

ROYAL AIR FORCE COLTISHALL

MAJOR PRESS VISIT

TUESDAY 21ST FEBRUARY, 1961

PROGRAMME - PHOTOGRAPHER'S DAY

Major Press Visit 21st February, 1961

Officers Taking Part in Programme

Station Commander, Royal Air Force Coltishall
.... Group Captain H.A.C. Bird-Tilson, D.S.O., D.F.C., A.F.C.

Officer Commanding Flying Wing, Royal Air Force Coltishall
.... Wing Commander D.G. Evans

Officer Commanding Technical wing, Royal Air Force Coltishall
.... Wing Commander G.V.R. Jones

Officer Commanding No. 74 Squadron
.... Squadron Leader J.A.G. Howe

Officer Commanding G.7. Squadron, Royal Air Force Coltishall
.... Flight Lieutenant A.C. Bradbrook

Engineer Officer No. 74 Squadron
.... Flight Lieutenant J.C. Robertson

Officer demonstrating Lightning
pilots flying clothing Flight Lieutenant W.B.G. Hopkins

Press Liaison Officer

Squadron Leader T. Lockwood

Escorting Officers

Party 'A'

(Air-to-air Party)

1. Flight Lieutenant D.E. Lamont
2. Flying Officer M.A. Crawforth

Party 'B'

(Still Photographers)

1. Flight Lieutenant J.T. Reynolds
2. Flight Lieutenant P.R. Wild

Party 'C'

(Television and cine
cameramen)

1. (B.B.C.) Flight Lieutenant J. Armstrong
2. (I.T.V.) Flight Lieutenant J.B. Mitchell
3. (Anglia T.V. Flight Lieutenant G.M. Owen
4. and Newsreels) Flight Lieutenant M.J. Boggs

74 Squadron Liaison Officer Flying Officer T.V. Radford

Helicopter Safety Officer Flight Lieutenant G. Kaye

President of the Mess Committee, Officers' Mess

Squadron Leader P.M. Clough-Cann

Major Press Visit to Royal Air Force Coltishall
on 21st February, 1961
Photographer's Day - Programme

Item	Time	Place	Event	Responsible Officer	In Attendance
1	8.45 am	Tomb Land, Norwich (Adjacent Purdy's)	Depart for Coltishall in R.A.F. Coaches	M.T.O.	Escorting Officers to Party 'A'
2	9.45 am	Royal Air Force Coltishall	Arrive & proceed to Flying Wing Briefing Room. Coffee	P.M.C.	O.C.F.W., O.C.T.W., Press Liaison Officer 74 Squadron Liaison Officer Escorting Officers
3	9.30 am	Flying Wing Briefing Room.	Address of Welcome	Station Commander	O.C.F.W., O.C.T.W., Press Liaison Officer 74 Squadron Liaison Officer Escorting Officers
4	9.35 am	Flying Wing Briefing Room	Briefing on programme and items available for photography	Press Liaison Officer	Escorting Officers 74 Squadron Liaison Officer Safety Liaison Officer
5	9.45 am	Flying Wing Briefing Room	Separate into 3 parties 'A' Air-to-air Party 'B' Still photographers 'C' T.V. & Cine Camera Men for period 9.45 am to 12.40 p.m.	Press Liaison Officer	Escorting Officers 74 Squadron Liaison Officer Safety Liaison Officer
6	9.45 am	Flying Wing Briefing Room	<u>PARTY 'A'</u> Briefing for air-to-air photography.	O.C. 74 Squadron	Captain of Britannia 74 Squadron Liaison Officer

Item	Time	Place	Event	Responsible Officer	In Attendance
7	10.40 am	74 Sqn. A.S.P.	Line up of 74 Sqn. a/c for elevation shots.	O.C. 74 Sqn.	Helicopter Safety Liaison Officer Escorting Officers
8	11.10 am	23 Sqn. A.S.P.	Emplane for air-to air	74 Squadron Liaison Officer	Escorting Officers
9	11.25 am		Take off for air-to-air photography.	74 Squadron Liaison Officer	Escorting Officers
10	11.50 am to 12.10 pm		Air-to-air photography	74 Squadron Liaison Officer	Escorting Officers
11	12.35 pm		Britannia Lands	74 Squadron Liaison Officer	Escorting Officers
12	12.40 pm to 1.05 pm	74 Sqn. A.S.P.	Demonstration of operational turn-round, Re-fuel and re-arm of Lightning with Fire-streak.	74 Squadron Engineer Officer.	O.C.T.W. Press Liaison Officer Escorting Officers
13	09.45 am	No. 1 Hangar (front of Crow-Room)	<u>PARTY 'B'</u> Demonstration of Lightning Pilots flying clothing and safety equipment.	Officer detailed by O.C. A.F.D.S.	Escorting Officers
14	10.10 am	No. 1 Hangar	Lighting aircraft maintenance	74 Squadron Engineer Officer	O.C.T.W. Escorting Officers
15	11.00am to 12.00	Missile Assembly Building G.W. Site.	Firestreak - assembly and servicing	O.C. G.W. Squadron	O.C.T.W. Escorting Officers
16	12.12 am	O.R.P.	Low level fly-past by Squadron	Escorting Officers	
17	12.20 am	O.R.P.	First 74 Sqn a/c lands squadron streamlining	Escorting Officers	

Item	Time	Place	Event	Responsible Officer	In attendance
18	12.40pm to 1.05	74 Sqn. A.S.P.	Demonstration of operational turn-round. Re-fuel and re-arm of Lightning a/c with Fire-streaks.	74 Squadron Engineer Officer	O.C.T.W. Press Liaison Officer Escorting Officers
19	09.45 am	No. 1 Hangar (front of crew-room)	<u>PARTY 'C'</u> Demonstration of Lightning pilots flying clothing and safety equipment.	Officer detailed by O.C. A.F.D.S.	Press Liaison Officer Escorting Officers
20	10.10am to 11.00	No. 1 Hangar	Lightning aircraft maintenance	74 Squadron Engineer Officer	Press Liaison Officer Escorting Officers
21	11.15am	74 Sqn. A.S.P.	Pilots enplane	O.C. 74 Squadron	Press Liaison Officer Escorting Officers
22	11.30 am	74 Sqn. A.S.I.	Start up and taxi	O.C. 74 Squadron	Press Liaison Officer Escorting Officers
23	11.40-11.45 am		Take-off		Escorting Officers
24	11.45 am	Missile assembly Building G.W. Site	Firestreak assembly and servicing.	O.C. G.W. 74	O.C.T.W. Press Liaison Officer Escorting Officers
25	12.40 to 1.05pm	74 Sqn. A.S.P.	Demonstration of operational turn-round. Re-fuel and re-arm of Lightning a/c with Firestreak.	74 Squadron Engineer Officer	O.C.T.W. Press Liaison Officer Escorting Officers
26	1.05 pm	74 Sqn. A.S.P.	Parties 'A' & 'B' and 'C' re-assembly for return to Officers' Mess for luncheon.	Press Liaison Officer	Escorting Officers
27	1.10 pm	Officers' Mess	Drinks	P.M.C.	O.C. Wings, O.C. 74 Sqn. and Pilots, O.C. G.W. Squadron Press Liaison Officer Escorting Officers
28	1.30 to 2.25 pm	Officers' Mess	Luncheon	P.M.C.	Liaison Officers

Item	Time	Place	Event	Responsible Officer	In Attendance
29	2 2.30pm	Flying Wing Briefing Room.	Questions	Station Commander, O.C.F.W. O.C. 74 Squadron	O.C.T.W. Press Liaison Officer Escorting Officers
30	2 2.45pm	Flying Wing Briefing Room	Telephone Facilities	Station Signals Officer	Escorting Officers
31	3 3.00pm	Flying Wing headquarters	Coaches depart for Norwich	M.T.O.	Escorting Officers to Party 'A'
32	3 3.30 pm	Norwich	Coaches on Thorpe Railway Station		Escorting Officers to Party 'A'

Telephone Facilities

Five telephones are available in the Flying Wing Briefing Room for reverse charge calls. The numbers are:-

BUXTON 291 - 2 - 3 - 4 - 5

Train Times

Depart Norwich

2.45 p.m.

3.45 p.m.

Arrive Liverpool St.

4.55 p.m.

6.39 p.m.

LIGHTNING INTERCEPTION PROCEDURE

With the very high speeds of present-day bombers it is vitally important that the earliest possible warning is given of their approach. In the United Kingdom and other Continental N.A.T.O. countries an integrated series of long-range radar stations provides this warning. The Lightning can take off within 60-90 seconds of the order being given, and reaches heights greater than the highest achieved in the Battle of Britain in well under three minutes. The aircraft climbs rapidly to the region of the tropopause and heads for the interception area well out to sea, cruising at about 12 miles a minute.

The Lightning's powerful armament is backed by an electronics fire-control system. There is a variety of radio, radar, electronics and other devices to enable the pilot to exploit the full potential of the aircraft in all weather conditions. There are devices for friend-or-foe identification. The Ferranti A.I. radar, mounted in the centre body of the air intake, allows the pilot to search above and below the horizon until he finds the target on his radar screen. Automatic "lock-on" gear enables the fighter's radar to track the target's movements and prevents contact being subsequently lost. The radar information is processed through computers, and steering information provided to the pilot on his attack sight enables him to close to missile-firing range of the target. If the target attempts to evade by turning or accelerating, the Lightning's radar will detect this immediately and the necessary compensating information is given to the pilot. Should the target be flying at transonic speed, the Lightning's speed superiority is such that it can overtake at a rate of one mile for every two miles covered by the target, (that is, a ratio of 2:1). When the fighter has closed to missile-firing range - many times greater than the range of guns - the homing-heads automatically lock on to the target and the pilot is instructed to fire electronically.

Throughout the whole interception the pilot need never see his target visually. After firing the missiles the pilot can resort to his ADEN guns (which may also be fired blind) if more targets are available. When missiles and ammunition are expended the fighter returns to base unaided by

/ground

ground control. The navigation system allows the pilot to navigate accurately to a predetermined point from which a let-down can be started, culminating in a completely automatic descent using the automatic pilot in conjunction with signals emanating from a beacon system on the airfield.

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LIGHTNING PILOT TRAINING

Operation of single-seat night/all-weather aircraft demands high standards of pilot calibre and comprehensive training. The training aids at present in use are so efficient that a pupil does not have to be above average to get into the Lightning force, provided that he is of average intelligence and ability for a pilot. The pilots of No.74 Squadron have experience between 500 and 3,000 hours, and not one has experienced difficulty in any phase. As in the Lightnings one man is required to do the jobs undertaken by two men in the Javelin, operational training inevitably takes a little longer than before.

There is no special hand-picking of pilots to fly the Lightning. Squadrons re-equipping with this aircraft just change from the Hunter or Javelin aircraft direct to the Lightning. The initial training of pilots starts with an extensive lecture programme, and progresses through a detailed and comprehensive training programme in the Lightning Flight Simulator. This simulator reproduces exactly the aircraft's cockpit and its flying characteristics so that, under experienced instructors, the pilot can practise cockpit drills, operating procedures, interception techniques and emergency drills. In fact he can practise anything in the simulator that he may be required to do in the actual aircraft, including start-up, scramble, blind interception and attack, followed by recovery to base. Pilots fly their first Lightning sorties only after satisfactory completion of the simulator programme. During his initial training towards operational proficiency on the aircraft, and thereafter during annual training, regular use is made of the simulator to maintain the necessary high standard.

The simulator was installed at the Lightning Conversion Unit initially at Coltishall, but the Unit is in fact a mobile establishment which visits the other squadrons being re-equipped with the Lightning. Its expert instructors, associated with the "weapons system" development flying, give lectures on the aircraft and its equipment, assess the pilots on their ability and performance in the simulator, and finally progress those pilots selected for further training by an actual weapons-system conversion. At the end of conversion each pilot will progress, under the direction of the Squadron Commander, to a fully operational combat-qualified level.

A two-seat version of the Lightning, the T.Mk.4, is also on order for the R.A.F. for training purposes, and this type, along with the single-seat version, will eventually equip the Lightning Conversion Unit. In general form the T.Mk.4 resembles the single-seater, but has a wider cockpit to accommodate instructor and pupil side by side, with complete duplication of instruments, controls and fire-control system. Performance is virtually identical with the F.Mk.1's, and the T.Mk.4 is fully capable of the same operational role.

At present when a pilot makes his initial sorties in a Lightning he is accompanied by an experienced instructor flying a "chase" Hunter, who can give radio instructions and advice to the aspirant Lightning pilot. It is an interesting comment on the Lightning's performance that, for the two aircraft to formate at operational height, the Lightning has to give the Hunter a start of 28,000 ft. from take-off. In daily interception training pilots fly regularly at well over 1,000 m.p.h. A T.Mk.4 will also be established on each operational Lightning squadron, where its primary purpose will be the dual checks and demonstrations which will lead to a more efficient and effective unit.

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THE DE HAVILLAND FIRESTREAK

The first air-to-air guided weapon of R.A.F. Fighter Command, the Firestreak, produced by de Havilland Propellers, Ltd., is carried by Lightning and Javelin all-weather fighters.

An infra-red "passive-homing" guidance system is used. When the Firestreak is fired it is boosted to supersonic speed by an internal rocket, locks on to the target and follows it continuously until contact is made and the warhead exploded. The heat energy radiating from the target is picked up by the homing head of the missile. The head, which is airtight, consists of eight optically flat glass panels inside which is a reflecting system to relay the radiation to a heat-sensitive cell (together known as the "eye"). The cell is gimballed to move up and down and to either side to follow the infra-red radiation source.

When the eye locks on to the target it establishes a "line of sight", which is caused to move by relative movements of the eye and the target, and hence the eye moves with every change in direction of the target. An electronic guidance system passes signals, translated into control responses, to the electro-pneumatically operated control surfaces for changes in direction so that an interception can be made.

Fuzing consists of both proximity and contact systems.

THE ENGLISH ELECTRIC LIGHTNING

The English Electric Lightning all-weather fighter was first introduced into squadron service in the Royal Air Force in No.74 Squadron at Coltishall, Norfolk, in the autumn of 1960, and further squadrons have since started to re-equip with this aircraft. Operational Fighter Command pilots have participated in development flying of the Lightning since January, 1958, and the first delivery to the Royal Air Force was made in December, 1959, for Service trials and assessment by the Air Fighting Development Squadron of the Central Fighter Establishment. Tactical trials are scheduled to continue throughout development so that the weapon system is exploited to its maximum potential.

The F.Mk.1 is a single-seat aircraft supplementing the two-seat Javelin all-weather fighter (which it will eventually replace) and is also replacing the Hunter F.Mk.6 single-seater. The purpose of such aircraft as the Lightning is to destroy enemy aircraft attacking this country over as wide a range of speed and height as possible, at any time of day or night and in any weather conditions. The introduction of the Lightning ensures that Fighter Command can intercept enemy aircraft flying at Mach 2 and nearly twice as high as the former R.A.F. capability.

Powered by two Rolls-Royce Avon turbojets with reheat, the Lightning is the R.A.F.'s first truly supersonic aircraft, and can fly at twice the speed of sound in level flight. When he named the P.1B, as it was formerly known, as the Lightning in October, 1958, Marshal of the Royal Air Force Sir Dermot Boyle, then Chief of the Air Staff, described it as "businesslike, powerful and aggressive", and the present C.A.S., the former Air Officer Commanding-in-Chief, R.A.F. Fighter Command, Air Marshal Sir Thomas Pike, has said that the Lightning will eventually be capable of 1,500 m.p.h.

The Lightning was conceived by a team under Mr. W. E. W. Petter (who was responsible for the Lysander, Canberra, Gnat and other notable aircraft) as a high-speed research vehicle to a Ministry of Supply specification for investigation into the sound and heat barriers. The design proposal submitted allowed for the eventual development of the Lightning as a fighter. It incorporated such a great potential that the R.A.F. decided that, suitably equipped, it could cope with air-defence requirements well into the 1970 era, and the company was awarded a prototype contract.

This development was intended from the beginning as an integrated weapons system - not merely a fighter to carry guns and missiles. All major components - airframe, engines, armament, fire-control radar, auto-controls, and so on - have thus been carefully co-ordinated and "made to measure". The Lightning became the first British single-seat aircraft to carry such complex armament and equipment, and it will be equipped for flight refuelling.

Three prototypes of the P.1A and three of the P.1B were built. A pre-production order for 20 of the latter was placed so that, because of the highly complex nature of the aircraft (its radically new planform, combined with the need for effective armament and manoeuvrability) each could be allocated a particular aspect of the extensive and thorough development and flight-testing programme which was obviously necessary. The first prototype, powered by two Armstrong Siddeley Sapphire turbojets, made its first flight at ~~Warton~~ ^{Warton} on August 4, 1954, piloted by Wing Commander R. P. Beamont, English Electric chief test pilot, and the first P.1B, with Rolls-Royce Avons, on April 4, 1957. The Avons incorporated reheat, resulting in great increase in speed and height.

The engines are positioned one above the other on the centre-line of the fuselage, and because of their close spacing, single-engine handling is not complicated by asymmetric thrust problems. This layout creates a deep keel effect resulting in good stability throughout its flight envelope. Additionally, considerable weight has been saved in that very high tail surfaces - which would otherwise have been necessary to offset directional instability, shown by flight testing and wind-tunnel investigation to be inherent in aircraft in high supersonic regions - are obviated.

Another noteworthy feature of the Lightning's design is that a small vertical cut in the leading-edge of the wing creates an effective air fence, so eliminating the weight of heavy metal wing fences which would otherwise be needed to maintain a straight flow across the wings, a serious problem in all aircraft with highly swept wings. The Lightning has 60° sweptback wings and an "all-flying" tail of arrowhead form.

The pilot is accommodated in a pressurised and air-conditioned cockpit, with a rearward-hingeing canopy, and has a Martin-Baker ejector seat. The main landing wheels retract outwards into the wings and the nose-wheel forward into the fuselage. There is a tail braking parachute to shorten the landing run.

/Normally

Normally armed with two 30-mm. ADEN guns and two de Havilland Firestreak air-to-air missiles, the Lightning can alternatively carry four guns or 48 2-in. rockets in interchangeable pack form, plus two guns.

The Lightning incorporates outstanding and unprecedented characteristics. It has three times the thrust of the Hunter and can fly twice as fast. Its take-off is relatively short and it can climb to operational height in less than three minutes. In July, 1957, it was announced that a prototype had flown faster than the World's speed record, which then stood at 1,132 m.p.h. (Mach 1.73) and in January, 1959, that Mach 2 had been reached in level flight. On that occasion Wing Commander Beamont reported that control and stability of the aircraft were "eminently satisfactory", even though auto-stabilisation was not used. The Lightning is basically easy and pleasant to fly and is proving very popular with squadron pilots, the hydraulically powered and sensitive flying controls resulting in exceptionally good manoeuvrability.

To quote the Commanding Officer of No.74 Squadron: "We know we can catch the bombers, and going on past experience we know we can outfight any fighter equivalent to the U.S.A.F. Century-series. The performance of the aircraft, coupled with the ease with which it is flown, gives the pilots confidence, and the fact that it is felt to be the best fighter in operational service in the World today gives our Lightning pilots the highest possible morale".

TECHNICAL DATA

Dimensions: Span, 35 ft.; length, 50 ft.; height, 19 ft. 5 ins.

Weights: Not released.

Performance: The Lightning can fly above 60,000 ft. Mach 2 has been reached in level flight.

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OFFICER COMMANDING, R.A.F. COLTISHALL

Group Captain Harold Arthur Cooper Bird-Wilson, D.S.O., D.F.C., A.F.C., (40) has been Commanding Officer at R.A.F. Coltishall, Norfolk, since June, 1959. After leaving Liverpool College in 1937 he joined the Royal Air Force and learnt to fly at Desford, near Leicester, on Tiger Moths. Later he flew Harts and Furies at No.3 F.T.S., South Gerney, and in 1938 was posted to No.17 Squadron, flying Gauntlets at Kenley.

At the outbreak of the War he flew Hurricanes with this squadron, at Debden and in France, and covered the evacuation from Dunkirk. In the Battle of Britain he flew from Debden and Tangmere, and was shot down into the Thames by a Messerschmitt Me 109. After a year in hospital, he was appointed a Flight Commander of No.234 Squadron, flying Spitfires at Warmwell, after which he became Commanding Officer of No.152 Squadron (Spitfires) in Northern Ireland. He later commanded No.66 Squadron (Spitfires) and then the first Spitfire Wing in No.83 Group, at Hornchurch, in 1943.

In November, 1943, he went to the Command and General Staff College, at Fort Leavenworth, Kansas, and on returning to the United Kingdom in April, 1944, commanded the Harrowbeer Spitfire Wing. Later flying Mustangs from Bentwaters, he went to No.11 Group in February, 1945. A few months later he commanded the first Jet Conversion Unit, equipped with Meteors, at Colerne. From 1946 to 1948 he commanded the Air Fighter Development Squadron of the Central Fighter Establishment at West Raynham.

Following a period on the Operations Staff of Middle East Air Force he took the course at the R.A.F. Staff College in 1949. Thereafter he was appointed Personal Staff Officer to the C.-in-C., Middle East Air Force. He attended the R.A.F. Flying College at Manby in 1951; was O.C. Tactics at the Central Fighter Establishment, 1952-1954, and later went to the U.S.A. on the staff of the British Joint Services Mission. From 1957 until his present post he served at the Air Ministry.

Group Captain Bird-Wilson, who has about 3,500 flying hours on about 140 aircraft types, is married and has a son of 17 and a daughter of 15. He lives in quarters at Coltishall; his mother lives at Aberlour-on-Spey, Banffshire.

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OFFICER COMMANDING, FLYING, R.A.F. COLTISHALL

Wing Commander David G. Evans, (36) has been Wing Commander (Flying) at R.A.F. Coltishall, Norfolk, since March, 1959. Born in Toronto, Canada, he was educated at Hodgson Public School and the North Toronto Collegiate; he joined the Royal Canadian Air Force in 1942, and transferred to the Royal Air Force in 1945.

After being trained in Canada on Tiger Moths and Harvards he went to an Operational Training Unit at Ismailia, Egypt, to fly Hurricanes and Spitfires. He was posted to No. 6 Squadron, flying rocket-firing Hurricanes in Italy, and later to No. 137 Squadron (Typhoons) in Holland. He moved into Germany and Denmark with the Allied forces, and after the War was posted to No. 41 Squadron (Tempests) in Germany.

He next went to the Central Fighter Establishment at West Raynham, and at the end of 1948 was posted to the Air Ministry. During this period he captained the R.A.F. Ice Hockey team (which consisted entirely of Canadians), and toured with it in Germany, Switzerland and France.

He returned to flying late in 1949, as a flying instructor at the Central Flying School at South Cerney, and then became a flight commander at No. 7 Flying Training School at Cottesmore. After 18 months he went back to the C.F.S. as a squadron commander, and then was posted to Furstenfeldbruck on exchange duty with the U.S. Air Force as a flying instructor.

In 1955 Wing Commander Evans attended the R.A.F. Staff College at Bracknell, and afterwards was appointed Commanding Officer of No. 11 Squadron, flying Venoms at Fassberg, later Wunsdorf. From the end of 1957 until February, 1959, he was with 2nd Allied Tactical Air Force H.Q. at Munchen Gladbach as Personal Staff Officer to the C.-in-C. Following that appointment he was for a short time at the Woomera rocket range and then assumed his present post.

Wing Commander Evans is married and lives in quarters at Coltishall. He has two boys and two girls. He holds the Queen's Commendation.

COMMANDING OFFICER - No. 74 SQUADRON, R.A.F.

Squadron Leader John F. G. Howe, who has commanded No. 74 Squadron since February, 1960, is a South African, and is the only South African to command this unit since 1940-41, when Squadron Leader A. G. ("Sailor") Malan was Commanding Officer.

Born in March, 1930, Squadron Leader Howe was educated at St. Andrews College, Grahamstown, and before joining the Royal Air Force in October, 1954, flew with the South African Air Force. He served with the S.A.A.F. in Korea, and at the end of his tour, in 1951, was attached to the U.S. Infantry. The next year he became a qualified flying instructor with the S.A.A.F., thereafter resigning and joining the R.A.F. in 1954. In 1955 he became a Q.F.I. in the R.A.F., and in 1956 was posted to No. 222 Squadron for a year; from 1957 to 1959 he flew Hunters with No. 43 Squadron.

During the Suez campaign of 1956 Squadron Leader Howe served with No. 40 Royal Marine Commando. His R.A.F. service has included postings at Chivenor and Middleton St. George. He is single, and lives at R.A.F. Coltishall, Norfolk; his parents live at East London, South Africa. Squadron Leader Howe holds the American D.F.C. and Air Medal.

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No.74 SQUADRON, R.A.F., COLTISHALL

SQUADRON PILOTS

FLIGHT LIEUTENANT A. W. A. WRIGHT (29), comes from Rochester, Kent.
Address : R.A.F. Coltishall.

FLIGHT LIEUTENANT GEORGE P. BLACK (27), Deputy Flight Commander, has just joined the Squadron. He formerly led the celebrated "Linton Blacks" Vampire aerobatic team at Linton-on-Ouse. He is married and has two boys.
Address : 86, Manor Drive, Acomb, York.

FLIGHT LIEUTENANT TIMOTHY J. NELSON (25), the Adjutant, joined the Squadron in December, 1957. He was educated at Cranleigh School, Surrey, and joined the R.A.F. in September, 1954, being commissioned on passing out from the R.A.F. College, Cranwell. He was at No.229 Operational Conversion Unit at Chivenor in 1957 and was then posted to No.74 Squadron, with which he has visited Belgium, Cyprus and Gibraltar. He boxed for Cranwell, and produced plays for its dramatic society. During the Second World War his father was an Equipment Officer at Bomber Command H.Q.
Address : "Daymer", Birchen Lane, Haywards Heath, Sussex (parents), and 121, Holt Road, Norwich.

FLIGHT LIEUTENANT THOMAS J. BURNS (25) was educated at Andover Grammar School and was a member of No.1213 Squadron, Air Training Corps. After serving at the de Havilland company on radio work he joined the R.A.F. College, Cranwell, in April, 1953. He took a jet conversion course at Swinderby in 1956, and was at the Hunter O.C.U., Chivenor, later in the year. From November, 1956, to November, 1957, he flew Venoms with No.11 Squadron at Wunstorf, 2nd Tactical Air Force. He was later posted to No.65 Squadron (Hunters) at Duxford, then to West Raynham, and joined No.74 Squadron in February, 1960.
Address : 25, James Road, Dorchester (parents), and 56A, Red Lion Street, Aylsham, Norwich.

FLYING OFFICER DAVID MAXWELL JONES (26) was educated at Aldenham School and joined the R.A.F. in February, 1956. His training began in Canada, where he flew Harvards and Lockheed T-33s, and completed in the United Kingdom. In 1958 he was at the Hunter O.C.U., Chivenor, and joined No.74 Squadron in August, 1958. He is secretary of the Kolt Kart Klub (Go-carts) and sailed in the cross-Channel dinghy race for Chivenor in 1958.
Address : Cromwell Cottage, Whittlesford, Cambridge.

/FLYING

FLYING OFFICER EDWARD J. NANCE (24) joined the R.A.F. in May, 1954. He was educated at St. Paul's School, W. Kensington, where he was a member of the C.C.F., and passed out from the R.A.F. College, Cranwell, with a permanent commission. He was trained at Chivenor and posted to No.74 Squadron in May, 1958. He plays golf for the station. During the First World War his father was a pilot in the Royal Flying Corps.
Address : 15, St. George's Road, St. Margaret's, Middx. (parents), and The Cottage, Lower St., Horning, Norfolk.

FLYING OFFICER JACQUES W. KLEYNHANS (32) comes from South Africa and was educated at Jeppe High School, Johannesburg. He was an accountant before joining the R.A.F. in May, 1957. After completing his training he was posted to No.74 Squadron in April, 1959. He is married and has three sons and a daughter.
Address : 23, Filby Road, Coltishall, Norfolk.

FLIGHT LIEUTENANT JEREMY J. R. COHU (24) was educated at Sherborne School and was in the Naval Section of the C.C.F. He joined the R.A.F. College, Cranwell, in January, 1955, and after a Hunter conversion course at Chivenor joined No.74 Squadron in April, 1958, when it was based at Horsham St. Faith. He is a son of Air Vice-Marshal J. M. Cohu, R.A.F. (Retd.). His hobbies are squash, rugby and tennis.
Address : The Creek, West Charleton, Kingsbridge, South Devon.

FLYING OFFICER MICHAEL S. COOKE (23) was educated at Woodbridge School, Suffolk, where he was in the C.C.F., and joined the R.A.F. in October, 1955. He learnt to fly at Ternhill and Oakington and joined No.74 Squadron in February, 1958.
Address : 10, Wroxham Road, Sprowston, Norwich.

FLYING OFFICER MARTIN E. BEE (23) entered the R.A.F. in September, 1955, and has been with No.74 Squadron since January, 1959. Educated at Kingham Hill School, Oxford, he was a Cranwell cadet, and on commissioning was posted to Valley, flying Vampires. He went to the Hunter O.C.U., Chivenor, and began flying with No.74 Squadron when it was based at Horsham St. Faith.
Address : 9, Heather Way, Selston, Surrey.

FLYING OFFICER JEREMY E. BROWN (23) was educated at Canford School, Wimborne, Dorset, where he was in the C.C.F., and passed out from the R.A.F. College, Cranwell, in December, 1958, with a permanent commission. Before joining the R.A.F. in January, 1956, he was a schoolmaster. His training was undertaken at Valley and Chivenor, and he was posted to No.74 Squadron in July, 1959. He plays squash, hockey and cricket for the station, is also a cross-country runner and keen skier. His father served in the R.A.F. in the Middle East during the Second World War.
Address : 87, Compton Avenue, Parkstone, Dorset.

/FLYING

FLYING OFFICER PETER J. PHILLIPS (23) was educated at Newport High School, Monmouth, where he was a member of No.633 Squadron, A.T.C., and joined the R.A.F. in January, 1957. Trained in Canada (Centralia, Moose Jaw and Gimli) he was posted to Valley and Chivenor, and joined No.74 Squadron in October, 1959. His sports are rugby (station teams and Great Britain and Wales A.T.C.) and tennis.

Address : "Springay", Cefn Walk, Rogerstone, Monmouth.

FLYING OFFICER T. VAUGHAN RADFORD (22) was educated at Doncaster Grammar School and the R.A.F. College, Cranwell, and before joining the R.A.F. in September, 1956, was a member of No.103 Squadron, A.T.C. He has been with No.74 Squadron since February, 1960. His flying training was undertaken at Chivenor.

Address : 42, Eilers Avenue, Bessecarr, Doncaster, Yorks.

FLYING OFFICER MICHAEL J. DODD (26) was educated at Epping Secondary School, was an agricultural student, and joined the R.A.F. in March, 1953. He served initially as an operations clerk in Germany and before joining No.74 Squadron in October, 1959, served successively with No. 1 Squadron at Tangmere, No.54 Squadron at Odiham and Nicosia, and with No.114 Squadron in Nicosia.

Address : 11, Halden Avenue, Hellesdon, Norwich.

FLIGHT LIEUTENANT MAURICE J. WILLIAMS (30) was educated at Northampton Grammar School and Glasgow University. He was a member of Glasgow University Air Squadron from 1950 to 1955, when he joined the R.A.F. Since training he has served with No.65 Squadron (Hunters) at Duxford and No.151 Squadron (Javelins) at Leuchars.

Address : R.A.F. Coltishall.

ENGINEERING OFFICERS

FLIGHT LIEUTENANT JAMES C. ROBERTSON (30) is the Senior Engineering Officer of the Squadron.

Address : Fettykil Lodge, Leslie, Fife.

PILOT OFFICER HARRY V. CLINTON (37) attended Bishop Veseys Grammar School, Sutton Coldfield, Warwick, and joined the R.A.F. in March, 1940, as a Halton apprentice. He served in the Mediterranean in 1942-43; India, 1945-46, and in Egypt, 1949-51. He made a tour of North America with the Empire Air Navigation School in 1949, and was commissioned from Chief Technician (Instrument Fitter) in August, 1960. For four years up to 1960 he was attached to the English Electric company for a study of the Lightning, and joined No.74 Squadron in September, 1960. He is married and has two daughters.

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Information Division,
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A BRIEF HISTORY OF NO. 74 SQUADRON, R.A.F.

The unit badge of No. 74 Squadron, Royal Air Force Fighter Command, incorporates a tiger's face and the squadron has for many years accordingly been known colloquially as the "Tiger Squadron". Its motto is "I fear no man". Now based at R.A.F. Coltishall, Norfolk, No. 74 is the first squadron to be equipped with the English Electric Lightning F. Mk. 1, the first Mach-2 fighter to enter service with the R.A.F.

The squadron was originally formed at Northolt on July 1, 1917, as a training squadron of the Royal Flying Corps and equipped with Avro 504s. Shortly afterwards it moved to London Colney. In the following spring it was remobilised as a "service" squadron and went to France on March 30, 1918, equipped with the S.E.5 single-seat scout. It was first in action on April 12, when, flying from Clairmarais, it destroyed five enemy aircraft without loss to itself.

For the loss of only one of its own aircraft, No. 74 Squadron, during its first two months in France, destroyed 70 enemy aircraft; in eight months 140 were destroyed and another 90 were sent down out of control. "A" Flight was commanded for a time by Major Edward Mannock, V.C., the highest-scoring British pilot of the First World War (73 victories) who gained his D.S.O. and two bars with the squadron.

Shortly before the Armistice No. 74 moved to Courtrai, and was engaged in making low-level attacks on the front line with machine-guns and light bombs. The squadron was disbanded at Lopcombe Corner, Hampshire, in July, 1919, and was re-formed at Hornchurch, Essex, on September 1, 1935. The squadron from which it was formed - No. 23, also at present based at Coltishall - was equipped with the Hawker Demon two-seat fighter and at that time was sent to Malta during the Abyssinian crisis, so No. 74 in fact came into being on board H.M.S. "Neuralia" en route for Hal Far, Malta. The extensive training programme in which it was engaged laid particular emphasis on night flying.

The squadron did not return to Hornchurch until August, 1936. In April, 1937, the Demon was replaced by the Gloster Gauntlet single-seater, which type the squadron exchanged for the Supermarine Spitfire in February, 1939.

When the Second World War began No. 74 Squadron was still at Hornchurch, sometimes operating from the satellite aerodrome at Rochford. It made its first contact with the enemy on November 20, 1939, when three Spitfires engaged a Heinkel He 111. In the

"Phoney War" period there was little activity, but when the Low Countries were invaded in May, 1940, No. 74 flew extensively on offensive operations, and soon afterwards, when Fighter Command was engaged in establishing air supremacy to cover the evacuation of Dunkirk, the squadron's Spitfires were fully engaged over enemy coasts.

Flight Lieutenant A. G. ("Sailor") Malan, D.F.C., was then a member of the squadron, and on the night of June 18-19, when the first large German raids were made on England, he shot down two He 111s. On August 8, during the Battle of Britain, he was appointed to the command of the squadron. At this decisive period of history No. 74 Squadron was flying almost daily against German raiders over London and the Thames estuary, and flew offensive patrols over the French coast and on convoy protection.

On August 14 the squadron moved to Wittering for a short rest period, then to Kirton-in-Lindsey. A month later it was at Coltishall (also operating at times from Duxford) and in October was moved to Biggin Hill. In the month of November, 1940, No. 74 Squadron was officially credited with 26 enemy aircraft.

Offensive patrols were still being maintained over Occupied France, with frequent engagements with the enemy, and there was the necessity for intermittent defensive operations. In February, 1941, a move was made to Manston, Kent. In March, Malan was posted to Biggin Hill as Wing Commander, Flying, and command of the squadron was assumed by Squadron Leader J. C. Mungo-Park, D.F.C. Pilot Officer H.M. Stephen, D.S.O., D.F.C., and Flight Lieutenant J. C. Freeborn, D.F.C., were among the many pilots who distinguished themselves with the squadron. During the following months the squadron operated from Gravesend, Acklington, Llanbedr and Long Kesh.

Improved versions of the Spitfire - the cannon-armed Mk. Vb - were received in May, 1941, which added to the squadron's effectiveness on its offensive operations over Europe.

The Squadron had been preparing for a move overseas, and in April, 1942, embarked in the "Rangitata" at Liverpool for Palestine. It arrived at Port Durban and transferred to the "Mauretania", which sailed to Port Tewfik, Egypt, thence the squadron completed the journey by road, eventually reaching Palestine in July. Until September the squadron had little to do, and was engaged in providing servicing facilities for a U.S.A.A.F. Liberator squadron. In October No. 74 Squadron moved to Dosham Tappen, Persia, moving again in December to

Mehrabad, where it received new aircraft in the form of the 12-gun Hawker Hurricane IIb. The squadron underwent a long period of training and also made some extensive reconnaissance flights. It flew from Abadan and Shaibah, and in May, 1943, moved down to Landing Ground 106 in the Western Desert, from where, operating with long-range tanks, the Hurricanes provided convoy escorts in the Eastern Mediterranean. The squadron flew by day and by night, and on July 23 took part in a large offensive operation by three Wings over enemy-occupied Crete. Transport, stores dumps, R.D.F. stations and camps were all attacked and extensively damaged.

In August No. 74 Squadron, then operating flights from Mersa Matruh and Edku, exchanged its Hurricanes for Spitfires (Mks. Vb and Vc) and in September was transferred to Nicosia, Cyprus. From there detachments were sent to Cos and Simi in the Aegean, and when the Germans invaded these islands, the squadron's ground staff assisted in the defence before being withdrawn. During the action the armament N.C.O. (Flight Sergeant C.L. Scholefield) earned the Military Medal for holding a gun site for seven days under incessant attack, and the medical officer (Flight Lieutenant R. J. L. Ferris) the Military Cross for outstanding gallantry.

The squadron was withdrawn to North Africa, and with new Spitfires (Mk. IXs) continued to make offensive sweeps over the enemy-occupied islands and also resumed convoy patrols.

With the build-up of forces in the United Kingdom in preparation for the opening of the Second Front, the squadron received sailing orders in April, 1944, left Suez in the "Devonshire", and eventually arrived at Liverpool. It assembled at North Weald on May 1, and a fortnight later moved to Lympne. Soon its Spitfires, carrying bombs, were attacking enemy railway yards and transport and escorting Lancasters and Stirlings attacking the V.1 sites in the Pas de Calais.

On D-Day (June 6, 1944) No. 74 Squadron patrolled the Allied invasion fleet and after the landings attacked German positions, troop concentrations and lines of communication. Later the Spitfires themselves were used in attacks on the V.1 positions.

In July the squadron moved to Tangmere as part of No. 134 Wing and a month later, its Spitfires' wings clipped for better low-level operation, went over to France as a unit of the 2nd Tactical Air Force (No. 145 Wing). It arrived at Advanced Landing Ground B.8 on

August 20, and operated on tactical support duties with the Allied armies in what was described by the commander of the 4th Canadian Armoured Brigade as "the closest air support to date".

The squadron continually harrassed the enemy, destroying large numbers of vehicles with bombs and cannon-fire, and steadily advanced behind the retreating Germans. By September 13 it was at Lille Vendeville, and moved to Courtrai, Belgium, four days later. Fighter sweeps were made over Arnhem-Nijmegen to support the airborne forces, the Spitfires dive-bombing locomotives with 500-lb. g.p. bombs. Antwerp was occupied, and in February, 1945, No. 74 was operating from Schijndel, in Holland.

Spitfire Mk. XVI's were received in March to replace the well-tryed LF. Mk.IXs. They joined in the attacks made to facilitate the crossing of the Rhine and during the closing weeks of the war continued to support the ground forces. In April, No. 74 was at Droppe, Germany, and it was there on May 2 that it received news of the enemy surrender. The squadron's last wartime operation was an armed reconnaissance in the Wilhelmshaven area. After moving to Blankenburg the squadron went to Ostend and returned to the United Kingdom to equip with Gloster Meteor F.Mk.III twin-jet fighters. It was based at Colerne, and along with Nos. 56 and 245 Squadrons, eventually formed Fighter Command's first post-War jet-fighter Wing at Bentwaters.

In December, 1947, the Meteor III gave way to the F.Mk.IV, and in October, 1950, the F.Mk.8 was introduced. The squadron flew this type until March, 1957, then the Hawker Hunter F.Mk.4 came in. This in turn was replaced by the F.Mk.6 which No. 74 flew until the introduction of the Lightning in the autumn of 1960.

No. 74 was the first unit to win - in 1950 - the Duncan Trophy, awarded to the day-fighter squadron making the greatest contribution to flying safety in all weathers. The squadron was then flying the Meteor IV and based at Horsham St. Faith. This was before the introduction of specific "all-weather" squadrons to the R.A.F., and No. 74 achieved the distinction of winning this trophy again in 1952.

In 1951 No. 74 provided a team of four Meteor 8s, under Flight Lieutenant B. Beard, to give an aerobatic formation display at the Paris Aeronautical Salon, and in 1959 provided an aerobatic team of four Hunters at several displays. The Dacre Trophy for weapons training was won by the squadron in 1953, the first year that it was presented.

/Commanding

COMMANDING OFFICERS OF NO. 74 SQUADRON, R.A.F.

(With date of Appointment)

Major A. H. O'Hara-Wood (July 1, 1917);
Major the Hon. L. J. E. Twisleton-Wykeham-Fiennes (November 11, 1917);
Major A. S. W. Dore (March 1, 1918);
Major K. L. Caldwell (March 21, 1918);
Captain I. R. A. Jones (December 9, 1918);
Sqn.Ldr. H. C. Crowe, M.C. (September 1, 1935);
Sqn.Ldr. D. S. Brookes (July 19, 1936);
Sqn.Ldr. G. E. Sampson (April 26, 1938);
Sqn.Ldr. F. L. White (March 1, 1940);
Sqn.Ldr. A. G. Malan (August 8, 1940);
Sqn.Ldr. J. C. Mungo-Park (March 10, 1941);
Sqn.Ldr. S. I. Meares, D.F.C. (June 30, 1941);
Sqn.Ldr. P. H. M. Richey (August 23, 1941);
Sqn.Ldr. P. G. H. Matthews (November 3, 1942);
Sqn.Ldr. J. Addison (July 10, 1942);
Sqn.Ldr. P. F. Illingworth (December 24, 1942);
Wg.Cdr. W. Ogden (February 27, 1943);
Sqn.Ldr. J. C. F. Hayter, D.F.C., (April 1, 1943);
Sqn.Ldr. A. J. Reeves (December 30, 1944);
Wg.Cdr. H. C. Kennard (May 31, 1945);
Sqn.Ldr. R. T. Llewellyn (September 1, 1945);
Sqn.Ldr. J. R. Cooksey (January 27, 1946);
Sqn.Ldr. R. L. W. Baelz (April 22, 1947);
Sqn.Ldr. J. H. Lapsley (February 22, 1948);
Sqn.Ldr. R. L. W. Baelz (August 10, 1948);
Sqn.Ldr. A. R. de L. Inniss (September 5, 1949);
Major G. W. Milholland, U.S.A.F. (September, 1951);
Sqn.Ldr. W. J. Johnston (November 30, 1953);
Sqn.Ldr. K. N. Haselwood (January 3, 1955);
Sqn.Ldr. C. F. A. Curtis (October 29, 1957);
Sqn.Ldr. P. W. Carr (July 20, 1959);
Sqn.Ldr. J. F. G. Howe (February, 1960).

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