure a free way to the harbours at the Baltic Sea. An armistice was agreed on in 1940 but one year later Finland took side with Germany, taking revenge on the Sowjet Union.

In a country having the size of the U.K., with a population of 4,8 million, extreme weather conditions, bordered on Western- and Eastern-orientated countries, it is impossible to maintain neutrality by military forces only. But the Finnish consider their armed forces of a valuable contribution to this goal.

"The maintenance of land, sea and air armaments and fortifications shall be closely restricted to meeting tasks of an internal character and local defence of frontiers. In accordance with the foregoing, Finland is authorised to have armed forces consisting of not more than:

C) An air force, including any naval air arm, of 60 aircraft, including reserves, with a total personnel strength of 3,000. Finland shall not possess or acquire any aircraft designed primarily as bombers with internal bomb carrying facilities". PARIS PEACE TREATY 1947, art.13



## HISTORY

Initial reconstruction of the air force elements started with some training and transport aircraft which were later supplemented with combat aircraft. A neutral position demands careful selection in purchasing equipment and a solution was found in the Swedish Saab 17 & 91 and British Vampire T.55 & FB.52.

The 'Treaty of Friendship, Co-operation and Mutual Assistance', signed in 1948 between Finland and the Sowjet Union, resulted in military aid by the latter. Four MIG-15UTIs and four IL-28s were delivered, later supplemented with MIG-21Fs and MIL helicopters. Additionally the air force took on charge the Pollard Gnat Mk.1 including two reconnaissance aircraft.

## PRESENT ORGANIZATION

The ILMAVOIMAT built up an organization that meets the special requirements for operations under the extreme weather conditions. These conditions include temperatures as low as -30°C (-22°F) and up to 200 days of snow, dark period exceeding from the end of November until the end of January.

The country has been divided in three defence sections, each operating one fighter squadron:

Lapland Wing Hävllv.11 Rovaniemi 27 Saab 35  
Saakunta Wing Hävllv.21 Pori 460 Magister  
Kerelia Wing Hävllv.31 Rissala 125 MIG-21F & U

The non-tactical elements are - transport provided by C-47s based at Utti; - helicopters and light transport at Tikkakoski. Basic training in the Saab Safir is conducted by the Central Flying School based at Kauhawa. Advanced training is either on the Magister or with both fighter squadrons.

## FUTURE

Scheduled for delivery this month is the first Vinka (LEKO 70) basic training aircraft. This event commences a series of deliveries which will renew the major part of Ilmavoimat's equipment in a few years. As replacement for the Magister, a contract was signed for 50 Hawk Mk.51s of which 45 will be built by the national aircraft factory Valmet. First deliveries are scheduled for early 1980. Eventually 50 additional Hawks might be purchased.

The Saab Safir will be replaced by a national product, the Vinka (LEKO 70) which is currently in production by Valmet. The air force ordered some 30 machines.

The remaining MIG-21Fs will be replaced by 30 Advanced Versions of this type, the MIG-21Bis. This total includes two trainers.

Also the ageing C-47s are to be replaced but no replacement has been selected. So these aircraft will form the backbone of the transport fleet for some years more.

(Correction on FLASH Nr.108: The caption mentions the illustration of two MIG-23s. This has to be a MIG-21F (top) and MIG-21USS (below). Page 10)

## AIRCRAFT IN SERVICE

Saab J35S Draken (Valmet-built)  
: DK-201,203,205,207, 209, 211  
DK-213,215,217,219, 221, 223  
Saab J35BS Draken (ltd from Swed.AF, later bought)  
: DK-202,204,206,208, 210, 212  
Saab J35C Draken (ex Swedish AF)  
: DK-262,264,266  
Saab J35F Draken (ex Swedish AF)  
: DK-261,263,265,267,269 + one  
MIG-21F : Serial badge not known. A/c  
confirmed: MG-1,2,12, 32, 33  
MG-34,46,65,78,79,80, 91, 92  
MIG-21U : MK-101 and 102  
MIF-21USS : MK-103, 104, 105, 106  
Fouga CM170 Magister: FM-1/18  
FM-21/82 (Valmet-built)  
Douglas C-47 : DO-4,5,6,7,8,10,12  
Douglas C-53 : DO-9,11  
Saab Safir S91C : SF-1/20  
Saab Safir S91D : SF-21/36  
MIL Mi-8 : HS-1/6  
MIL Mi-4 : HR-1/3  
AB.206 : HB-1  
Hughes H.500C : HH-1  
Piper Cherokee Arrow: PA-1/5 (ltd - civil operator)  
Cessna 402 : CB-51/52 (ltd - civil operator)  
MIG-15UTI : MU-1/4

### JYVASKYLA -- FLY-IN -- (17 August 1979)

SF-2, 4, 5, 6, 8, 13, 14, MG-12 MIG-21  
SF-16, 27, 32 S.91 Safir FM-8, 16, 30, 47, 23  
PA-1 and PA-4 PA-28R CM-170 Magister  
DK-207 J-35S Draken 312-BH/123 N.2501 FAF  
DO-4 C-47 Dakota

### PORI (16 August 1979)

FM-10, 21, 25, 33, 37, 38, PA-5 PA-28R  
FM-50, 51, 53 CM-170 Magister HS-5 Mil-8

### PORI -- FLY-IN -- (19 August 1979)

SF-2, 4, 6, 8, 13, 14, 17, DK-203 J.35S Draken  
SF-22, 27, 32 S.91 Safir DK-207 J.35S Draken  
OU-HRF AB.206 Coastguard P Leko 70

### ROVANIEMI (21 August 1979)

DK-202, 204, 205 J.35S/BS Draken  
DK-261, 264, 266, 267 J.35C/F Draken  
(All movements and photos by W. Koopman)



## INTERNATIONAL

• Late September, NATO got a new facility for testing & evaluating air operation tactics. During a ceremony, AAFCE commander Gen. Pauly officially opened the Tactical Leadership Programme (TLP) at Jever, W. Germany.

The TLP at Jever proceeds the old one at Furstenfeldbruck. Basically the same but put in a new jacket, the school allows operation-officers, flight commanders and section-leaders, to exchange information, ideas and experiences. New at Jever is that pilots are involved in these courses with their own aircraft. For this reason the length of the courses had to be doubled to four weeks.

### • TORNADO -- UP DATE

• The first British air defence version, Tornado F.2 ZA254 rolled out BAE's plant at Warton on August 9. First flight had been scheduled for September but due to strikes this was delayed. By the time this is read the f/f will have taken place.

• The first British production Tornado F.1, ZA319/BT001, flew on July 10 from BAE Warton. In March 1980 the aircraft will go to the Tri-National Tornado Training Establishment at Cottesmore.

• The first German production Tornado 43-01/GT001 flew on July 27 from Manching. Later this year the a/c will be handed over to the Luftwaffe and just like the BT001, delivered to Cottesmore.

## ITALY

• From August 17 till 21, USS Guam (LPH-9) visited Trieste harbour, Italy. Noted aboard were:

157690/EH1, 154850/EH2, 155316/EH3, 157703/EH4  
157661/EH5, 154848/EH6, 157694/EH7, 156473/EH8  
155306/EH9, 157660/EH10, 157722/EH11 all CH-46Ps  
160742/EH30, 160744/EH31, 160748/EH33, 160442/EH40  
all AH-1J SeaCobras of HMM-264  
156962/EH20, 157741/EH21, 157738/EH22, 157747/EH23  
all CH-53Ds of HMM-264  
160442/EH40, 160441/EH-41 both UH-1Ns of HMM-264  
160833/09 UH-1N USNavy LPH-9

• A very rare squadron-exchange took place from 19 till 28 June between 111th Filo/Greek AF and 22Gr/51Stormo. Aircraft visiting Istrana were: RF-5A 97164, 97167, 97173 and F-5B 69230, 89092.



On June 28th, SH-34J 4-14/153622 made its last flight, subsequently all SH-34J were phased out as 4-14 was the last one in service with Marina Militare Italian. Three SH-34Js are now stored at Sarsana-Luni, 4-04, 4-10 and 4-14. (C. Carretta)

• The F-105D/F Thunderchiefs of 457TFS & 465TFS AFRES that deployed to Gioia del Colle to participate in exercise Dawn Patrol are known as:  
F-105D SH61-088, 61-115, 62-259, 62-301, 62-331  
SH62-375, 62-383  
F-105F SH63-287  
F-105D TH60-455, 60-465, 60-517, 61-080

### • Movements at Bari-Palese included:

Jul. 9: GP-74/MM80998 & GP-104/MM81062 NH500MC  
10: 21/MM54280 MB.326 SVBIA  
EI-557/MM80618 AB.206A-1 Esercito  
13: 31-6/MM61900 DC-6B 306Gruppo/31Stormo  
15: 74/MM54180 MB.326E SVBIA  
17: SP-33/MM61905 P.166M 207Gruppo/SVBIAE  
19: 41-76/MM40114 Br.1150 Atlantic 88Gruppo  
20: CC-84/MM81101 A.109A Hirundo Carabinieri  
24: CC-85/MM81102 A.109A Hirundo Carabinieri  
25: 41-02/MM40117 Br.1150 Atlantic 88Gruppo  
Aug. 6: 30-10/MM40113 Br.1150 Atlantic 86Gruppo  
8: EI-417/MM57210 SM.1019 Esercito 211Gr. Sq  
23: 95/MM54208 MB.326 SVBIA  
23: SP-34/MM61881 P.166M 207Gruppo/SVBIAE  
26: 7-11/MM80943 AB.212ASW Marina

U.S. Marines AH-1J Sea Cobra 160742/EH30 aboard USS Guam while attending Trieste Harbour. (E.I.S.G.)







Displayed at Yeovilton was Sea Harrier XZ451 which had only recently been delivered to 700A Intensive Flying Trials Squadron which was formed here on June 29th. (B.Bailey-Hickman)

## UNITED KINGDOM

● Shortly after the official delivery ceremony, Nimrod MR.2 XV236 was flown from BAe Woodford to RAF Kinloss. XV236 was the first Nimrod to have been converted to MR.2. Initially two development aircraft will be converted, being XV236 and X2284. The total programme involved all 32 RAF Nimrods. The Nimrod MR.2 differs very little from the MR.1, only in having awingtip-mounted Loral electronic warfare equipment. The Nimrod MR.2s will all be camouflaged once in RAF service. The conversion programme started two years ago and is expected to end in 1984. The programme provides the Nimrods with new sensors and equipment developed in the recent years. Most of the new systems are controlled by digital computers enlarging the possibilities in programming.

## UNITED STATES OF AMERICA

● Movements at Ramstein included:  
 Sep. 4: BA-19 and BA-42 Mirage 5BA BAF  
 11-03 Jetstar Luftwaffe FBSS  
 24-59 Fiat G-91T Luftwaffe JABOG-49  
 27-39 TF-104G Luftwaffe JABOG-34  
 35-27 and 35-86 RF-4E Phantom Luftw. AK-51  
 19: 12669 EC-135C  
 158572/LN-43 P-3C Orion USNavy VP-45Sqn  
 84-66 and 85-01 CH-53G Heer  
 34-13 Fiat G-91T Luftwaffe LEKG-41  
 37-44 and 37-60 F-4E Phantom Luftw. JC-74  
 71-00 UH-1D Luftwaffe WTC-64  
 ST-20 SP.260MB Marchetti BAF  
 41-AS/27 Paris IR PAF EIA.41  
 25: 10949 C-130B Hercules North Carolina ANG  
 SP72-159 (y) F-4E Phantom 52TFW

*ALL OVER!* The days, the Red Arrows operated with Folland Gnat T.1a are over. Two Hawks in the colours of the Red Arrows have been reported at RAF Kemble. A very fine shot shows a Red Arrow Gnat at Hahn on July 29. (B.Berkemeijer/MAPN)





## GAS AND GO

With 30 US personnel, the FOL was kept going, seeing to it the aircraft got their fuel and elementary maintenance. As the personnel was only on half strength, the weapon reloading was done back at Woodbridge. The normal time for preparing an aircraft for operations again was around one hour. Speaking about time. Operating from a FOL clearly showed its advantage considering the process of a mission. From Woodbridge, a Warthog can only remain over the battlefield for 1½ hours. From Ahlhorn this period is doubled to 3 hours.

Due to a chance in financial fundings, the sequence in building up of Forward Operation Locations in W. Germany, has been altered. Although Leipheim was to be second after Sembach, this is now Ahlhorn. The aircraft actually assigned to this FOL will not arrive until late October, but the FOL was temporarily used as an A-10A Thunderbolt II base during Cold Fire.

Called 'GAS AND GO', A-10A Warthogs of 78TFS operated from Ahlhorn, W. Germany, throughout Cold Fire. Early in the morning, the Warthogs left Woodbridge, made their contribution to the exercise, returned to Ahlhorn for fuel and new tasking, out to the battlefield again, back to Ahlhorn, out to the battlefield and back home to Woodbridge. This kind of missions were flown with an average of 14-16 a day. As the facilities at Ahlhorn had not yet been completed to house the FOL, only eight A-10As could be handled at one time. During the first week of the exercise, the tasking for missions flown from Ahlhorn came from Woodbridge but in the second week the operation officer of the FOL received direct tasking from Allied Tactical Operation Center at Kalkar.

Referring to their mission as AIR-to-MUD, the members of 78TFS were very much aware of the importance of their missions. For the first time, NATO officials witnessed the A-10 anti-tank system in an area it has especially been designed for. The outcome of this GAS and GO deployment at Ahlhorn will have a great effect on the integration of the system into NATO tactics. □

# FLASH

## SPECIAL REPORT



- Movements at Rhein-Main/Frankfurt included:
- Sep. 2: 51-10 Transall C-160D Luftwaffe LTG-61  
K-687 C-47 Dakota RDanAF
- 3: 38081 and 60197 C-141A Starlifter 62MAW  
50-46 Transall C-160D Luftwaffe LTG-62  
144852/JQ18 EA-3B Skywarrior USNavy VQ-2
- 6: 37856 C-130E Hercules Alaska ANG  
21849 C-130E Hercules AFRES  
149797/JM C-130F USNavy VR-24
- 9: 71-27 UH-1D Luftwaffe
- 10: 50-59 Transall C-160D Luftwaffe LTG-63
- 11: 751 C-130H Hercules Greek AF  
XX105 BAC.1/11 RAF RAE
- 12: 59403 C-141A Starlifter 60MAW
- 13: 66/HB Nord 262D FAF  
109159 CC.109 Cosmopolitan CAF
- 18: 91528 C-130B Hercules N.Carolina ANG
- 22: 91529 C-130B Hercules W.Virginia ANG
- 24: 95959 C-140A Jetstar AFCS (Camouflaged;  
based here for three months)
- 26: 63-VE/202 N.2501 Noratlas FAF ET.63
- 27: 18116 U-21A USArmy  
80739 C-130B Hercules N.Carolina ANG

Based at Rhein-Main in September were five EC-130E Hercules of 193SOS/Pennsylvania ANG: PA63-7783 7806, 7828, 7869 and 9816.

Also noted were two new Skyhooks with 7th SOS: 64-523 (last noted with 7th SOS in April 1976) 64-566 (ex 8th SOS/834TCW in 6/78)

- The USAF intends to soldier on with the KC-135s for a long time to come. Just like for the civil models (B.707) the engines are a heavily discussed subject. The present installed Pratt & Whitney engines are very noisy, produce thick smoke and are high in fuel consumption. For both civil and military purposes, Boeing will soon start tests with B.707s equipped with the CFM56 turbofan. The latter should give 15% better range, improved fuel consumption and reduced noise levels. Additionally, a joint NASA/USAF programme is taking place to test the effects on a KC-135 provided with winglets. On July 24, KC-135 53129 made its first flight retrofitted with 2,7mtr long winglets. Throughout the test programme it is possible to vary the cant angle of the winglets enabling to examine the air turbulences at various angles. The vortices at the wingtips are converted into lift by the winglets. Research in windtunnels showed that winglets could result in an annual saving of 257,400 lbs of fuel per aircraft.

In September the first five KC-135s were to arrive at the new USAF facility at Fairford, U.K. Due to the increase of trans-Atlantic flights, the demand for air-to-air refuelling has grown considerably. Operations from Mildenhall didn't allow anymore deployments of KC-135s. For this reason the USAF found in RAF Fairford a proper base to create a third deployment base for KC-135s where at full strength 15 aircraft will be based.



Greek A-7H Corsair 159814 arriving at Bahn for a squadron-exchange with 80TFW late June. (A.Booy)

## WEST GERMANY

- Towards the end of September, Luftwaffe operators on the Alpha Jet reached 1,000 flying hours. Deliveries so far included, No.31 (fifth German production a/c) to Technische Schule at Leipheim in March 1979. No.1 & 2 are undergoing flight tests. No.3 & 4 are used for training of technical staff. A total of 15 aircraft were operated by the Luftwaffe's operational evaluation and conversion unit at Leipheim by the end of September.

- From October 5 till 13, the Bull's Eye meeting was held at Husum. Hosted by LKG-41 six teams participated: 548sqn/RAF, Esk.730/RDanAF, Skv.338/RNoAF, MFG-1/WGN, MFG-2/WGN and LKG-412/WGAF. Although also invited, Esk.725/RDanAF could not participate as all Danish F-35 Drakens were grounded due to engine problems at the time of the meet. Despite the promising programme and good preparations by the host, the meet fell literally into the water. On the first and last day of the five-day's competition, no missions could be flown due to pouring rain. On the days in between the visibility at the ranges was very poor and only a few missions could be flown. Next month a detailed report on this pleasant meet.

F-84E Thunderjet 10642 of Yugoslavian AF preserved as a monument.





Throughout the year, flight plans are made weeks, sometimes even months ahead of the date of the actual flight. Telex-messages are dispatched to all control centers involved. Air Weapon Ranges are reserved.

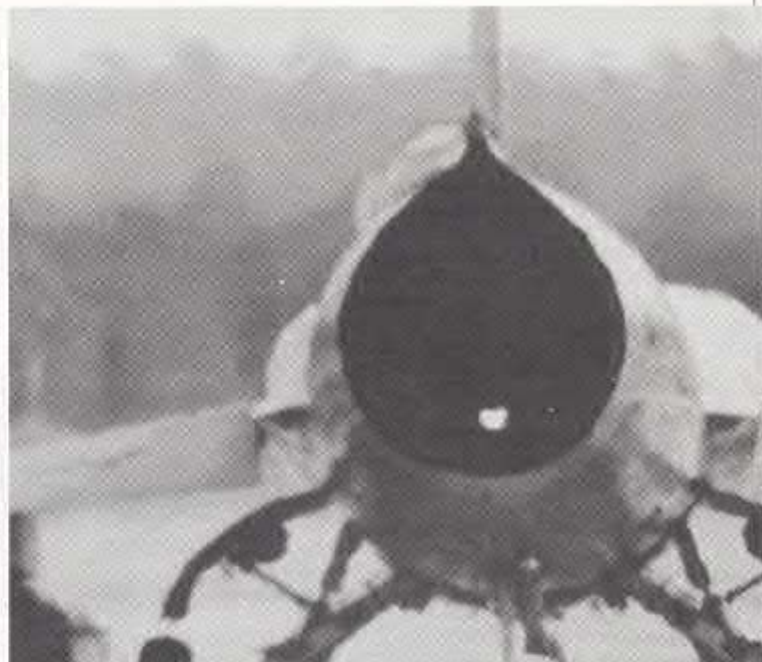
Throughout the year, training missions are flown. Every unit within the Allied Air Forces Central Europe Command has a specialization in the various rôles for aircraft. Subsequently air defence is exercised by air defence units, air-to-ground by ground support units, reconnaissance by reconnaissance units.

Throughout the year, headquarters and control centers are involved in introducing new systems, talk about how to improve their functioning, solving national and international problems.

***** MINIMUM HEIGHTS FOR JET AIRCRAFT *****	
WEST GERMANY.....	500 ft AGL
.....	250 ft with special permission only
FRANCE .....	500 ft AGL
UNITED KINGDOM .....	500 ft AGL
THE NETHERLANDS .....	1,000 ft AGL
BELGIUM .....	1,000 ft AGL

ABOVE: F-104Cs 22-29 & 22-30 of MFG-1 visiting Twente on September 11. Although Cold Fire officially started on Sept. 12, the two preceding days were used for cross-servicing training. (B. Berkemeijer)

BELOW: Supporting the Army exercise in the Lunsburg Heath area, W. Germany, were six Pumas of 2368qn - XW219, 222, 224, 226, 227 & 228. (RAF)



During Cold Fire, flight plans are made within hours. A certain tasking is received by the operations officer, which assigns a pilot and an aircraft. Sometimes within one hour the aircraft has to be over the target.

During Cold Fire, live missions are flown. 'real enemy' has to be destroyed. Only failing live ammunition, the missions are flown in a real air war scenario, where orange and blue forces are fighting one another.

During Cold Fire, headquarters and control centers can prove their value and what's more important their efficiency. A certain army unit requests air support. Losing a minimum of time, this request must find its way to the unit assigned for this particular mission.

This is just what SACEUR Gen. B. Rogers pointed out when he officially opened AUTUMN FORGE exercise at Wunstorf on September 7. In his opening speech he accentuated the importance of NATO's readiness. The overall policy is that if a war should break out, there might be only as short as 24 hours notice. Up on top of this the amount of soldiers, vehicles and aircraft involved will cause a true chaos.

In both cases the headquarters and control centers must remain operational and for this purpose the previous SACEUR Gen. Haig initiated Autumn Forge exercise in 1975. Autumn Forge combines a large series of exercises involving all elements within NATO. The large scale policy allows combined air/land, land/sea, air/sea exercises and puts a lot of pressure on communications between army, naval and air force elements. Normally under national circumstances this causes troubles, let alone under international circumstances.

Like the name itself already suggests, Autumn Forge is held in the fall period starting early-September lasting till mid-November. This period gives army units free way over the farmland as the crops are already recovered, all soldiers are back from holidays and normally the weather changes dramatically over this period. Three good reasons why Autumn Forge is conducted in the fall. However, this year one major exercise, ReForGer, was disconnected from Autumn Forge and was conducted early February.

14,000 U.S. soldiers were transported to Germany and their equipment was either flown into Germany directly or shipped in via Dutch and Belgian harbours. Planned was to get experiences with conducting large scale exercises under winter conditions. And winter conditions they had. Next year, however, ReForGer will be back again under the cover of Autumn Forge. Nothing indicates that there are more plans to shift exercises from the fall to the winter period.



Three major exercises involving air forces were Cold Fire, Crested Cap and Display Determination. The first two are extensively discussed in this article. Display Determination was conducted from mid-September till mid-October and held in Italy, Turkey and the Mediterranean Sea. Countries involved were Italy, Portugal, Turkey, United Kingdom and United States.

COLD FIRE lasted from September 12th till 21st and took place in the Central European Region. Covering Germany, Holland, Belgium, Luxemburg, a part of France and the east coast of England. The exercise involved 1,400 aircraft of 5 nations - Belgium, Holland, Great Britain, USA and W.Germany and supported five army exercises.

The first week contained only standard missions which was announced to be a warming-up. All units involved were tasked with normal missions backing up army forces. Over the first two days operations were kept to a minimum due to bad weather but the first week could be concluded with 3,000 missions flown in support of Cold Fire.

Over the second week, the air force units were divided in orange and blue forces. Orange forces being the bad guys flown by a.o. F/CF-104Gs. Blue forces being the goodies flown by a.o. B-52s, A-10s and F-4s. This was called exercise in overall spectrum tactics.

Although the second week was far more realistic it still failed the REAL overall set-up for aircraft exercises. For the European theatre, Cold Fire could, for the first time, make use of two new systems: A-10 & F-4G. The first had been detached to a FOL for 2nd ATAF (Ahlhorn) and a FOL for 4th ATAF (Sembach). Nevertheless only tasking was given to these FOLs to operate on their own.

The same goes for the F-4G Wild Weasels. Half the strength of F-4Gs of 81TFS/52TFW was on detachment in Spain for weapon trials. The other half was involved in Cold Fire alright but not integrated in massive air operations. Visits of FLASH to Ahlhorn and Spangdahlem learned that both units are still working very hard to get the new systems introduced into NATO tactics. This slow process will surely have been speeded up by Cold Fire 79. Perhaps Cold Fire 80 will see both systems fully integrated.

Flight restrictions during exercises are always a great handicap to pilots dedicated to do their job. Especially minimum heights are regarded as limits which make it impossible to practise. Logical considering the threat of AAA (Anti-Aircraft-Artillery) and radar detection. But on the other hand one has to give consideration to the population of Germany with broken windows and missing tiles on the roofs.

The other restrictions imposed during the exercise were 0,25 miles visibility, 500 ft. cloud base and 0.92 mach (450 knots).

Over the years Cold Fire produced interesting visitors to the exercise area - Portuguese G-91s at Ramstein, Providers/Caribous at Wiesbaden. This year the only interesting appearance was the deployment of 3 B-52Ds to RAF Marham, UK. Two other items were the detachment of A-10As to Ahlhorn and Jaguars of 6 & 54Sqn to RAF Laarbruch/Wildenrath, W.Germany.

A suddenly raised situation demands an air dropping of army troops in a certain area in Central Germany. Three Hercules, flying in a file, suddenly show up over the area. Closely followed by another three ship formation. They drop their load. Two US Army CH-47C Chinooks bring in the mobile equipment for the army group. Two Belgian Mirages perform a few low level attacks on request of an Forward Air Controller. A few minutes later this is repeated by two Luftwaffe Starfighters.

Out in the field this classical example of an integrated land/air exercise looks very normal. Yet, it demands quite some communication and planning in the various offices to direct all the element forces to the correct places and very important as well, death on time. □

PARTICIPATING IN COLD FIRE UNDER CONTROL OF 2ATAF

Ahlhorn	GE	A-10A Thunderbolt
Alconbury	GB	RF-4C Phantom
Beauvechain	BE	F-104G Starfighter
Bentwaters	GB	A-10A Thunderbolt
Bierset	BE	Mirage 5BA
Brüggen	GE	Jaguar GR.1
Coltishall	GB	Jaguar GR.1
Eindhoven	NL	NF-5
Floreannes	BE	Mirage 5BA and 5BR
Gilze Rijen	NL	NF-5
Gütersloh	GE	Harrier GR.3
Hopsten	GE	Phantom F-4F
Musum	GE	Fiat G-91R/3
Jever	GE	F-104G Starfighter
Kleine Brogel	BE	F-104G Starfighter
Laarbruch	GE	Buccaneer S.2 and Jaguar GR.1
Leck	GE	RF-4E Phantom
Leeuwarden	NL	F-104G Starfighter
Nörvenich	GE	F-104G Starfighter
Oldenburg	GE	Fiat G-91R/3
Soesterberg	NL	F-15 Eagle
Tweante	NL	NF-5
Upper Heyford	GB	F-111E
Volkel	NL	F-104G Starfighter
Wildenrath	GE	Phantom FGR.2 and Jaguar GR.1
Wittmundhafen	GE	F-4F Phantom



Every year since 1969, a U.S.-based Wing deploys to Europe, expressing the U.S. commitment to NATO. Upto 1977 this deployment was executed by 49TFW/ Holloman AFB. Following the withdrawal of this wing from Europe, it received the status dual-based: Holloman (training) and W.Germany (for actual operations). With the arrival of the F-15A Eagle, the 49TFW was re-tasked as air defence unit. Subsequently another F-4 Phantom unit took over: the 4th Tactical Fighter Wing at Seymour Johnson AFB, North Carolina.

On August 28 & 31, 4TFW deployed to Ramstein for a second time with 48 F-4E Phantoms. Both flights left Seymour Johnson at 03.00 a.m. when it was still dark. The Atlantic was crossed via the Northern route, requiring eight air-to-air refuellings. This high frequency of air-to-air refuellings ensured the aircraft to divert to Canada, Greenland or Iceland at any time during the flight. After 9 hours, the aircraft landed at Ramstein at 18.00 p.m. For fuel economy reasons the aircraft flew at 30,000 ft. For once extremely good weather was encountered throughout the flight. Coming such a long distance normally some depressions have to be taken but not so this year.

## CRESTED CAP

Involved in Crested Cap are two out of 4TFW's three squadrons: 335th 'Chiefs' Tactical Fighter Squadron and 336th 'Rocketeers' Tactical Fighter Squadron. The third squadron is 334TFS which has world-wide response commitment.

Both 335 and 336 squadrons have already made quite a name in the deployment scene. 335 deployed to W.Germany in resp. 75 & 77, 336 deployed to Norway in 74.

On October 10, 1977, both units accepted the dual-based mission responsibility with Ramstein AB, W. Germany. One year later, the first opportunity occurred to practise this commitment during Crested Cap 78.

### DESCRIPTION OF 4th TACTICAL FIGHTER WING EMBLEM

The emblem of the 4th Tactical Fighter Wing is a blue shield with a diagonal band on which is emblazoned a spear with silver and grey arrowhead and brown shaft garnished with three eagle feathers of brown and white. The lower part of the shaft is surrounded by flames of red and yellow. On the crest of the shield is a lion's face mounted on a wreath.



The lion's head on the wing patch represents the service in the British Royal Air Force of the officers and men who were the original members of the group. During World War II, the 4th took top honors in the European theater for the destruction of enemy aircraft. This is where the 'Fourth but First' motto began.



**335**  
TACTICAL FIGHTER SQ.

COMMANDER

LTC DENNIS W. DIGGS

OPERATIONS OFFICER



With an average of 48 missions a day, the Crested Cap period was scheduled to include 1,400 missions flown under European theater conditions. For 50% of the pilots this theater is completely new. On a question to one of the pilots where the European theater differs so much from the American, gave the expected answer of weather and terrain. North Carolina has fairly good climate and has a very flat landscape. For large scale exercises, the aircraft deploy to bases in desert areas which allow low flying activities. This differs very much from the bad visibility due to smog over W.Germany, the mountains and the bad weather.

Experienced to be very different too were two other things. Operating under direct NATO control has its own way of dealing with operations. To name a simple fact is the experiences gained by operating with French, Belgian, Dutch and British Forward Aircraft Controllers, all using their own national tactics. Considered very pleasant is the division of airspace over W.Germany in levels. In contrary to the U.S. where all air-traffic has free access to all levels, Germany authority restricts 500 ft. upto 1,500 ft. a strictly military zone.

The average stay of a pilot with 4TFW lasts only approx 2 years. This implies that every time 4TFW deploys to Ramstein, 50% is new, which makes the deployment very worthwhile. It gives many pilots a first chance to experience the European environment. For the time being this will take place with F-4E Phantoms as no plans are known with what the Phantoms will be replaced.

When 335 and 336 TFSs returned to Seymour Johnson earlier this month, 334TFS went on deployment to Canada. But as 'Fourth but First' suggests 4TFW is a cock of the walk. □



+ CHRONOLOGICAL SURVEY OF 4th TFW'S HIGHLIGHTS +

First unit to arrive in Korea with F-86 Sabre Jets -- December 1950.

First MIG-15 shot down by a Sabrejet -- 17 December 1950. -- by Lt.Col. Bruce H. Hinton, commander of the 336th Fighter Interceptor Sq.

First world's jet ace was a member of the 4th FIW. Capt. James Jabara destroyed his fifth and sixth MIG-15 in aerial combat on 20 May 1951.

First world's double jet ace was a member of the 4th FIW. Maj. George A. Davis jr., was credited with 11 MIG-15s destroyed (plus three prop-driven aircraft) when he was killed in action on 10 February 1952.

First USAF wing to receive the F-105 Thunderchief -- 19 June 1959.

First F-105s provided by the Fourth to participate on rotational duty to Europe on 1 April 1963.

First Tactical Fighter Wing to be moved into Korea as a result of the Pueblo incident -- 29 January 1968.

The wing's 334th TFS was first TAC unit to operate under combat readiness conditions equipped with only 'Bare Base' facilities (Kwang-ju AB, Korea, March 1968) -- July 1968.

First operational wing in TAC to receive the 'Slatted-Wing' version of the F-4E Phantom. The first aircraft arrived on 22 November 1972.

First F-4 TAC wing to augment PACAF forces during Constant Guard operations in Southeast Asia -- 11 April 1972.

A 336th aircrew shot down a MIG-21 on 15 August 1971. The only enemy aircraft destroyed by 4TFW during the Southeast Asia conflict. The primary mission of the 4th during this war was to fly chaf dispensing missions that preceded air strikes.

The wing participated in the delivery of F-4E aircraft and materials to Israel during Operation Peace Echo in October 1973 in support of the 'Yom Kippur' war.

336TFS deploys to Bodø, Norway, during exercise 'Coronet Viking' -- June 1974.

First fully operational F-4 TFW to achieve four years of accident-free flying - 5 December 1974.

First TAC wing to deploy a unit to Europe as part of renewed short-term tactical deployments to NATO countries. The 335TFS deploys to Spangdahlem, W.Germany -- July 1975.



## USAFE'S WEASELING 81TFS

With the delivery of two F-4G "Wild Weasel" Phantoms in April of this year 81TFS's second stage commenced with Wild Weasels in Europe. All 24 F-4Gs have now been delivered. FLASH took a closer look at their mission. How does the F-4G Wild Weasel meet the requirements ?

Late 1975, the Ogden Air Logistic Center at Hill AFB, Utah, completed conversion of the first F-4G Wild Weasel Phantom, 69-7254. The aircraft was flown to Edwards AFB for the usual flight tests with AFOTC. Subsequently the conversion programme started for conversion of 116 F-4Es to F-4Gs.

This number of F-4Gs was required to replace the F-105Fs and F-4Cs of 35TFW and 52TFW at George AFB and Spangdahlem AB resp. In regard to standardization and airframe life, the F-4E was preferred above any other US military aircraft for modification as weapon platform for the advanced Wild Weasel rôle. Externally the F-4G differs very little from the F-4E. The tail tip has a small extension and the only other external difference is the construction of the gun bay frame underneath the nose section. The tail extension houses an additional antenna while in the nose section the 20mm cannon has been removed for installation of the AN/APR-38 electronic countermeasure kit.

As part of the Wild Weasel history, the F-4G is the fourth generation. The history started around 1967 in the Vietnam War, when F-100F Super Sabres were installed with special ECM equipment to suppress the electronic functioning of the SAM-sites in Northern Vietnam. New developments improved the somewhat unreliable equipment but soon the F-100F was too small to house all the ECM equipment. The F-105F Thunderchief became its successor as it could carry more armament, performed at high speed and had a wider range.

The greatest improvement in the Wild Weasel history was the introduction of the F-4C. Again the capability to carry armament was enlarged. This also changed the mission for this specific rôle. So far the Wild Weasels were only used to suppress SAM-sites. With the heavy and specific armament of the F-4C, it became possible to attack and destroy the SAM-site as well.

The heaviest threat for air-to-ground support aircraft are the AAA (Anti Aircraft Artillery)-sites and SAM (Surface to Air Missile)-sites. An AAA-site is mostly a very simple mobile system. Mounted on a car or tank it can be transported very easily which makes it very difficult for the enemy to track and destroy. A SAM-site, on the other hand, is a complicated fixed installation. Therefore easy to detect but heavily protected so hard to destroy. Hence, the birth of the Wild Weasel. F-100F, F-105F F-4C and now F-4G. The F-4G gives three major improvements: 10 years newer airframe, Slats and better avionics.

Comment of an Electronic Warfare Officer (back-seater) on the avionical improvement: "One can almost speak with the system. The electronical possibilities by using computers have become unlimited". Where in earlier days the EWO's faced the problems of limited operations, they are now faced a problem of complex possibilities which expands every day, even after three years of F-4G operations.

Compared to the F-4C, the F-4G pilot has more work on navigation and in return the EWO got complete control over the weapon release. The EWO has the disposal over a large radar scope and can eliminate not requested targets. In order not to scare the life out of the pilot, there usually is contact just prior to launching. It gives the pilot quite an awkward feeling when flying at ease, suddenly a Shrike missile leaves his aircraft.

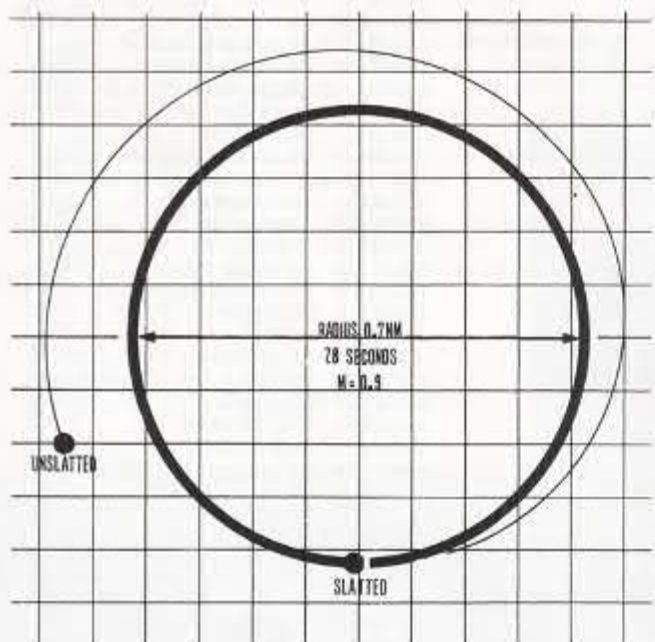
The AN/APR-38 system includes much of the latest digital technics. Using these technics means greater reliability, less maintenance, less electrical power and greater flexibility concerning the programming of the computer. In the F-4G these technics provide the EWO, on a display screen, the complete survey of all threats picked up by the antennae. Like in all NATO aircraft, the ECM equipment gives the pilot a certain tone. Every different radar threat has a different tone. This way a pilot can determine to what kind of threat he is exposed. The F-4C Wild Weasel also functioned on this system and the F-4G also has this 'old' system. But an EWO in the backseat of an F-4G can either listen to the tones or look on the display.

The European-based Wild Weasels are under control of 52TFW at Spangdahlem, W.Germany. During the conversion by 81TFS from F-4C to F-4G, the wing was re-organised and in this period operated four different kind of F-4 Phantom models: F-4C, F-4D, F-4E and F-4G. With the arrival of new F-4Gs from the States, a same number of F-4Cs was returned. Over this period 81TFS used some F-4E models for conversion training purposes. Added with more F-4Es these were passed on to 23TFS which subsequently converted from an F-4D squadron.

Present organization of 52TFW:

23rd Tactical Fighter Squadron	F-4E
81st Tactical Fighter Squadron	F-4G
480th Tactical Fighter Squadron	F-4D





In the development phase of the F-15, this USAF programme faced congressional critics. In case this would have led to cancellation, McDonnell/Douglas considered an improved F-4 would be an alternative choice for the USAF. Subsequently a programme was started to improve the F-4's manoeuvrability. Considering all kind of methods, SLATS proved to be the best solution. SLATS are installed on the leading edge of the wing and when extended they are slightly on top of the wing which creates an airflow in between the SLATS and the wing.



# SHOW REPORTS

## International Air Day at St. Mawgan (UK) on August 15, 1979 (T.Liu)

STATIC										
UH68-043	F-111E	USAFE	20TFW	38-49	F-4F	Luftwaffe	JB-36	XZ113/A	Jaguar GR.1	41Sqn
156529	P-3C	Orion	USN	VP-30	33-14	G-91R	Luftw.	XP347	Whirlwind	HAR.10
XL361	Vulcan	B.2		358sqn	32-96	G-91R	Luftw.	XV184	C-130K	LTW
XM717	Victor	K.2		558sqn	D-8331	F-104G	RNethAF	XV178	C-130K	LTW
XE608/12	Hunter	F.6A		1TWU	D-8051	F-104G	RNethAF	XS794	Andover	CC.2
XZ282	Nimrod	MR.2		42Sqn	No.133	Falcon	10	XX887/N	Buccaneer	S.2
WP833	Chipmunk	T.10		4AEF	FLIGHT-LINE			XV340/F	Buccaneer	S.2
WJ639/39	Canberra	TT.18		78sqn	No.51	Etendard	IVM	XP764/B	Lightning	F.3
254/V	Atlantic			MLD	No.59	Etendard	IVM	KR715/C	Lightning	F.3
218/V	Neptune			MLD	35-03	RF-4E	Luftw.	VP977	Devon	
01532	F-5E	USAFE	527TFTAS		35-68	RF-4E	Luftw.	XX224	Hawk	T.1
					WL745/45	Shackleton	AEW.2	XT283	Buccaneer	S.2
										2370CU

## Flygdag at Vasteras (Sweden) on August 26, 1979 (N.A.Wiltens)

STATIC:									
35621/22	J.35F	Draken		F1	37078/23	AJ.37	Viggen		F15
35461/61	J.35F	Draken		F1	32541/06	J.32E	Lansen		F13M
61034/34	Sk.61	Bulldog		F5	35438/09	J.35F	Draken		F1
60015/15	Sk.60	Saab 105		F20	35575/14	J.35F	Draken		F1
50041/74	Sk.50B	Safir		F1					
03423/93	AB.204	HKP.3		F1	FLIGHT-LINE:				
02404/-	Alouette II	HKP.2		F1	35522/04,	35565/12,	35577/16		
04456/96	KV-107	HK9.4		F8	35499/19,	35624/28,	35626/32		
79006/76	Dakota	Tp.79		F13M	35498/37,	35630/40,	35585/42		
37962/14	SF.37	Viggen		F13	35560/50,	35463/63,	35595/68		
37914/27	SF.37	Viggen		F13	and the following codes but				
37303/03	JA.37	Viggen		F15	unknown serials: 08,10,17,33				
37813/56	SK.37	Viggen		F15	34 and 46.All Draken J.35F		F1		

60098/98,	60106/106,	60112/112		
60118/118.	All Sk.60	Saab 105		F5
'26'	AJ.37	Viggen		F15
'27'	AJ.37	Viggen		F15
'12'	SP.37	Viggen		F13

HANGAR:	
35563/56 and 35589/58	J.35F F1

OTHER AIRCRAFT ON THE FIELD:	
84002/72	C-130E Tp.84 F7
'75'	Sk.50 Safir F1
'73'	Dakota Tp.79 F7

## Open Day at Finningly (UK) on August 8th, 1979 (B.Bailey-Hickman)

STATIC:					
XH669	Victor K.2	57Sqn	NJ695	Taylorcraft	(G-AJXV)
XM572	Vulcan B.2	35Sqn	X3770	Basset	CC.1 ETPS



FT375	Harvard	AA&EE
XZ595	Sea King	HAR.3
XS506/U	Nessex	HU.5 845Sqn
XR724	Lightning	F.6 5/11Sqn
XV756/26	Harrier	GR.3 1Sqn
PM631	Spitfire	
XV486	Phantom	FGR.2 (Alcock & Browne c/s, spare aircraft)
XV168	Buccaneer	S.2 12Sqn
WH665/J	Canberra	T.17 360Sqn
XE608/12	Hunter	F.6A TWU
XZ113/A	Jaguar	GR.1 41Sqn
XN306/Y	J.Provost	T.5B 6FTS
XN291/N	J.Provost	T.5B 6FTS
XN287/P	J.Provost	T.5B 6FTS
XN324/U	J.Provost	T.5B 6FTS
'WL925'	Glider	(wrong serial)
WK638/38	Chipmunk	T.10 9AEF
XX496/D	Jetstream	T.1 METS
XS738/U	Domnie	T.1 6FTS
XX619/B	Bulldog	T.1 Yorks.UAS
XX184	Hawk	T.1 4FTS
D-8338	F-104G	R NethAF
LN70-370	F-111F	USAFE 48TFW
IA75-402	A-7D	USAFE IowaANG
14641	OV-10A	USAFE 601TCW
WR77-275	A-10A	USAFE 81TFW
RT-660	TF-104G	RDAF Esk.726
R-345	F-104G	RDAF Esk.726

FLIGHT-LINE:		
D-8331	F-104G	RNethAF 312Sqn
XV748/B	Harrier	GR.3 2330CU
XZ133/A	Harrier	GR.3 2330CU
XV438/Y	Phantom	FGR.2 2280CU
XV488/R	Phantom	FGR.2 2280CU
XX754/23	Jaguar	GR.1 2260CU
XX766/14	Jaguar	GR.1 2260CU
XX933/T	Gazelle	HT.3 CFS
XN200	Puma	HC.1 2400CU
WR960/60	Shackleton	AEW.2 8Sqn



### FLASH BOOK SERVICE

Obtainable via FLASH:	
Observer's Book of Aircraft 1979	DFL. 9,25
Air Shows 1978	DFL. 9,95
British Civil A/c Register	DFL.15,95
German Military Aviation	DFL.15,95
Belgian Military Aviation	DFL.15,95
Spanish & Portuguese Mil. Aviation	DFL.15,95
Dutch Military Aviation	DFL.15,95
French Military Aviation	DFL.17,95
US Military A/c Designation & Serials	DFL.22,50

### FLASH BACK ISSUES

Available, though some in very small amounts, are the following FLASH Back-issues:

1977: April, May, June, July/Aug, Sept, Oct, Nov and Dec

1978: Jan, Mar, May, July/Aug, Sept, Oct, Nov and Dec

1979: Febr, July/Aug and Sept

Earlier this year, Dutch air force photographer Aoo.A.Kraak made a series of air-to-air photos of NP-5A K-3028 in the colourfull red-white and blue paint.

Obtainable via FLASH are two examples of this series. The prints are genuine, in full colour and printed on glossy paper (seize 25x20cm). Price: DFL.5,95 (one photo) and DFL.10,75 (both photos). Prices include postage.

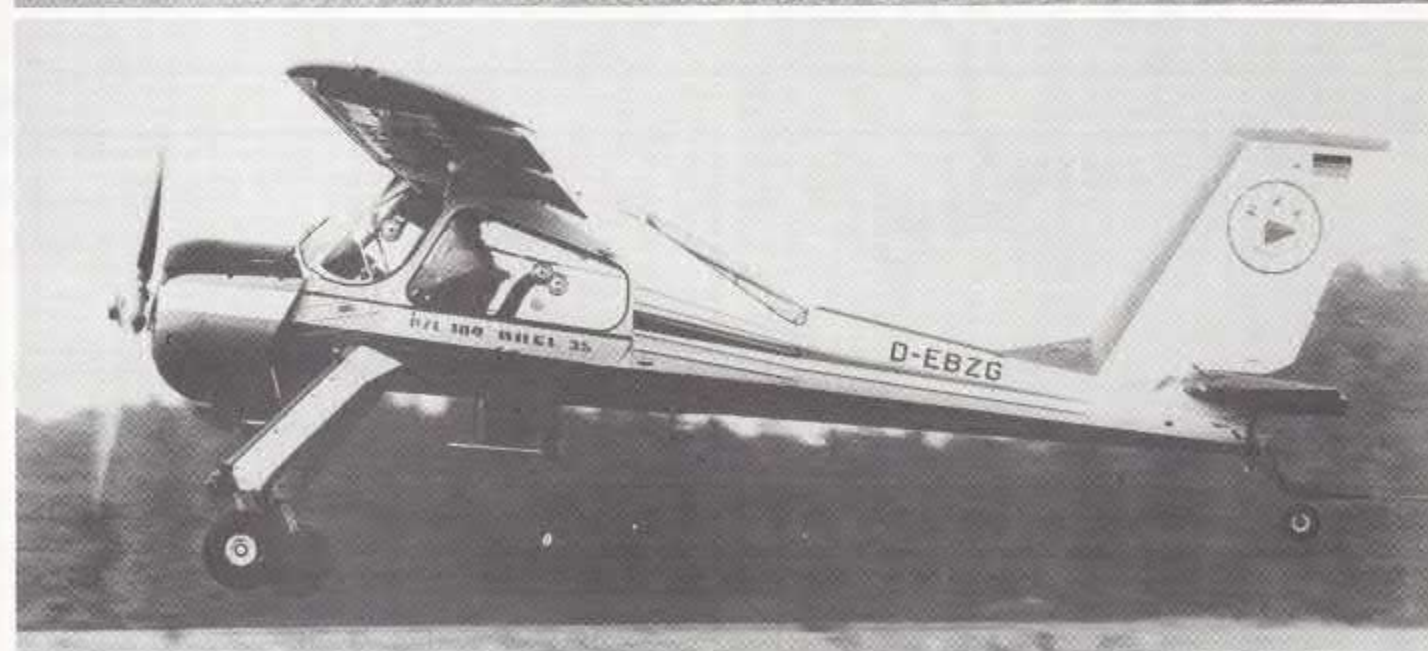
#### PHOTO COMMENT

COVER: A-10A 'Warthog' WR78-594 arrives at Wunstorf, W.Germany on September 7th, to attend the official ceremony inaugurating NATO exercise Autumn Forge.

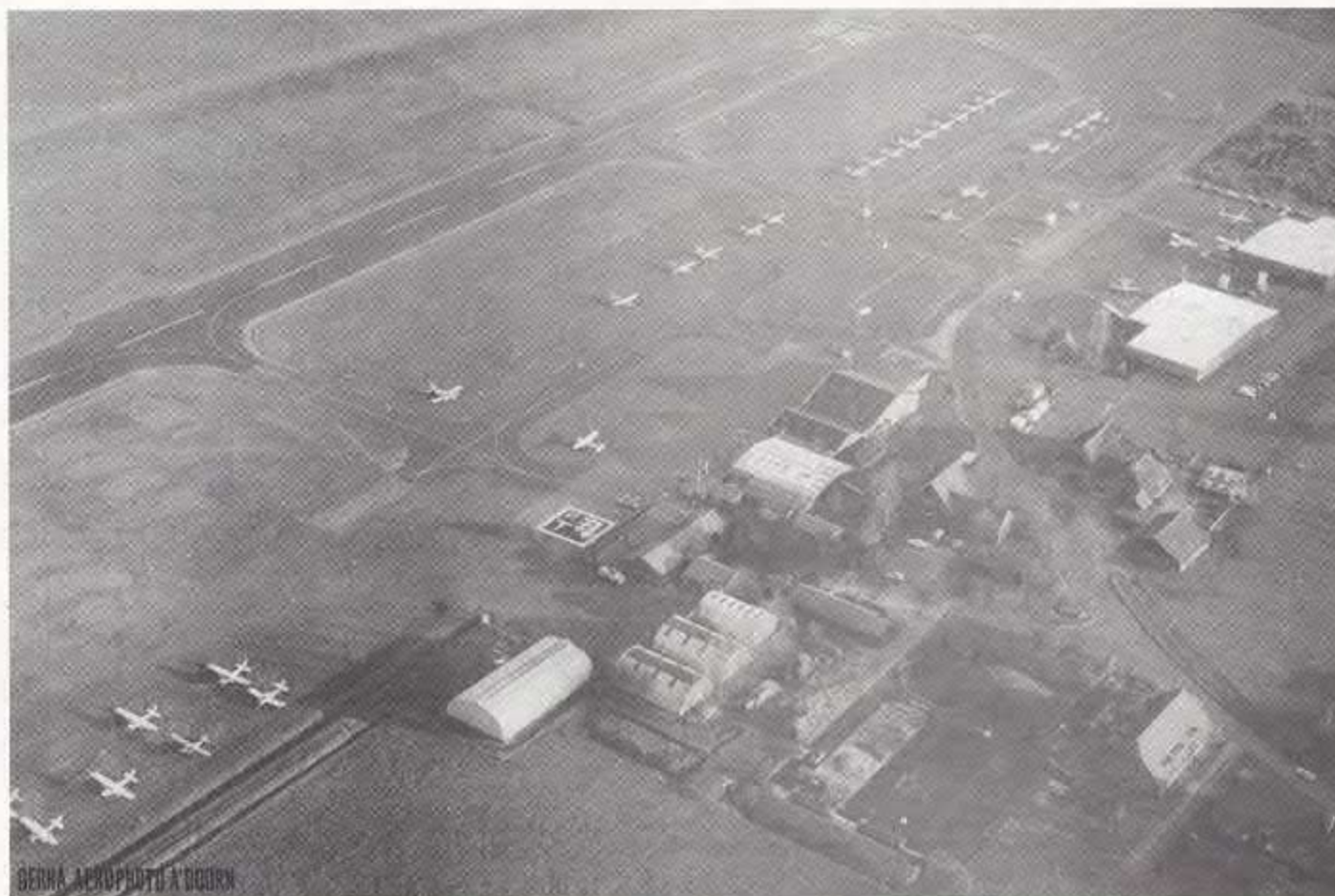
BACK-PAGE: 1Lt.Hans Köning in Klu's display NP-5 K-3028. This picture (in colour) can be obtained via FLASH. See elsewhere on this page. (KLu)

The editorial staff wishes to thank those who, in one way or another co-operated in this issue:

B.Berkemeijer/MAPN	R.Leeuw	G.v.Veen
C.Carretta	T.Liu	G.Weinmann
S. & M.Crino	P.Peulemeule	E.I.S.G.
D.O'Mahony	R.Portengen	
W.Koopman	H.Ruiken	



TOP : N201X QF-86 at Mojave. This Sabre was used as a Remotely Piloted Vehicle. (A.Wilderdijk)  
 MIDDLE: PH-EXR will soon be supplemented by Air Anglia's second F.28. (Fokker-VFW)  
 BOTTOM: D-EBZG was used as glidertuig at Borcken when it crashed at Klansheide on 22 May. (H.Dekker)



## TEUGE'S HISTORY MADE HISTORY

The first hardened runway at a Dutch airfield for light aviation was officially taken in use on October 5th. Staatssecretaris Mrs. N. Smit-Kroes ended a three-years period of argumentations about pro and cons on the hardened status of Teuge's runway 09/27. What preceded this event??

Despite intensive upkeep, it became clear the use of the grass strips at Teuge did no longer allow normal aircraft operations. It sometimes occurred that activities at the airfield had to be restricted after only a light rainshower. As a result only light aircraft with a minimum of passengers were allowed to use the grass strips during such periods.

In winter periods the air traffic control was sometimes even forced to shut down all flying activities at the airfield. Such cases heavily handicapped the companies in their daily work. On certain occasions companies could no longer keep their personnel at work for a certain period.

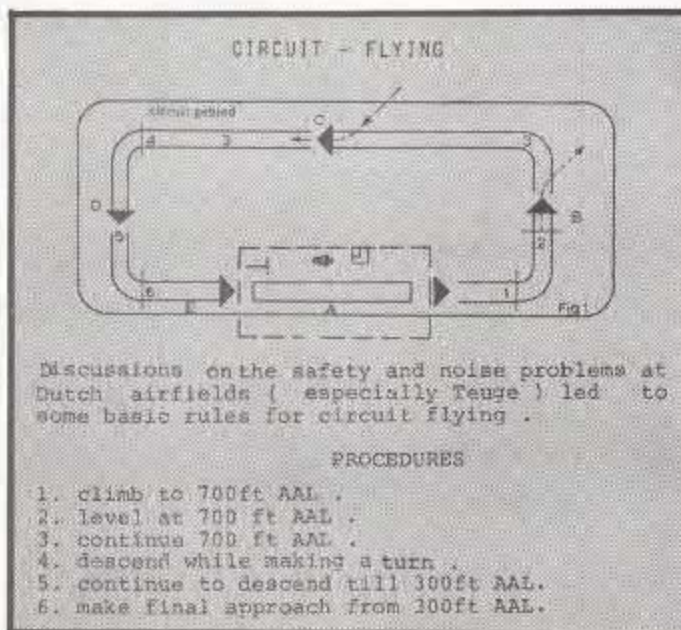
The airfield authorities, organized in the Algemeen Bestuur van de Luchthaven Teuge, initiated an inquiry into the possibilities to improve the existing runway. A team of experts was charged to investigate 'the optimum facilities for the present operators on the airfield'.

The algemeen Bestuur, with representatives of the municipalities of Apeldoorn, Deventer, Voorst and Zutphen, Chamber of commerce, Industries of Salland Noord Oost Gelderland, discussed the advises of the inquiry and in June 1976 the board reached a decision: The east-west strip was to be hardened as well as the taxi-tracks from and towards this runway.

For approval, this decision was submitted to the provincial authorities. The plan was approved and the construction, budgeted at DFL.1 million, commenced.

Completion of the runway was expected in December of that year. However, it would take another two

years before this goal was finally reached. This delay was caused by a well-known complaint in aviation: sound-annoyance. For 22 months, the board of Teuge airfield has been busy trying to convince all involved authorities of the necessity of the hardened runway and assuring the new runway would not increase the noise-levels around the airfield.



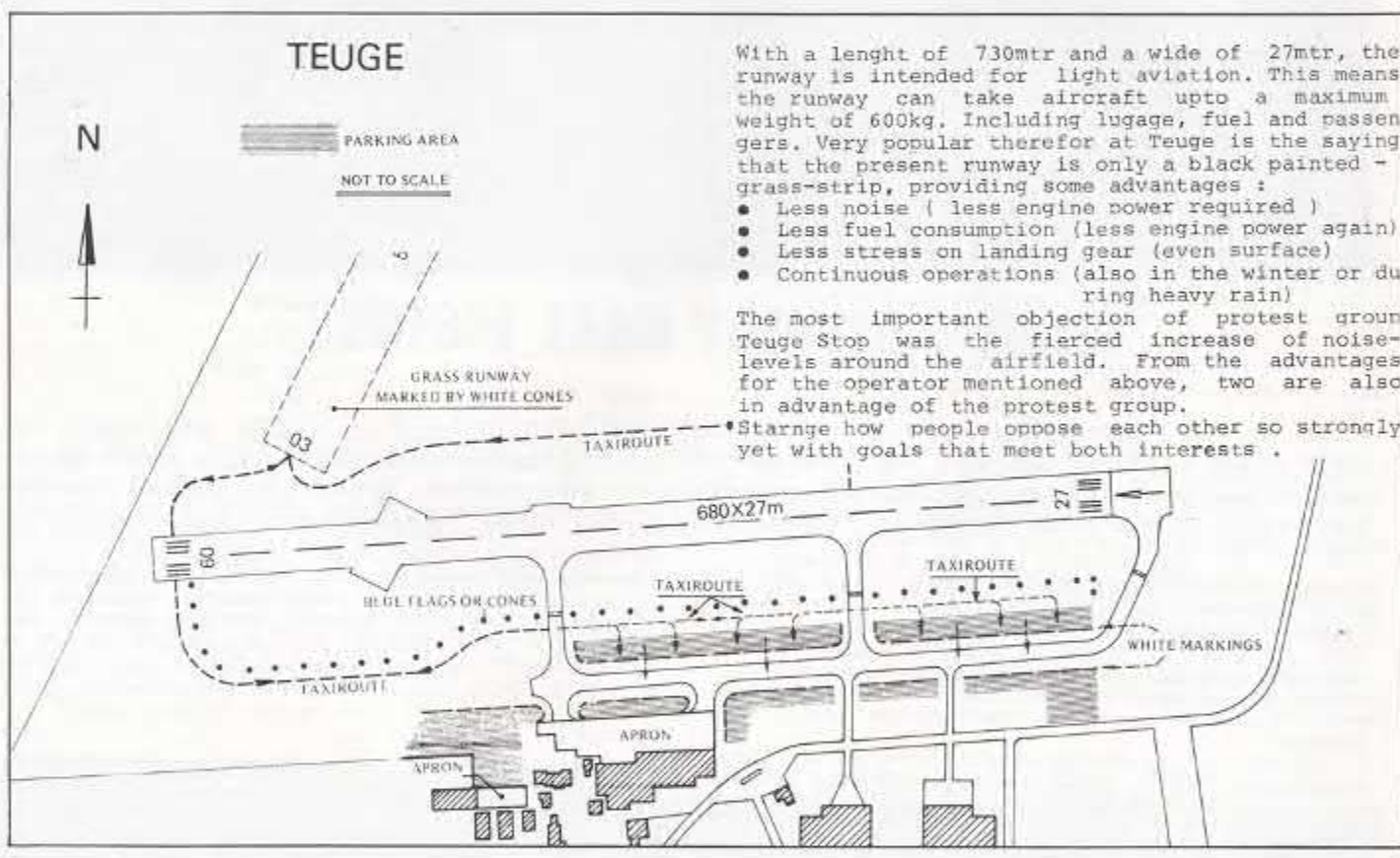
An initial campaign against the construction work on the airfield, by the protest group 'Teuge Stop' was successful. On 23 September 1977, the work had to be ceased on the ground of the AROB (Administratie Rechtspraak Overheids Beschikkingen) and in anticipation of the decree on the objection presented to the Council of State. The board of Teuge, on its turn, protested against the prohibition, considering the complains unfounded, but also operation safety on the airfield and growing costs were used as arguments to get work started again. The latter two arguments made the Council of State decide to allow construction of taxi-tracks and to finish the runway except for the top coat. The objections by protest group 'Teuge Stop' remained in force.

If things weren't complicated enough, 'Teuge Stop' used another juridical possibility to stop construction work. A suspension request was presented to the Council of State. This request was denied and despite the fact the objection was still in force the runway was completed in November 1978 with a top coat. Operations from the hardened runway were allowed but the Council of State imposed two restrictions:

- The aircraft operations should not exceed the imposed restrictions concerning noise-levels.
  - The noise-levels measured around the airfield in 1976, should not be exceeded.
- Later on the Council of State imposed a third restriction. To meet the complaints by people in the surroundings of the airfield. In July 1979 a test period started for six months. In this period, special procedures were followed for circuit flying (see elsewhere in this article). The procedures were corrected little by little, reaching to compromise in flying safety for operators, sound annoyance to neighbours and not too much problems for the pilot to fulfill this procedure.

On 28 August 1979, the Council of State proclaimed its final decision: THE OBJECTIONS WERE DENIED. Subsequently the hardened runway could officially be opened on October 5th. The Germans used Teuge during WWII and faced the problem of the marshy terrain. The Canadians operated from Teuge for a short while after WW II and solved this problem using iron mats. The present board of Teuge solved the problem permanently with an asphalt runway.

++ ONCE MORE, three times does the trick! ++



With a length of 730mtr and a wide of 27mtr, the runway is intended for light aviation. This means the runway can take aircraft upto a maximum weight of 600kg. Including luggage, fuel and passengers. Very popular therefor at Teuge is the saying that the present runway is only a black painted grass-strip, providing some advantages:

- Less noise (less engine power required)
- Less fuel consumption (less engine power again)
- Less stress on landing gear (even surface)
- Continuous operations (also in the winter or during heavy rain)

The most important objection of protest group Teuge Stop was the fierced increase of noise-levels around the airfield. From the advantages for the operator mentioned above, two are also in advantage of the protest group. Strange how people oppose each other so strongly yet with goals that meet both interests.

## MOVEMENTS

Deliveries to and from TEUGE during August 1979. ( Provided by I. Wilson )

01. PH-SMH F.172M (1021)	del. to Stauning to be OY
02. D-EMMI Fuji 200-180	del. from Stadlohn, rereg G-FUJI and delivered Southend-Leeds 24/9
04. PH-GEO F.172N (1837)	del. to Rotterdam
08. D-ECBL FA.150	del. from WG, to be PH-ECT
11. PH-ARC Tobago ( 12 )	del. from Hilversum
15. D-EMEN F.152	del. from Rheims, 17-8-79 to Bad Neuheim
16. PH-MDF F.172N	del. to Amsterdam
PH-LZE F.172	del. to Stauning to be OY
PH-MAP FA-18-150	del. to Stauning to be OY
20. PH-BAX F.172N	remains delivered from HILversum. 5-9-79 to Germany
22. D-IGMN C.340A (0666)	del. from Brussels (?), to Dusseldorf 28-8-79.
23. PH-PRM PA-44	del. from Rotterdam.

24. PH-AXB FR.182RG (40)	del. from Rheims, rereg D-EEMN, 28-8-79 Dortmund.
PH-AXV FR.182K (644)	del. from Rheims (PH-RPG) remains del. from Rotterdam by road.
27. PH-ENK F.150M	fuselage to Airport Fire section.
30. PH-MIF F.172	

Deliveries to and from SCHIPHOL during August 1979. ( Provided by H. Ruiken )

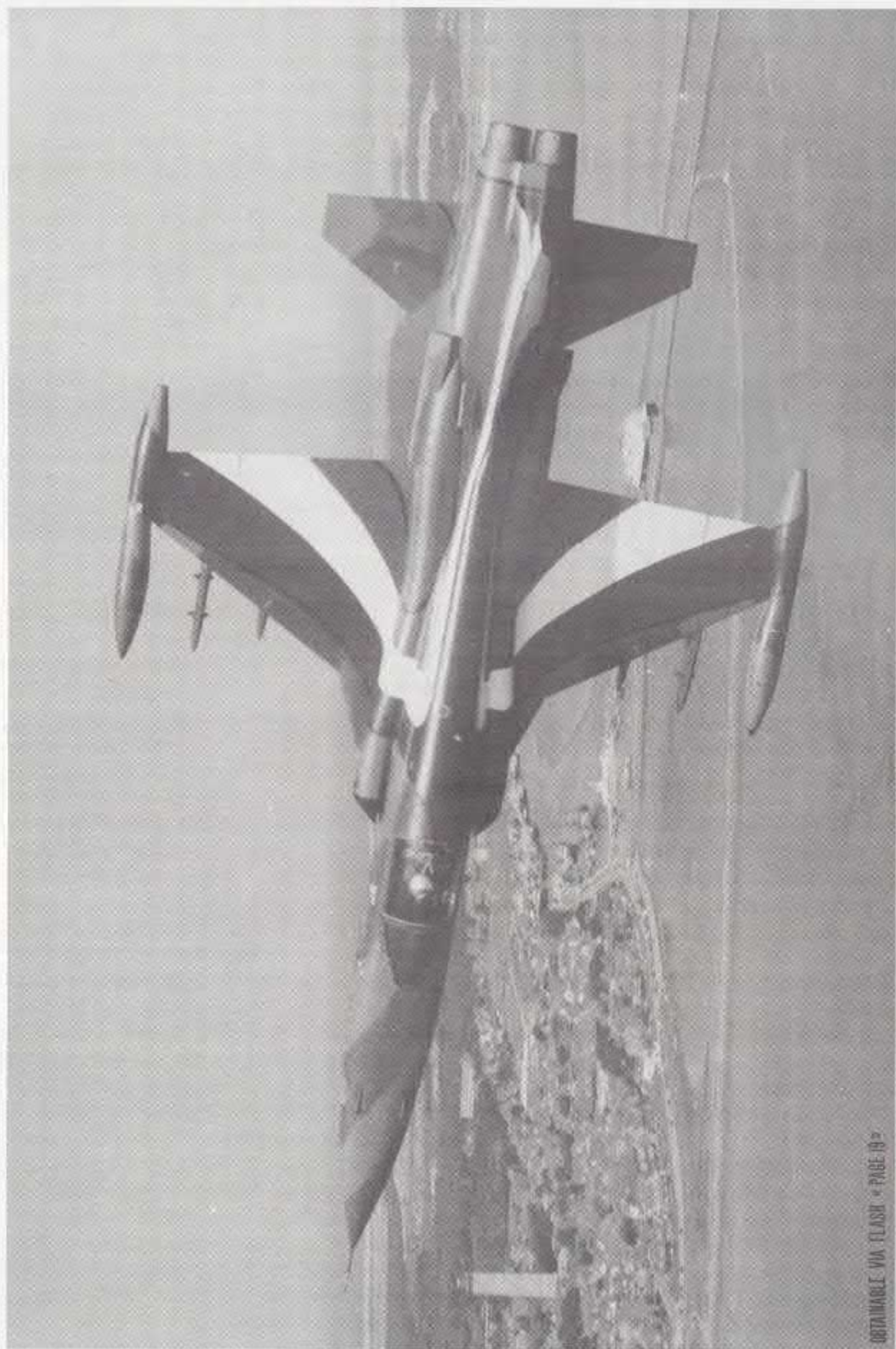
08. BK-GNY DC-9	delivery. for Garuda
10. OY-BRN F.28-4000	Fokker-VFW/Cimber
PH-EXA F.27-600	Fokker-VFW/L.A.A. (SADDU)
18. PH-BUN B.747/206B	delivery to K.L.M.
21. J-214 F-16A	Fokker-VFW/KLu, flying.
30. 9V-SDE DC-10	delivery. for Singapore
9N-ABD Boeing 727	Royal Nepal Airlines
N1001U Caravelle	Goodyear Aerospace

# DUTCH REGISTER SEPTEMBER, 1979



Reg.	Type	C/n	Remarks
PH-ARK	1980 Fuji FA-200-160	FA200-174	REN Stichting to William Cars
PH-BGY	2930 Beech 200	BB-558	Luchtvaartmij Schreiner Aws ex EI-BGY dd 4-9. (new)
PH-BIT	2936 Reims Cessna F.152	1863	Air Service Holland BV (new)
PH-BUO	2928 Boeing 747/206B Jumbo Jet	21848	Koninklijke Luchtvaart Mij (new)
PH-CSL	2186 DH-82A Tiger Moth	86609	H.C.C.S. Smeitink c/n change (was PG.712)
PH-EPO	2924 Piper PA-28-181 Archer II	28-7990557	Netherlands European AS BV to Octrooi- en Merken bureau Van Exter BV. (out)
PH-EWD	2856 Piper PA-31-350	31-7852082	Luchtvaartmij Schreiner Aws (out)
PH-FTS	2908 Fokker F.27-400 Troopship	10591	Fokker-VFW BV ex PH-EXP (64-STP) (new)
PH-HOE	2415 Fokker S.11.1 Instructor	6195	C. Honcoop to Autotron Drunen (out)
PH-JJM	2937 Reims Cessna F.152	1673	Air Service Holland BV ex PH-AXC (3) (new)
PH-LET	2461 Piper PA-18-135 Super Cub	18-3853	K.N.V.v.L. Terlet to Vliegclub Hoogeveen. (out)
PH-NDH	162 Fairchild 24R-46A	HB-685	C.C.A. Kries to France (out)
PH-RVT	2759 Partenavia P.68B Victor	156	Holland Automation Int.BV (out)
PH-SBN	2938 Piper PA-28RT-201	28R-7918198	BV Nationale Luchtvaartschool (new)
PH-ZBU	2929 Fokker F.28-4000 Fellowship	11133	Fokker-VFW BV ex PH-EXO (new)
PH-ZON	2931 Thunder AX-7/77Z	196	Amro Reizen BV (new)
PH-ZUS	2933 Rockwell 700	70019	H.A. Kapteijns (new)
PH-277	595 Ka 7	7007	N.N. Zweefvliegclub Witten (out)
PH-291	964 Ka 8B	8118	Twentsche Zweefvliegclub to K.J.J.T.Tibben e.a.
PH-335	992 Ka 6CR	6335	K.L.M. Konings to A.J.K. Karsmakers
PH-502	2119 Standard Cirrus	424 G	H.M.P.C. Willems to F.H.M. Kuijpers a.o.
PH-510	2212 ASW 15B	15371	J.A.J. Juurlink a.o. to G. & A. van der Stelt (new)
PH-677	2932 HB-21 (powered glider)	21018	Zeeland Soaring BV (new)
PH-680	2939 ASW 20L	20248	H.H.K. Krause (new)





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