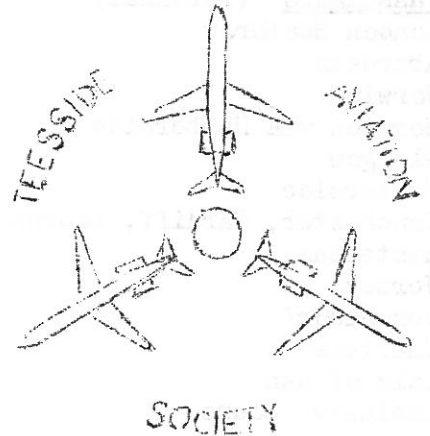
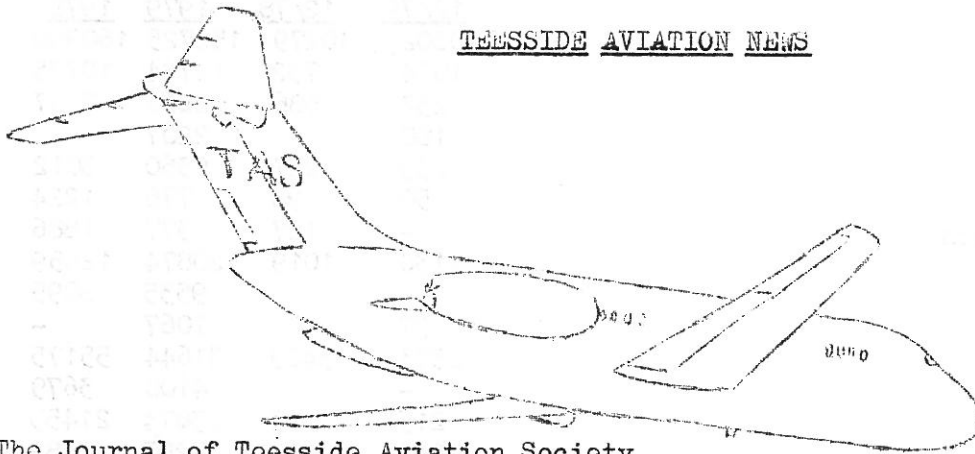


TEESSIDE AVIATION NEWS



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The AGM was held in the Conference Room at the Airport on the 26th of January. Almost forty members attended, which may be a record, even if the beautiful weather helped! Mr. Tony Norman, the Airport's Marketing Manager gave a talk about the Airport, full of facts, with snippets of information, & answered all of our questions very ably. Very many thanks to him! He also kindly arranged for everyone to visit the two main hangars & see many of the larger residents, including Viscount 'CS2A.

Steve Williams has derived the basic badge design (as shown above but much neater) as chosen by vote last year. The colour is black on pale blue, but the lettering may be gilt. There are two possible sizes- roughly the sizes of 1p & 2p pieces, both with clasp fastenings. A further quotation is being obtained, but the price seems certain to be a little above £1. Virtually everyone at the AGM wanted one- so we will probably want orders next month- with the cash!

When you write, it would be very helpful if you let us know which trips you would support this year. The list is already quite long: 11/5 Cosford & Staverton, 17-18/5 Biggin Hill, 29/5 Brawdy, 31/5 & 1/6 Filton (Bristol), 31/5 Wyton (Families), 5/6 Fairford, 7/6 Honnington (Families) Waddington, Church Fenton (8th?), 15/6 Usworth, 28/6 Woodford, 12/7 Exeter, 12-13/7 Strathallan, 19/7 Lee-on-Solent, 19-20/7 Portland, 23/7 Cudrose, 30/7 Prestwick (RN), 2/8 Yeovilton, 13/8 St.Mawgan, 16/8 Alconbury & Upper Heyford, 23/8 TEES-SIDE, 23-24/8 Mildenhall, 1-7/9 Farnborough, 13/9 Abingdon, 13-14/9 Duxford (40th Anniversary), 20/9 Finningley & Leuchars. Those underlined are where trips have been managed in the past. Filton is a pig-in-a-poke, it is advertised as being organised by the Greenham Common team, whatever that implies. After Bassingbourne no-one is sure. Do be realistic - last year over 20 wanted a trip to Cranfield, but only 11 sent deposits when the crunch came.

John Perrin again held an "Aviation Expert of the Year" quiz and Richard Nann won it with 29 out of 40, congratulations! Here it is for people who weren't there:

- 1) Type of a/c that crashed in Iranian mountains this week? 2) Name the 7 BAA airports.
 - 3) Which 2 US military transports are being lengthened for 2 different air forces?
 - 4) What do the following stand for: a) RAE, b) RRE, c) OCU, d) FTS, e) ETPS, f) UAS?
 - 5) Which new a/c type will BA introduce this year? 6) Name of the new British independant airline which started operating with B.737s last year? 7) Code name of Russian VTOL carrier fighter? 8) Large Russian wide-body expected in service before the Olympic Games?
 - 9) The two airlines now forming Jersey European Airways? 10) Details of tragedy on 28/11/79 in Antarctica, 257 killed? 11) The number of the RAF VC-10 squadron? 12) What is the usual timetable journey time for TD-LHR in BMA a) DC-9, b) Viscount? 13) Freight aircraft burnt out at LHR a month ago? 14) What type of helicopter set a new London-Paris record recently?
 - 15) British-built military a/c being delivered to Indian AF? 16) Missile for Hawks? / (DH)
 - 17) Three early post-war transports built by Bristol's? 18) Registration of proto.Comet?
 - 19) Twin-engined wooden fighter/bomber of WW2, prototype preserved?
 - 20) A BA Concorde has been urgently withdrawn from service. a) where is it? b) Why?
- Answers next month!

Tees-side Airport Traffic December 1979 and 1979.

<u>Passengers (Terminal)</u>	<u>12/79</u>	<u>12/78</u>	<u>1979</u>	<u>1978</u>
London Heathrow	10802	10279	152725	160990
Aberdeen	1094	732	12794	10775
Norwich	232	586	2826	7357
Norwich via Humberside	188		2207	
Glasgow	239	227	6360	3012
Humberside	50	96	776	1224
Manchester, Cardiff, Bournemouth	-	127	377	1886
Amsterdam	1130	1019	20874	12559
Jersey	-		9535	8895
Dusseldorf	97		1067	-
Charters	2573	3429	31644	55175
Isle of Man	-		4100	3679
Inclusive tours	213	263	23874	21453
Hire	297	459	7297	7682
Business & executive	254	216	4363	4630
Diversions	39	982	3972	3510
Military	-		2495	263
(Transit)	1545	1394	16745	18156
Totals (5% decrease)	18753	19809	304031	321246

Aircraft Movements

Scheduled services	575	564	8456	7305
Inclusive tours	3	2	237	245
Hire	78	139	1877	2155
Charter	149	211	2105	4021
Pleasure	-	-	88	332
Positioning	71	105	1313	1820
Other commercial	18	14	343	242
Crew conversion	143	514	5378	5267
Non-commercial	17	8	197	248
Club	1667	595	18750	19611
Private	392	158	6374	6707
Official	-	-	10	23
Military	8	98	2020	2439

Totals (+30%, -6%)

Air cargo, tonnes (35 %, 369 % increase)

Road cargo t.	18.4	28.3	1813.5	386.8
Aircraft diverted IN	5	30	139	103
OUT	1	16	36	39

The official view of the year's figures is that they are a little disappointing, but it can be seen that the major factor is the loss of 24,000 oil rig workers, most of the services are doing well. Chevron have established a base for operations now at Tees-side, and this should generate traffic. More holiday flights this year will also help.

The effect of December's good weather can be seen in the club flying figures, in spite of rising costs.

Tees-side Air Show 1980

The Red Arrows in their Hawks are expected, and a mock battle with Army airborne & ground forces is planned for Saturday 23rd August. Gates open 1000 & flying 1300 -1700.

January Quiz Answers

- 1) 216 Squadron. 2) Filton, Bristol. 3) WK194 4) Birmingham- Northern Ireland & USA.
5) Desford.

13/2/80 Monsoon G-AZTB stalled & crashed at Usworth. Pilot, Mr. Ken Large, CFS of TFS suffered facial and chest injuries.

8/2/80 A Piper 24 reported to TD ATC that he didn't have enough fuel to reach TD. Four County Durham fire brigades came to assist. The aircraft, from Cardiff, eventually arrived without damage, though with very little fuel left.

Air Europe has ordered a sixth B.737-200 for Spring '81. Air UK now have G-BAUR & CBIA in their livery.

JOURNAL OF THE ROVING SPOTTER

Sabre - Renowned Fighter

A history of the Sabre must start in 1945 - when the North American Company was awarded a U.S. Navy contract for three XFJ-1 straight-wing fighters of the type later to achieve limited distinction under the name 'Fury'. A similar design, stripped of naval modifications and designated XP-86 was then submitted to the USAF, resulting in an order for three prototypes. The original XP-86 design would probably have proved inferior to that of the contemporary Republic XP-84 (later "Thunderjet") in performance.

German research data had disclosed the virtues of sweepback in delaying the onset of compressibility. In conjunction with a specimen Me262 wing, this information encouraged the North American technicians to redesign the XP-86 to incorporate swept-back surfaces. Their drastic revision entailed a lengthening of the fuselage and various incidental modifications, so that when the new fighter appeared in the autumn of 1947 it differed very noticeably from the straight-wing naval Fury, construction of which had proceeded as originally planned. The first of the two prototypes flew in October 1st 1947 and was powered with an Allison J-35 turbojet of only 4,000 lb thrust.

The F-86A, as the production version was designated, and powered with the brand new General Electric J-47, demonstrated not only extremely high speed, but great tractability in handling. It was remarkable for the ingenuity of design and construction, especially in its wings, this had 35 degrees of sweepback and was of "sandwich" structure, where the material was laminated between inner and outer skins. Another innovation was the "lipping" of the air intake to maintain air flow in a nose-up attitude.

Though the Sabre - as the F-86 came to be dubbed - was never designed for supersonic speed, the makers did proclaim that it had been built "to come nearer the speed of sound under combat conditions than any other American fighter". Beyond mentioning a range of over 1000 miles and a service ceiling of over 40,000ft, however, they disclosed little more. By September 1948, the world suddenly became aware of the Sabre's quite extraordinary speed, as on the 15th a standard F-86A, carrying full military load and flown by Major Richard L. Johnson USAF established a world speed record of 670.981 mph over Mudoc Lake. This record stood until Captain J. Slade Nash attained 699.9mph in an F-86D on 19th November 1952.

The Sabre was heir to the ills of most prototypes, and soon showed symptoms of altogether new complaints. Troubles stemmed from the new axial power-plant; thus, the rate of climb and altitude performance of the F-86A were to say the least suspect, while the short life of the turbojet - initially only 7½ hours between inspections - did nothing to enhance the new fighters reputation.

In its ability to attain supersonic speed in a dive, however, the Sabre remained unique among military aircraft for a long period. During 1948 reports of supersonic dives over California, with their noisy and allegedly destructive consequences, began to circulate. It is not widely known that W/C Roly Beaumont of E.E. Lightning fame became the first Englishman to achieve Mach one, in May 1948 at Mudoc, California, USA.

The resounding success of the F-86 in Korea (notwithstanding its slight inferiority to the Mig-15 in high-altitude performance) is now common knowledge.

The Sabre family - the two prototypes were designated XP-86, and powered by Allison J-35s, later changed for General Electric J-47s. The initial production model, F-86A first flew on May 20th 1948, and the last came off the line in October 1950. Two machines of this type were handed over to the Central Fighter Establishment at the Royal Air Force during 1950. One 'A' airframe was fitted with the Avro Canada 'Orenda' turbo-jet.

The F-86D differed considerably in equipment and appearance. Most notable superficially was the installation of a prominent bullet-shaped nose, and repositioning of the air intake duct below, shark's mouth fashion. The engine was a General Electric J-47-GE-17 fitted with an afterburner, and the cockpit canopy was of 'clamshell' type, hinged at the rear end. No guns were fitted, but there was a retractable rocket launcher in the belly for a battery of R.P.s.

The F-86E superficially resembled the 'A' but was fitted with an all-flying tail, in which the tailplane and elevators were linked for co-ordinated movement. This feature gave better longitudinal control and eliminated the loss in effectiveness of the surfaces due to the heavy loads at high speeds.

The F-86F variant was produced by North American at Columbus, Ohio and had more powerful J-47 turbo-jet. Slightly larger than the 'E', the F-86H was made at Los Angeles; fitted with a J-73 (developed J-47) turbojet, and improved ejection system and various mods.

The YF-93A sub-type differed primarily in having a Pratt and Whitney J-48 (Roll-Royce Tay licence) centrifugal turbojet, with flush air intakes and an afterburner. Two prototype types were built and used by N.A.C.A. Flight Test Laboratory for high-speed research. The Avon-Sabre, built in Australia by the Commonwealth Aircraft Corporation Pty., Ltd., was based on the standard F-86E, armed with 30mm guns and powered by a Rolls-Royce Avon RA 14. From the F-86 Sabre was developed the new Sabre F-100, once known as Sabre 45 (45 degrees of sweep-back on the wing). Mention must also be made of the FJ-2, a deck-landing development of the F-86E, armed with four 20mm guns. The Canadair built F-86E became familiar in this country as the version which equipped RAF and RCAF squadrons in Britain in the fifties. Now in the late seventies, certain versions of the Sabre are still in limited service and give a good account of themselves.

History of Rolls-Royce Aero Engines

Part 4

Nene

Designed to a Ministry of Aviation Production specification of 1944, calling for a turbojet having a maximum diameter of 55 ins., a minimum static thrust of 4000 lb. and weight limit of 2200 lb. Scaling-up a Derwent was considered, but the diameter would have been 60 ins.. The design took 5½ months & diameter was 49½ ins, thrust 5000 lb.. Aircraft which used the Nene included the Supermarine Attacker & 535, prototype Canberra, Gloster E.1/44, Dassault Ouragan & experimental Lockheed Shooting-Star.

Tay

Little known in Britain, although two were test-flown in a Viscount, it was developed from the Nene. Further improvements were made by Pratt & Whitney and Hispano-Suiza under licences. Its American name was J48, used in the Lockheed Starfire (F-94C), Grumman Panther & Cougar. 6250- 7000 lb thrust were obtained, plus 1000 lb by water injection. Hispano-Suiza Tays have been used in Mystere 2,3 & 4.

Trent

Britain's first turbo-prop & the first in the world to fly. Experimental work started in May 1944, when a Welland was equipped with a spur-type reduction gear. The Trent (RB.50) was built to gain experience, & was really a Derwent with reduction gearing & a small five-bladed propeller. It was on test in March 1945, & was installed in a Meteor in September. Clyde (RB.39)

A large turbo-prop designed during the war, it was remarkable in having a nine-stage axial compressor & single-stage centrifugal compressor, in addition to two turbines. It was the first turbo-prop to pass its full civil & military type tests, when it was run at 2500 shp. Eventually it was rated at 4500 shp, proving the reduction gear's load capability. It was only used in the Westland Wyvern.

RB.108

Was a military single-shaft lift engine, used in several experimental VSTOL aircraft & hover-rigs. Dassault Balzac (8 engines supplied), Dornier hover-rig (4), EWR-Stud (German hover-rig: 3), EWR-Wippe (German hover-rig: 1), Fiat hover-rig (2), Short S.C.1 (5), & VFW SG.1262 hover-rig (German: 5).

RB. 145 & 153 Developements of the 108.

RB.162

This was second-generation to the 108 & also used for lift. Development was financed by the British, German & French governments as well as R-R. In 1969, a 7000 lb version was proposed for a STOL Boeing 737, using eight lift-jets with swivelling exhaust nozzles. A version (RB162-86) operates as take-off & climb booster on Trident 3, in the fin-base.

RB.163 Spey

A civil twin-spool turbofan, used in the BAC 111, Gulfstream 2 & Trident.

RB.168

Military version of the Spey. The RB.168-1.Mk.101 is fitted in Buccaneer S.2 & S.50. The -20 powers the Nimrod, & the -25A.Mk.201 (12500, or 21,250 lb with afterburning) is used in F-4 K/M Phantoms in the RAF/RN.

RB.183 Spey Junior

A lighter, simplified version of the Spey produced specifically for the F-28 Fellowship.

More than 4500 Speys have been ordered since it first ran in 1960. As well as the above three, there is the joint R-R/Allison T.41 military version, of which 1300 had been produced up to 1979 for the A-7 Corsair. Allison have proposed an after-burning growth version of the TF.30: the 29,500 lb model 912-B32N to counter US concern at undue reliance on the Pratt & Whitney F 100. It could be retrofitted to F-14, 15, 16 & 111 aircraft.

Total operating experience up to 1979 was over 18 million hours on the 8 types of aircraft using Speys & TF.41s. Manufacture of all marks continues, & in 1979 the engine was selected for the Gulfstream 3. It may be used for the Aeritalia AM-X successor to the G-91, when Alfa-Romeo would be licensee. Roumania agreed to joint manufacture with R-R of about 225 civil Speys over 15 years. These are for BAC 111s to be built in Roumania.

Avon

The original Avon concept of 1945 was for 6500 lb thrust, taking over where the Nene left off. Early ones were developed into the RA.21 rated at 8050 lb dry which, derated to 7350 lb were fitted in RAF Comet 2s. Since 1951, after-burning versions have also been in production, giving up to 30% more thrust.

The 100-series Avons were used by many RAF high-performance aircraft. Many were built under sub-contract by firms outside the industry between 1951 & 55 under government super-priority programmes. They were also built in Australia, Belgium, Sweden & France.

By 1951, a new family of engines using virtually no parts of the original engines were given the same name, Avon type 200. They gave 30-50 % more thrust though, & later had afterburners. The Avon 300 (RB.146) was a military single-shaft augmented turbojet. The 301, used in later Lightnings & Drakens, gave 12690 lb dry & 16860 wet. Civil 200s were known as the RA.29, & were used in the Comet 4 & Caravelle, producing 10000-12600 lbs.

Dart

First ran in 1945 at about 1000 hp., but the first quantity-produced model, the 505, was rated at 1547 ehp. An outstandingly successful turboprop engine, it has been in continuous production since 1953. More than 6800 have been built, & over 85 million hours accumulated. The Dart 10/1 Mark 540-10 is the latest, 3025 shp for take-off.

Users Table.

Breguet 1050 Alizé 1X Dart RDa.7 Mk.21 2020 ehp	HP.Herald 200,400 2X Dart RDa7/2 Mk527,2105
Cavalair Mustang 3 conv.1X RDa6,mk.510,1440shp	AW.Argosy 220 4X RDa7/2,mk532/1 2230 ehp
or 1X RDa7/2,mk529,2185shp	Argosy C.1 4X RDa8,mk101 2690 ehp
Convair 600/640 2X RDa10,mk542/4, 3025 ehp.	HS748 S.1 2X RDa6,mk514 1860 ehp
Faichild/ F-27 2X RDa6,mk511 1670 ehp.	" S.2 RDa7/2,530 or 531 2020 ehp
Hiller F-27A/F RDa7 mk528-7E 2105 ehp	Andover C.1 RDa12 mk201 3245 ehp
" F-27B RDa6 mk514-7 1850 ehp	" C.2 RDa7 mk532 2230 ehp
" F-27J,227,227B RDa7 mk532-7 2250 ehp	NAMC YS-11,11A RDa10 mk542-10 3025 ehp
Fokker F-27 S.100,300 RDa6 mk517-7 1850 ehp	Viscount 700 4X RDa6 mk 510 1670 ehp
" 200,400,500 RDa7 mk 532-7 2255 ehp	" 800 RDa6 mk510 or 7 mk520 1815 ehp
Gulfstream 1 2X RDa7/2 mk529-8 2100 ehp	or RDa7/1 mk 525 1910 ehp
HP.Herald Ser.100 2X RDa7/2 mk526 2020 ehp	or RDa7/2 mk 530 2020 ehp.

Conway

One of the factors governing the economics of aircraft propulsion is the Froude efficiency, which is a function of the difference between the aircraft's airspeed & the velocity of the jet issuing from it. In slow aircraft, the airscrew accelerates a large mass of air & the resultant 'slow jet' gives a high Froude efficiency. Conversely, the factor is low with a turbojet, especially in a low airspeed condition. These considerations led to the turbofan or turbojet with bypass, falling midway between a turbojet & a turboprop. Excess delivery from an oversize low-pressure compressor spool bypasses the hot parts of the engine & is re-entrained at the rear. The remaining delivery goes through the combustion chamber & turbine (which are most efficient when run as hot as possible). The bypass engine thus produces a larger, slower jet with a hot fast-moving core, giving a higher Froude factor, less noise & a lower fire risk.

The Conway used this concept & in the late fifties Trans-Canada ordered it for their DC8s & it was chosen for the Victor B.2. Deliveries began in 1959 using the R.Co.12 in the DC8-40 & B.707-420, the former mark 509 in standard nacelles & the latter mark 508 in an all-British pod with R-R silencer & reverser.

R.Co.42 mark 540, 20,370 lb	was used in the BOAC VC-10
R.Co.43 mark 301, 22,500 lb	" " " " VC-10 C.Mk.1
R.Co.43 mark 550 21,800 lb	" " " " Super VC-10
R.Co.17 mark 201 20,600 lb	" " " " H.P.Victor B.Mk.2
R.Co.12 mark 508 17,500 lb	" " " " Boeing 707-420
R.Co.12 mark 509 17,500 lb	" " " " Douglas DC8-40 (The Conway 12 was the civil derivative of the original military engine for the Vickers V.1000).

December Quiz Answers (1) October 1948, 47 Sqdn, Dishforth. (2) August 1950, 115 Sq. Marham. (3) Valiant 49 Sqdn. (4) Canadair CL-44 (5) Northrop F-5 Tiger 2.

Ellington Air Force Base, Texas.D.Croucher.

An F-84 mounted on a plinth across the road marked the entrance to the base. To get to the hangar area we passed the old wooden airfield buildings. These are falling to pieces, padlocked, & marked 'out of bounds'. The powers that be, it seems, don't know quite what to do with them: so they rot.

At Ellington are based the 147th Fighter Interceptor Group, Texas Air National Guard, flying 12 F-101 Voodoos. Two of these are kept on 24-hour alert, & are scrambled to check unidentified radar plots over the Gulf of Mexico. Here smugglers sometimes use light aircraft. Two more are on alert at New Orleans. Sharing the base is NASA's Flight Research Center, as it is not far from the Lyndon B. Johnson Space Center in Houston. Martin B-57s are used for high-altitude air sampling. Three were seen in the hangars.

A NASA Boeing 707 N390NA overshot before landing. I believe this to be the padded aircraft used to simulate weightlessness for short periods. At least four of NASA's Northrop T-38s were seen, but as it was Friday, the personnel had gone home early, & no-one had the keys for us to tour inside the hangars. However, we noted 3 Kiowas & a Huey-cobra in a wire enclosure, Convairs- 42810 Pennsylvania ANG & 87111 Texas ANG, 3 UH-1s Army National Guard, a target T-33 & 2 Chinooks, later joined by a third. A Sikorsky S-61 of the US Coast Guard came in, as did two Grumman Tomcats- after a flypast. An A-4 Skyhawk overflew. The US "Thunderbird" aerobatic team of 8 T-38 Talons was lined up on the apron with their C-141 Starlifter support aircraft. On the dump were a Neptune, Voodoo, B-57 & a F-102 Dagger.

The W.P.HOBBY AIRPORT is Houston's second airfield in size & was across the road from our motel. Lots of traffic was to be seen inbound, mostly light aircraft, with a BAC 111, DC-3, MU-2, Osark DC-9 & South Western 737 a few amongst the many.

This had been quite a long day, as at 0600 that morning we had left our motel, & at 0700 left Sky Harbour International Airport, Phoenix, Arizona on a Continental 727, N88714. On the way out were seen an Allegheny 727, Delta DC-8, TWA 707s N6722 & N6789T, a Metroliner, American DC-10, a Mohawk in dark blue & white, plus four KC-135 Stratotankers of the Arizona ANG. One of these took off ahead of us. After 12 minutes flying we landed at Tucson International for a 10 minute stop. Noted there were a Hughes West DC-9, American & TWA 727s, Gulfstream II, Learjet, T-28 and light aircraft. Two A-7 Corsairs overflew.

After another 58 minutes flying we landed in Houston. Some of us had breakfast on the aircraft. Noted on landing: Air Carista, Eastern, National and Continental 727s, North Central, Texas International DC-9s, Delta Tristar, National DC-10, Airlift DC-8 & a KLM 747. The weather was cloudy, with a 10-knot wind and a temperature of 83°F.

The McDonnell Douglas F-15 EagleE.Serrell.

The Eagle was first flown on July 27th, 1972. It was designed to cope with the increased power, speed & ceiling made available to Soviet aircraft of 1970- 72, just as the Foxbat Mig-25 was designed to deal with the B-70 Valkyrie.

To gain speed the Eagle's weight was kept to 41,500 lb on take-off, with four Sparrows and full internal fuel. Its engines are two Pratt & Whitney F100-PW-100 turbofans, giving a total thrust of 50,000 lb, and enabling the Eagle to gain eight time-to-height records: one of them was 37,000 ft in 59.38 seconds.

397 Eagles have been built to date, their serials being 30085- 30107, 40081- 40186, 50018- 50079, 60008- 60120 & 70061- 70153. Additionally, 57 F-15B: 30108- 30114, 40137- 40142, 50080- 50089, 60124- 60142 & 70154- 70168. Production has now moved to the C & D versions.

Units: 58 TTW, code LA 75 aircraft in the 461, 550 & 55 TFS

137 "	FF "	" "	" "	27, 71, & 94 "
36 "	BT "	" "	" "	22, 53, & 525 "
49 "	HC "	" "	" "	7, 8, & 9 "

32 TFS	CR 25	"
57 TTW	20	"

Israel received four refurbished F-15s, plus 20 new aircraft, 61505- 61525, the last two being the two- seat B version. Japan has two on loan: 40102 & (B) 50080.

During our visit to the Airport, we were told that G-BGLC was taken off (Amsterdam route resident) because it couldn't do the TD- Sumburgh route with a full load of passengers (they feed rig-workers well). This Viscount 839, c./no.436, was built for the Shah of Persia, delivered 15/5/61 as EP-MRS of Iranair, & the luxury fittings added a lot to the unladen weight. It was later (RAF) A6-436, (Jotair) VH-BQQ, Gates Avn, Sultan of Oman '502', Ngwana 3D-ACN, Air Bridge Carriers. Replacement V.807 G-CSZA, c/no.282, was delivered as ZK-BRE (NZNAC "City of Auckland") on 31/1/59, VP-LAU about '75, to Southern International 1979.

The General Dynamics F-111

D.C. Anderson.

Series: F-111A to F, EF-111A, FB-111A. Engines: Two Pratt & Whitney TF30 afterburning turbofans: F-111A,C: TF30-3 at 18,500 lb. F-111D,E: TF30-9 at 19,600 lb.

F-111F: TF30-100 at 25,100 lb. FB-111: TF30-7 at 20,500 lb.

Dimensions: span, 72.5° sweep, A,D,E,F: 31ft 11½in (9.74m) C,FB: 33ft 11in (10.34m)
16° sweep, A,D,E,F: 63ft (19.2m) C,FB: 70 ft (21.34m)

length, 73ft 6in (22.4m). height 17ft 1½in (5.22m).

Performance: max. speed (clean) M2.2 at 35,000ft or above (1450 mph); low level M1.2 (800 mph)
service ceiling (clean) A; 51,000 ft, F: 60,000ft, FB: 65,000ft.

range on internal fuel, AMC: 3,615ml, E: 3800 ml. (6,115 km).

Armament: Internal bay for two 750 lb (341 kg) bombs or 20mm M-16 multi-barrel cannon.

Eight underwing pylons for a total of 31,500lb (14,290kg) of stores. The inner pylons swivel with the wing, & the outer 4 are fixed- only loaded at 16° sweep.

By 1960, the USAF had defined its proposed new tactical combat aircraft, intended to replace most of the "Century Series" fighters (ie. F-100 & on) and attack aircraft. The new plane was known as the TFX or Tactical Fighter Experimental project. The technology in many respects was new, & involved afterburning turbofan engines for high performance & long range. Rough-field landing gear was required. The airframe was of titanium for lighter weight & extra strength at high temperatures. High-lift slats & flaps were required to reduce the runway requirement. Advanced navigation & weapon-aiming systems, & possibly an escape capsule were proposed. A "swing-wing" would be used to give lift for take-off and also the short span needed for low-level high-speed flight.

The USN examined this aircraft closely while collecting its thoughts on a new fleet air defence fighter to replace the cancelled subsonic XF-6 Missiler which was intended to replace the F-6 Stingray & F-8 Crusader. The new plane could also replace small attack aircraft such as the A-4 Skyhawk.

The new Secretary for Defense was Robert S. McNamara, who saw the proposed AF & Navy programmes as the biggest with which he had to contend. He realised that one aircraft could meet both requirements. The two contenders for the design were Boeing & General Dynamics, and greater commonality made G.D. the winner. On November 24th, work was authorised on the F-111A for the USAF & the F-111B for the USN.

Soon there was a political outcry, mainly because the Boeing design was better, & was preferred by the customers. The first F-111A was flown at Fort Worth on 21st December 1964, and during the flight trouble was experienced with the radical swing wing. This was overshadowed by problems with Drag, Speed & Manoeuvrability, weight & mismatch of the airframe & engine. What started out as a multirole fighter was turned into a single mission bomber with a reconnaissance capability. Thus the F-111B was cancelled in 1968, as the USN needs would not be met. General Dynamics were left with a compromise bomber which had escalated in price as fewer would be built, & major modifications were necessary.

After building 141 F-111As, production switched to the F-111E, with larger air ducts, & 94 were built. Then followed 96 F-111Ds, which had very expensive avionics & weapons systems. The F-111F had simpler avionics & greatly improved engines & were very successful in the Vietnam war, flying hundreds of missions at mach 0.9 at tree-top height, often in thick cloud. 106 were built. Although the F-11 was unable to fly real strategic missions, it had to replace the B-58 Hustler & early B-52s. After the cancellation of the B-1, it was proposed that about 60 FB-111s be converted to FB-111H standard or that a new force of F-111Es be built. The H version was to be 10ft longer, housing 40% more fuel and a rack capable of carrying four SRAMs. The engines would be General Electric F101, developed for the B-1, & capable of 30,300 lb thrust. 165 aircraft would cost \$7 billion, & enter service in 1981-4. The only version exported is the C, of which the Australians bought 24.

In Britain. The first aircraft to arrive was 68-045/UR on 20/9/70. By August 1971, a total of 78 F-111Es were at Upper Heyford, making up the 20th TFW. This unit has 3 squadrons: 55 TFS: blue fin top, 77 TFS (red) & 79 TFS (yellow). The tail code became JR in January '71, & is now UH. Callsigns in use are Akce, Lay, Rerun & Sewn; in pairs the second aircraft uses "Chase". Current serials are: 70119, 121, 122, 80001-7, 009-017, 019-023, 025-32, 034-57, 059, 061-69, 071-80 & 032-84,

Lakenheath houses the 48th TFW, owning 92 aircraft, (F-111F). The four squadrons are: 492 TFS, blue fin top, 23 a/c; 493 TFS, yellow, 28 a/c; 494 TFS, red, 11 a/c; 495 TFS green & 28 a/c. Tail code is LN, & callsigns Treata, Hid, Pal & Ratch. Serials are: 02362-6, 368-79, 381-7, 389-92, 394, 396-406, 408-9, 411-9, 10883-94, 21442-4, 446-51, 30707-8, 710-2, 714-6, 40177-185, 40188.

Australian code is A8- , & squadron numbers are 1 & 6 (21 a/c remaining). /Continued P.21

TELE-SIDE MOVEMENTS FOR JANUARY 1980

Scheduled, charter & certain other types of movements are collected briefly at the end.

Day	Regn.Type	From	ATA To	ATD	
1	G-AWMU C172	T/F Coventry	2010	1256	
	BGKS Bo.105	Peterhead	1326 Strubby	1459	2 x ILS
2	AYVM PA-31	T/F Swansea	1286	0913	
	LN-VIN C.404	F/T Stavanger	0846	0918	
	BFLI 748	T/F Sumburgh	1739	0932	
	BDSL C.150	" Bagby	1044	0943	
	BFEU Puma		Dyce	0938	End of Bristows
	DAWN C.210		Cambridge	0950	
	DJBI C.350	T/F Cambridge	1628, 17/1	1013	
	BBDC PA-28	Ringway	1230 Edinburgh	1301	
	BDSL C.150	T/F Bagby	1448	1354	
	ARYR PA-28	" Kirmington	1718	1418	
	BFTV Puma	Aberdeen	1441 Paull	1544	
	LN-VIN C.404	F/T Stavanger	1448	1128	
3	BAZV PA-23	Aberdeen	1828 Sumburgh	0802	
	BAKD BN-3	Sumburgh	0841 Aberdeen	0950	
	BBPZ PA-23	T/F Aldergrove	2021	0933	
✓	HB-LEN CL-44	Kano	1355 Dubai	1607, 4/1	(Transvalair VX 545
	BFLI 748	T/F Sumburgh	2000	1435	.. (for Rothmans)
	LN-VIN C.404	F/T Stavanger	1628	1716	
	BSTH PA-31	Dyce	2101, 4/1 Humberside	1640	
	BDVT F-27	Edinburgh	1856 Norwich	1916	AQ209, LBA div.in
	BDDH F-27	Norwich	2040 Edinburgh	2034	AQ210 ""
4	BCSV Ce421	T/F Northolt	1621	0818	
	BFER Bell 212	Dyce	1924 Redhill	1012	
	OY-PRY PA60(?)	F/T Esbjerg	0930	1337	
	BCUZ Be60	F/T Tatenhill	1023	1447	
XX488	BFOH Bell 47	Edinburgh	1043 Liverpool	1141	
Jetstream	AYVM PA-31	Rhoose	1635		
CT	BAZV PA-23	Dyce	1721 Prestwick	1748	
	BHBF S-76	North Denes	2114 Stavanger	1033, 5/1	
5	BAZV PA-23	Leeming	0839		
	HLUB King Air	Denham	1107 Mundoln	1111	
	ROUS PA-34	T/F Cambridge	1656	1302	
	BGAB C.152	F/T Kirmington	1545	1626	
6	BHBF S.76	Dyce	1609 Redhill	0752, 7/1	
✓	LN-OSK Sk.61	719 36/22 Station	0810 Ekofisk	2033	
	WTVA C.404	Kirmington	0857 Newcastle	0910	
	BATX PA-23	F/T Dundee	0936	1022	
✓	BGWT Wessex	Paull	0950 Glasgow	1100	Bristow
	ANDI PA-23	F/T East Mids	1101	1201	Air Foyle
	BFOH B.47	Liverpool	1233 Edinburgh	0922, 8/1	
	LN-SAN PA-21	F/T Stavanger	1455	1609	
	DUKE Be.60	East Mids	1504, 9/1 Leavesden	1541	
8	AZDH PA-31	T/F Skien	1857, 9/1	0749	
	LN-VIN C.404	F/T Stavanger	0804	0836	Helicopter Service
	BBXE PA-23	Walney Island	0856 Barrow	1620	Sovereign Chemicals
	MSDS C.404	F/T East Mids	0906	1710	
	LN-VIN C.404	F/T Stavanger	1343	0843, 9/1	
	FOYL PA-23	" East Mids	1429	1511	Pipo line patrol
	AVOI HS-125	" LHR	1814	1832	
9	LN-VIN C.404	" Stavanger	1438	0859, 10/1	
	EDWK Be.55	" Leavesden	0915	1719	
	BFLI 748	Dyce	0927		Returned due engine failure
	AWMU C.172	T/F Paull	1252	1040	
	GRAY C.172	Doncaster	1227 Newcastle	1300	
	BEOS Jetranger	Paull	1310 Yarm	1611	
	BHBF Sk.76	Battersea	1619 Dyce	1649	

10	BEOS	Jetranger	Yarm	0803	Usworth	0841
	LN-VIN	C.404	F/T Stavanger	1405		1437
	OY-RPP	Rockwell 112	East Mids	0917	Dyce	0950
	N50867	PA-24			Exeter	1029
	AVOI	HS-125	LHR	1619	Brize Norton	1748
	BHFX	C.Conquest	Northolt	1941		for Casair
11	ECSV	C421	"	1754	Dyce	0728
	BFLI	748	T/F Glasgow	1958		0803
	LN-VIN	C.404	F/T Stavanger	0915		1249,12/1 Helicopter Servs
	BCUZ	B.200	" Lulsgate	1023		1533
	NORK	C.421	East Mids	1219	Stansted	1431
	OY-RPP	RC 112	Dyce	1532	Grindale	1611 Exec. Wings
	EXEX	C.404	Newcastle	1605	Kirmington	1618 Peregrine
12	BCDN	F.27	Edinburgh	0909	Norwich	0928 LRA div in Aq 201
	AZSU	748	F/T Glasgow	1400		0803,13/1
13	BBPZ	PA-23	T/F East Mids	1844		1456
	ARDZ	Jodel	F/T Hartlepool	1643		1215,27/1
✓ 14	LN-OQB	S-61 807	Pump Stn.3622	0851	Stavanger	2046 HK 118
	EXEX	C.404	Kirmington	0907	Newcastle	0919 EX 1335
	JDST	PA-31	Sturgate	0917	Dyce	0949 Eastern Exec.
	AYVM	PA-31	T/F Scatska	2017,16/1		0932
	BEML	"	F/T Aldergrove	0952		1728 Woodridge Avn.
	F-BRNV	PA-23	Toussus-le-Nobel	1007	Tours	1525,15/1 Tudair
	AVJJ	PA-30	F/T Inverness	1023		1851
✓	BFGM	727	Berlin	1109	Ringway	1803,22/1 DA 89 GM
	BCVY	PA-39	Goodwood	1149	Shoreham	1303
✓ XS	738	HS-125	F/T Finningley	1240	C/S J.65	1215,15/1 div in due WX,parked o/h
	ROUS	PA-34	T/F Blackpool	1655		1309
	BATC	Bo.105	Boulmer	1334	Strubby	0726,15/1 N.Scottish
	BFGB	AC 680	Gatwick	1333	Glasgow	1402 B.A.A.A.
	LN-SAN	PA-31	F/T Stavanger	1506		1618 Norajofly
	BOST	PA-23	Brough	1642	Dyce	1942
15	LN-VIN	C.404	F/T Stavanger	0857		0922
	LNT	C.404	East Mids	0946	Ringway	1654 N.Air Avn.
	BGTH	PA-23	F/T Prestwick	1225		1625 IRVENT
	BGGP	C.152	" Leic.E	1408		1644
	BFOH	B.47	Edinburgh	1433	Liverpool	0910,16/1
	LN-VIN	C.404	F/T Stavanger	1543		0833,16/1
	BMIC	AC.690	Newcastle	1341	Newbury R.C.	0748,16/1 Micro
16	AZVS	HS-125	Glasgow	1302	LHR	1716 Eastern A/W
	LN-VIN	C.404	F/T Stavanger	1531		0827,17/1
	BEJE	748			Ringway	1537
	BMIC	AC.690	Newbury Racecourse	1717	Newcastle	0804,17/1
	ARMX	748	Scatska	2002		
	BERA	"	T/F "	2041		1036,17/1
✓ 17	24198	C.140 USAF	Ramstein	0822	Mildenhall	0837 Spar 85A/B
	AXVG	748	Ringway	0805	Scatska	1003
	F-BVJJ	PA-34	F/T Calais	0932		1728
	BDWK	Be.55	Leavesden	0941	Brough	1250
	24198	C.140	Mildenhall	1049	Northolt	1544 Spar 85C
	BEMD	Be.55	Usworth	1314	Detmold	1335 Vaux (AVN.) Ltd.
	LN-VIN	C.404	F/T Stavanger	1416		1515
	AKKD	PA-23	Glenrothes	1457	Ipswich	1502
	OLLY	PA-31	Ringway	1449	Rotterdam	1529
	AWWL	HS-125	Luton	1730	Dusseldorf	1800 RM 740A
	BERA	748	F/T Scatska	1947		2048
18	BBPZ	PA-23	T/F Inverness	1622		0813
	ARMX	748	T/F Glasgow	2042		0838
	AZDH	PA-31	" "	1757		1030
	BBSN	PA-23	Usworth	1252	Edinburgh	1546 Burnthills Avn.
	BSTN	PA-31	Stansted	1933,19/1	Luxembourg	1327 NPD Avn.
	BEMD	Be.55	Detmold	1356	Usworth	1410

18	OLLY PA-31	Rotterdam	1434 Ringway	1520 Robertson's
	ROUS PA-34	T/F Cambridge	1826	1509
	AWWL HS-125	Dusseldorf	1542 Luton	1630
	AXKD PA-23	Brough	1643 Glenrothes	1705
19	BBPZ PA-23	Haverfordwest	1709 LBA	1302
	FTTA PA-31	Ringway	1747	
20	DJBI C.550	Ringway	1655,21/1 Bern	1341
	ROUS PA-34	T/F Cambridge	1827	1600
	BEKU PA-31	F/T Norwich	1944	2001 Air Anglia
21	POLO "	" "	0924	1036
	WTVA C.404	Kirmington	0958 Dyce	1010
	BGBH PA-23	Edinburgh	1115 Stornoway	1217
	BSTN PA-31	T/F Stornoway	1620	1214
	BCSV C.421	Shannon	2106 Ringway	1538
22	BBPZ PA-23	T/F Stornoway	1546	0743
	AYZC "	" Haverfordwest	1634	0745
	LN-VIN C.404	F/T Stavanger	0813	0839 Helicopter Servs.
	G-IANT "	" East Mids	0854	1647
	UBKP Wessex Be58	" Fair Oaks	0913	1504
	BASU PA-31	" Hawarden	1124	1426
	AWVY BN-2	" Swansea	1136	1409
	BAWA PA-20	" Booker	1214	1323
	BFOH Bell 47	Wilton	1232 Edinburgh	1143,23/1
	BCSV C.421	T/F Northolt	1645	1336
	DJBI C.550	Luton	1953,24/1 Sion	1443
	UBKP Wessex	T/F Fair Oaks	1732	1504
	BATX PA-23	Dyce	1831 Dundee	1840
23	OY-BBP "	F/T Esbjerg	0751	1854
	UBKP Wessex Be58	Kirmington		0754
	BBPZ PA-23	T/F Luton	1634	0804
	DUKE De.60	" Leavesden	2006	0830
	BBOS Jetranger	Kirmington	0911 Usworth	1150
	LN-OQH S-61	F/T Ekofisk	0912	2047 Helikopter Svs.
	AYFT PA-39	Ringway	0917 Aldergrove	0951
	EDWK Be55	F/T Leavesden	0922	1810
	AYBO PA-23	Leavesden	0950 Ringway	1116
	BHCB AA-5	Doncaster	1216 Newcastle	1249
	POWA PA-28	Rhoose	1237 LHR	1315
	LN-SAX Be90	F/T Stavanger	1506	1601
	LN-VIN Ce404	F/T Stavanger	1505	0842,24/1
	UBKP Be55	Kirmington	1822 Denham	1837
	AYFT PA-39	Aldergrove	2019 Ringway	2041
24	BAVO PA-23	Glenrothes	0841 Macrihanish	0854
	LN-VIN Ce404	F/T Stavanger	1426	1455
	BCSV Ce421	T/F Shannon	1918	1501
	AZTB Monsun	T/F Bagby	1638	1527
	DJBI Ce550	Luton	1953	
	BFGM B.727	Ringway	2049 Gatwick	1338,25th Crew Train'g.
✓25	LN-OQB S-61 807	Platform 32/22	0838 Platform 36/22	2100
✓	OY-ARI Metro	Copenhagen	1012 Stauning	1159
	BBPZ PA-23	T/F Prestwick	1750	1154
	F-BVJJ PA-39	Calais	1208 Dundee	1249
	BAUD PA-23	Oban	1210 Glenrothes	1330
	LN-SAX Be 99	F/T Stavanger	1502	1622
	BFWI Be 200	Dyce	1739 LHR	1808
26	ATFY Ce172	T/F Tollerton	1420	1023
	BDWA Jodel	F/T Bagby	1439	1544
	F-BVJJ PA-34	Dundee	1500 Calais	1536
27	XZ594 Sea King	Middlesbrough	1356 Usworth	1354 "Rescue 31"
	ROUS PA-34	T/F Blackpool	1814	1551
	EXEX Ce404	Kirmington	1916 Newcastle	1937
✓28	LN-OSJ S-61 715	Platform 36/22	0903 Stavanger	0920,30th.
✓	G-BODN F27			1918 Aq 210 DIV.

28	DJBI Ce550	Prestwick	1908	Glasgow	0919
	BBPZ PA-23	T/F Dundee	1709		0952
	BEVL Ce421	South Marston	1114	Leavesden	1236
	LN-SAW PA-31	F/T Stavanger	1520		1609
	BCSV Ce421	N Newcastle	1819,29/1	Ringway	1613
	DJBI Ce550	Coventry	1515,30/1	Exeter	1931
29	IANT Ce404	Newcastle	1518	Bovingdon	1724
	LN-VIN Ce404	F/T Stavanger	1701		0836,30th
	AZZA PA-23	Dyce	1720	Glasgow	1816
30	DUKE Be60	T/F Glasgow	1704		0915
	AXXG BN-2	F/T Birmingham	0942		1608
	BDWK Be55	F/T Leavesden	1006		1759
	BFOH Bell 47	Edinburgh	1131	Liverpool	1238
	BDYY Hiller	Strubby	1217	Newcastle	1242
	ROUS PA-34	T/F Little Staughton	1756		1408 took Pitts BADW & Y
	LN-VIN Ce404	F/T Stavanger	1457		0918,31st
31	AZDH PA-31	T/F Prestwick	1709		0936
	F-BVJJ PA-34	F/T Calais	0956		1702
	XSS68/415 Wasp (WO)	HMS Hydra	1124	DIV in f. Lec. (wx)	Navy 415: overflow?
	BCSV Ce421	Newcastle	1939	Preston	1357

"LOCAL" MOVEMENTS Carlisle VUH;2. Dyce YVM;10,11, YZC;9,10,16,17,24,25,30,31, ZDH;4,5, 25,28, ZXG;4,18, BAZV;4,17,18,23, BBMJ;28,29, BBPZ;4,16,21,24,31, BCSV;10,23, BFL;14,15, BHF;11, BOST;15, BSTN;7,9,10,14,15,16,21, BXR;3,4,7,8,9, LEON;11, WING;10,23,24,25,28, 29,30. LBA TFY;27, VWT;27, YVM;7,8, ZLY;2,25,27, BCSV;30, BDSL;4, BHF;11, BFMH;1. Newcastle XOZ;24, YZC;26, ZLY;26, BAZV;21, BBMJ;28, BCSV;23,29, BDSL;6,27,30, BFGM;15, BFMH;30. Usworth RYR;16, TFY;4, VUH;2,4,5,9,18,26, VUS;4, WEG;1,20, XHG;1,2,4, XOZ;1,4, 9,10, XUA;1, ZLY;26, ZMN;27, ZTB;2,4,8,21, BAGW;8, BBR;26, BCSV;10, BDSL;16,27, BEKO;2, BFMH;1,7,30, BOST;15, BSTN;10, WING;10. Sherburn RYR;27, TJV;20, WMU;27, XHG;18,20,25, 27, YCG;13,24, BAGW;8, BFLO;20.

CREW TRAINING B.M.A. DC-9 BFIH;26. Casair PA-23 ZXG;24,27, BBPZ;15, PA-31 BSTN;21, C.421 BCSV;30. Dan-Air 727 BAJW;7,8,9, BAFZ;22,23,24, BFGM;14,18,21,25, BA 1-11 VMT;10 VC-8 BCZR;4,19, 748 SPL;5,6,12,13, BHCJ;4. D.J.B. C.550 DJBI;20,22. Dowty C.200 BEHR;5, North Air Avn. C.440 IANT;22. S.E.Avn. PA-28 VSE;5. photos

SCHEDULES LHR BFIH;2-31. Air Anglia BAKL;2,3,7,19,20,28,30,31, BAUR;13,28, BCDN;2,3, 4,6,12,16,28, BCDO;3,31, BDDH;4,14-18,21-27,30, BDVS;21,28,31, BDVT;3,4,5,21,25,26, BEOJ;21 BFLJ;10,14, BGYT;7-11,14-18,21-25,28-31, BLGW;7-11,29-31, MDRB;2,3,4, SPUD;8-11,15-18, 21-25,28,29,31. Dan-Air RMX;17,21-26, XVG;9,19,20,21,26,27, BCZR;1-7,9-12,14,16-18, 21-25,28-31, BEBA;6,8,9,10,12,13, BEJE;14,15,16,26,28, BEKD;23, BEKE;28,29, BFL;4,5,7-10, 29-31.

Local Flying PIK,RLK,RYR,TFY,TJU,WLE,WMU,XHG,XOZ,ZLY,ZTB,BBOS,BDKS,BDSL,BECM,BEKO,BEKS, BGSE,BGSD,BHF,RKSF.

A member points out that CSE Cherokee AYNF f/t Carlisle on 31/12 was omitted last month.

* The C-140B (above, 17/1) is the one we saw at Greenham Common, belonging 58 MAS.

More US Callsigns Flood: KC-135Q; Judge: KC-135A; Trout: C-135C; Adler: Talon F-5A; Cobra: A-10A; Retro: F-15A; Clue: C-12A;T-39A; Spar C-9A, C-140, C-135; Binbo: EB-57, OV-10; Duke: C-12A; Icing: C-130; Slip: C-130; Muss: OV-10A.

Continued from P.17

F-111 Serials: F-111A 39766-782, 55701-710, 60011-019, 021-040,042-048,050-114.

FB-111A 39783, 70159-0163, 77192-196, 80239-292, 96503-514.

EF-111A 60041, 60049. F-111D 80085-80180.

F-111E 60020, 70115-70124, 80001-80084, including UH.

F-111F 02362-02419, 10883-10894, 21441-21452, 30707-30718, 40177-40188.

Honington 216 Sqdn. have become operational on Buccaneer S.2B aircraft include XW540,541, 547, XA885, XZ432. Other aircraft are:

12 Sq. XN976, XT276,279,281,286, XV155,165,168,349,353, XW525,527,542, XA895,896,898,899. 208 Sq. XT270/C, 288/X, XV157/A, 160/B, 161/E, 336/D, 341/L, 342/M, 345/F, 352/N, XA900/J, 901/K, XZ430/G, 431/H.

237 OCU. XN977, XT273,274,277,283,284, XV152,154,156,163,335,338,354,355,357,358,360, XA893.

Cosford Report,Pp.6-7. D.Croucher says that XK740 was at Tees-side Airshow on 3/8/68 as a static exhibit, & is a Gnat F.1.

The British Register. Additions: G-_____.

AWWB CL-44D-4 c/n 17 ex VR-HHC Transneridion
 AXXB Navajo 300 31-583 N7XB Grease Box Ltd.
 BHGR Robin DR315 457 Hoadcorn
 BHGT King Air B90 LJ-446 G-AWWK AirmoreElstree
 BHGU WMB2 hot air B. 004
 BHGV Weirs " " " 3
 BHGW Colt 12A 061
 BHGX Colt 56B 057
 BHGY Cherokee Arrow 28R-35086 A.F.Avn, Stansted
 BHHB Cameron V77 170
 BHHH Thunder AX7/65 245
 BHHJ Cessna F152 F.1694 Rogers, Cranfield
 BHHK Cameron N-77 547
 BHHL Westland Lynx WA.142
 BHHM Westland Lynx WA.134
 BHHN Cameron V-77 549
 BHHO Cherokee 180 28-05246 00-GBJ Wh.Waltham
 BHHR Robin DR400/180R 843 Lasham
 BHHS Skyvan 3 SH.1967
 BHHT Skyvan 3 SH.1970
 BHHU Shorts SD3-30 SH.3042
 BHHV Shorts SD3-30 SH.3044
 BHHW Shorts SD3-30 SH.3045
 BHHZ Scorpion 133 MSI.1195

BHIE HS125S.660B 256048 HB-VDS Dismore Bus.A.
 BHIF Colt 160A 035
 BHIG Colt 31A 060
 BHII Cameron V77 548
 BHIM Jodel D112 878 F-BLXC Lincs.
 BHIP Thunder AX3/17½ 246
 BHIS Thunder AX7-65 240
 BHIT Rallyc TB-9 63 A.T.S. Biggin Hill
 BMAB DC9-10 45738 N1057T BMA Ltd.
 DAND TB-10 Tobago 72
 FADS Aztec 259 27-54110 A.C.Stanley Ltd.
 GRAY Cessna 172N 72375 N4859D Buddale Ltd.
 HORN Cameron V-77 570
 LFCA Cessna F152N F.1697 Rogers, Cranfield
 LUCK Cessna F150M F.1238 PH-LEO Citation
 MPWA Wassner WA, 54 Atlantic 144 F-GBIS MPWAvn
 OCAT PIK-20E 20226
 OMET King Air C90 LJ-614 G-COTE Attencote
 OSKA Super King Air 200, BB641 Leavesden
 SAAB Commander 112TC 13002 G-BEFS Cont.Cars
 SEAL Lear Jet 35A 275 C.S.E.
 SMIT Mo Bf 109G 163824 Fair Oaks Av.Svs.
 WICK Partenavia P68B 169 G-BGFZ DKAvnElmdon.
 WSSC Navajo Chieftain 31-52247 N3543W
 Spacegrand Ltd.

Cancellations:

Written off: AVUT, BCIL, BGCT, BMFC, BFIW, BGHR. DER BGLP. WFU APIT. Other: ATRM.

Sold Abroad: APFD/N, APJP/SE-, APVW/EI-, ASXV/00-ATO, ASYO/N, ATMK/EI-,
 ATWM/HZ-BOI, AVKO/N43MJ, AXAH/N1039S, AYG/N104TB, AYSL/N80703 (international Air Leases),
 AEBR/SA-HAZ, AZMF/lsd.7Q-YKJ, BAKX/EI-BHI, BAPG/lsd.4X-AVH Arkia, BBTB/HB-KKN,
 BBXN/D-HORG, BCAL/LV-MZE (TAR Cargo), BCDF/N4997E, BCRV/ZS-HHY, BCTX/ZS-HHX (Republie Hells)
 BDIL/N, BEMP/TR-LYN, BEPM/5Y-, BFGT/SE-HIU, BFPI/VR-HIN, BFXA/ST-AHK, BFXV/N373LA,
 BGCT/5B-DAO, BGER/5N-, BGEZ/N334GW, BGMX/EI-BHR, BGAM/00-MRU, HENK/PH-HBS.
 G-BGRD/G-IPRA, G-BCPM/G-MALC, G-ARAH/G-HALL.

Local Flyovers

December: 1) 1420 Vulcan XH562 S 45, 1450 Puma? JIX26 35 N, 1450 Co310 G-JANE N 25, 1546
 Pa-28R BHAK S 55, Pa-31 AYVM N 65. 4) 1310 Bulldog KA631/W N 15, 1609 Co172 AWLE N 45.
 5) 1237 Co310 DATS N 45, 1253 Be58 BEMD N 45, 1429 Bulldog HOF09 S 30, 1541 Pa-28 BFAK N 55,
 1551 Co340 JANE N 55, 1605 Bulldog BQ089 S 80, 1614 Co310 DATS S 55, 6) 0955 Pa-23 BCU N 45,
 1655 Bulldog HOF07 S 30, 7) 1204 Pa-23 BFUO S 50, 1550 JP KW430/58 S 15, 8) 1525 Pa-23 BDRX S
 at 80, 1538 Co182 AYWD S 30, 10) 1240 Auster ARDJ N 15, 1325 Puma JQT35 N 15,
 14) 1310 Co150 BDFZ N 35, 18) 1815 Sea King XZ594 N 15, 1854 Co421 OAKC S 115,
 19) 1632 Sea King XZ598 S 50, 20) 1710 Pa-23 BBCC S 55, 22) 1010 F-111E Sewn 70 N 90,
 1050 Co206 JAKO S 80. 27) 1320 Co172 BEZV N 65,
 January: 1) 1535 Co421 EDYF S 55, 5) 1155 Pa-23 BAWX N 45, 6) 1602 Pa-31 BSTN N 65,
 9) 1530 ? NQV26 S 10, 11) 1210 Devon WB531 N 45, 16) 1550 Pa-24 N150JC N 60.
 19) 1505 Co421 OAKS N 65, 24) 1822 Pa-31 JDST S 55, 25) 1605 Vulcan XL321 S 10, 1630)?
 BLK93 S 15, 29) 0830 Co421 BASS S 75. More from H. Walton:
 18/12 1530 Victor & 3 Jaguars (!) 29/12 early pm B.206B BTW (Hebburn-Stockton).
 5/1 1625 Be 200 BEHR NNW 80, 16/1 1445 Cobra-11 3010? 100 mls. Woodbridge!
 18/1 1220 Bandeirante Air UK N 50, 23/1 1615 Pa-31 BFOM Usworth-Stansted S 30,
 24/1 1600 Pa-31 BFKJ S 60 (Edinburgh-Brough), 1615 Pa-31 S 60 Fairflight/Air Ecosse colours
 & 1605 Pa-31 ??FL S low, 26/1 1045 Pa-31 Red body & tips, white fuselage BGOX/Y?
 30/1 1712 Pa-31 ??KE S 40, 1159 Twin piston red/white S 95. Help with filling-in any
 of these spaces would be greatly appreciated. Richard Nann would like to know the serial
 of the Vulcan overshooting TD at 1615 on 8th November- "Lima 39" to Scampton.
 Query answers: Bandeirante on 9/11 must have been BNOC or MOBL. RAE C-47 Dakota on 23/11
 must have been ZL947, as the other RAE one was registered G-DLKS in September.
 CREDITS Tees-side Airport Administration, Flight, Air Pictorial, D.C. Anderson, D.Croucher,
 T.Melvin, R.A.Nann, R.F.Robinson, E.Serrell, M...Walton.

British Airtors 737 names: BCoJE Sandpiper/JF Skylark/JC Kingfisher/JH Osprey
 JJ Swallow/JJ Kestrel/JK Divercrest/JL Goldfinch/JM Curlew.