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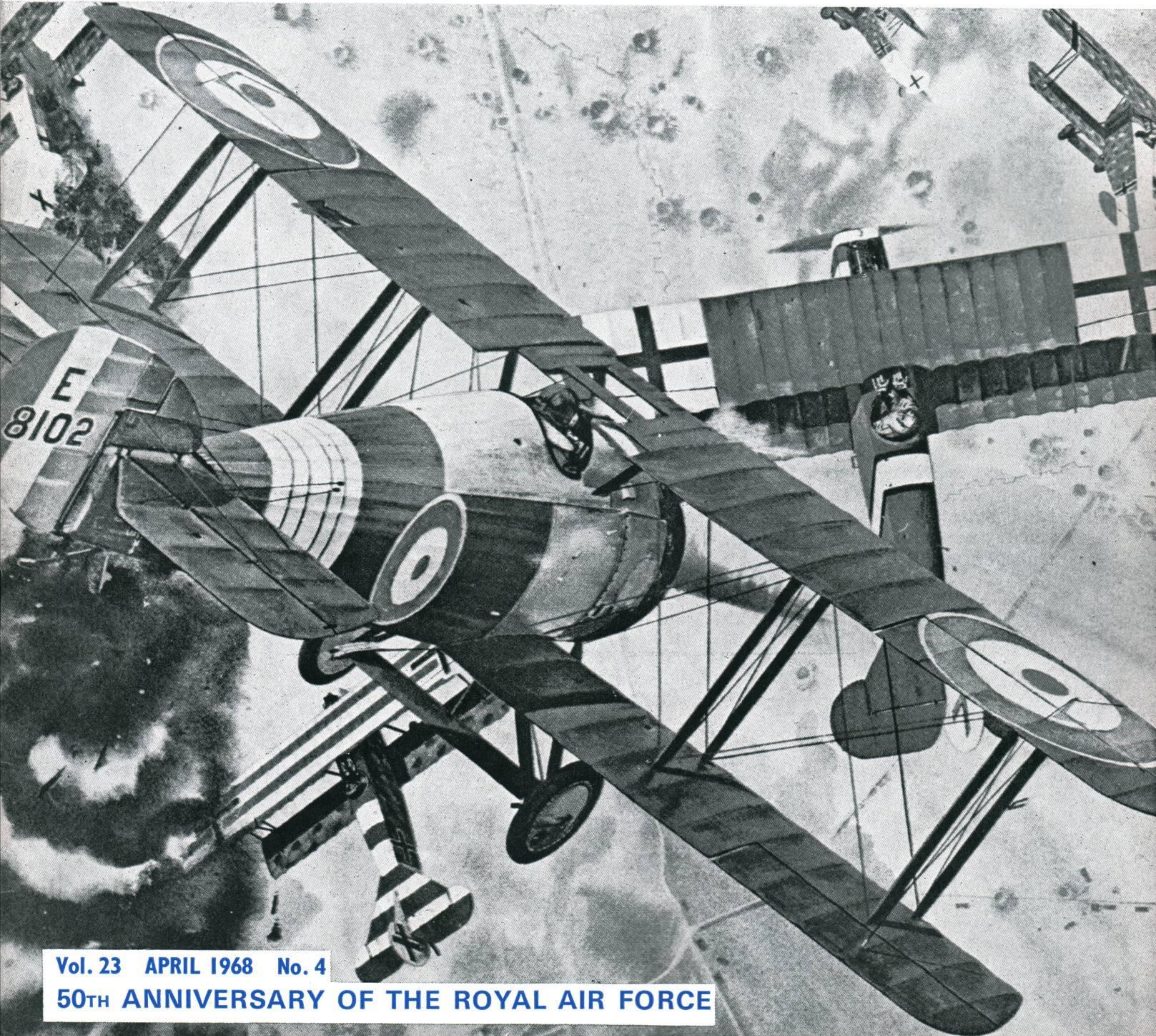
JOINT



SERVICES

RECOGNITION

Journal



Vol. 23 APRIL 1968 No. 4

50TH ANNIVERSARY OF THE ROYAL AIR FORCE



At the 1930 R.A.F. Display at Hendon, the Armstrong Whitworth Siskin IIIA single-seat fighters of No. 43 Squadron, led by Sqn. Ldr. C. N. Lowe, M.C., D.F.C., gave a dazzling display of formation aerobatics while tied together in flights of three by elastic ropes. This was the first time that an entire squadron of aeroplanes had demonstrated tied-together aerobatics and later in the 'thirties similar demonstrations were given by Hawker Furies. In our picture the Siskins are seen breaking formation at the end of their display.

Cover Photo: Artist's impression of Major W. G. Barker attacking a Fokker D.VII in the famous combat of October 27th, 1918, in which he won the Victoria Cross. Whilst *en route* to England in a badly crippled Sopwith Snipe, Barker found himself amidst 12 to 15 Fokkers and although badly wounded, he still shot down two of them and escaped to the British lines.

(Cover by courtesy of Leach Corporation)



JOINT SERVICES

RECOGNITION JOURNAL

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The *Joint Services Recognition Journal* is a monthly publication produced by the Directorate of Flying Training (R.A.F.), Ministry of Defence, and prepared in collaboration with the Admiralty Board, the Army Department and the Ministry of Technology. Applications for copies can only be accepted from the Services or other official bodies, and must be submitted through the normal official publications supply channels—not to the Editorial Office or direct to the Ministry of Defence.

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FIFTY YEARS ON . . .

ON THE OCCASION of the 50th Anniversary of the Royal Air Force this edition of the *Joint Services Recognition Journal* is devoted to aircraft covering those years and will recall memories of the past to many.

The ability to distinguish friend from foe has always been a vital factor in military operations and history is rich in instances where rapid and accurate identification has provided the essence for success. Recognition continues to be as important today as it has been in the past and rapidity of identification perhaps even more so. Training in all aspects of recognition must therefore continue to be effectively and strenuously applied.

The *Joint Services Recognition Journal* provides the means by which recognition training method and material are propagated, not only in the Services in this country but among our friends and allies overseas. The lessons it contains represent a simple and effective method of teaching and learning the skill of recognition and by employing them properly and progressively the ability to identify aircraft, ships and armoured fighting vehicles should become second nature to all those whom it concerns.

It is vital for military personnel to be skilled in recognition if they are to fulfil their particular role properly, whatever it may be. There is no magic in this skill and if the lessons in these *Journals* are followed and sensibly applied they form the most effective way of maintaining efficiency in all aspects of recognition.

THE ROYAL AIR FORCE

AN ANNIVERSARY YEAR SURVEY

The Royal Air Force was formed on April 1st, 1918, by the amalgamation of the Royal Flying Corps and the Royal Naval Air Service. During the remaining seven months of the First World War the R.A.F. achieved supremacy on the Western Front against fierce enemy opposition. Strategic bombing was intensified by the formation of the Independent Air Force, which dropped 550 tons of bombs on industrial targets in Germany during the last five months. By the Armistice the British air forces had destroyed more than 8,000 enemy aircraft and airships, dropped 8,000 tons of bombs and fired 12,000,000 rounds of ammunition at ground targets. In 1918 the R.A.F. had 22,000 aircraft.

Shortly after the war the big bombers built for the R.A.F. gave remarkable demonstrations of their ability, one of them making the first direct crossing of the Atlantic and another flying over London carrying 41 passengers. Others made the first flights to Australia and South Africa, and many were converted for civil airline work.

In 1919 the peace-time organisation of the Service was drawn up by Marshal of the R.A.F. Viscount Trenchard—the “father of the Royal Air Force”. The aim was quality, with emphasis on a sound framework lending itself readily to expansion. The R.A.F. College, to train cadets for permanent commissions, opened at Cranwell in 1920, and the apprenticeship scheme to supply skilled tradesmen followed in 1922 at Halton.

Between the Wars

A few weeks after the war ended the R.A.F. started the first regular air service between London and Paris, carrying mail and passengers to the Peace Conference.

In 1925 the Air Ministry instituted a research programme into high-speed flying, and two years later an R.A.F. team won the international Schneider Trophy contest. The R.A.F. won again in 1929, and gained the Trophy outright in 1931. During this period speeds of racing seaplanes increased from 226 to 407 m.p.h. Similar effort was devoted to long-distance and high-level flying. In 1933 two R.A.F. officers flew a Fairey monoplane from Cranwell to South-West Africa to establish a world's distance record of 5,309 miles, and in 1938 two R.A.F. Wellesleys increased the figure to 7,162 miles with a flight from Ismailia to Darwin. In high-level flying, world's height records of 49,967 feet and 53,937 feet were established by the R.A.F. in 1936 and 1937 respectively.

In 1934 first steps were taken in a rearmament programme, which steadily gained momentum. Civil flying schools were formed to train aircrews, and in 1936 the home air force was reconstructed as four Commands—Bomber, Fighter, Coastal and Training, followed by Maintenance, Balloon and Reserve Commands. The Women's Auxiliary Air Force was reformed in 1939 from the R.A.F. companies of the Auxiliary Territorial Service, and after the war became a permanent part of the Service under its First-War name of the Women's Royal Air Force.

Prelude to Battle

Among new fighters delivered during the later stages of the expansion were the Hurricane and Spitfire; bombers included

the Wellington, Hampden, Whitley and Blenheim. The Sunderland four-engined flying-boat entered service with Coastal Command.

When war came the R.A.F. was still smaller than the German Air Force, but it was expanding rapidly. Helping its growth was the Commonwealth Air Training Plan, centred in Canada, where 360 schools produced 137,740 aircrew, assisted by Australia, Rhodesia, South Africa and New Zealand. After the British Expeditionary Force had been cut off at Dunkirk the R.A.F. was able to exert a decisive influence, preventing the Luftwaffe from wrecking the evacuation.

The events of mid-1940 necessitated the extension and strengthening of the air defence at the greatest danger point, South-East England. There was little time to make changes, for enemy activity marking the prelude to the Battle of Britain started on July 10th, 1940. What happened between August and October in the British skies is now recognised as one of the great turning points in history. The German invasion was planned for September, but the Luftwaffe failed to gain the requisite dominance over the R.A.F.—particularly Fighter Command—and the project was abandoned. The enemy lost 1,733 aircraft, while shipping assembled in the invasion ports suffered heavily from the attentions of Bomber Command. The Fighter Command force of just over 1,000 aircraft opposed 3,500 German bombers and fighters. Of the 1,495 R.A.F. aircrew casualties, 414 were fighter pilots.

When Italy entered the war action moved to the Middle East. There, after fighting in East Africa, Greece and Crete, the R.A.F. played a major part in the fluctuating desert struggles, culminating in the victory of El Alamein and the drive to Tunisia. Malta—the George Cross island—became a base for attacks which helped to starve the enemy of fuel and assisted the landings in Sicily and Italy.

In the Atlantic, Coastal Command was engaged in helping to keep the sea-lanes free. Of 866 enemy submarines destroyed, 243 were credited to R.A.F. aircraft, and 29 more were shared with Allied naval forces. In addition, 1,518 surface vessels, totalling 1,750,000 tons, were sunk by the R.A.F.

At the end of 1941 war spread to the Far East. After the loss of Malaya, Singapore and Burma, the Allies struck back from India in 1944 to drive the Japanese from Burma in a few months of intensive operations. R.A.F. and American transport aircraft largely maintained the army of more than 350,000 men, and vigorous close support was given by fighter-bombers. But the primary role of the R.A.F. was that envisaged in 1918—strategic bombing. Four-engined bombers—the Stirling, Halifax and Lancaster—had gone into service, while twin-engined types such as the Beaufighter and Mosquito were put to a variety of tasks. In the first three years, 121,298 tons of bombs were dropped. In 1943 Bomber Command tonnage was nearly 157,500, and in 1944, more than 525,000. Altogether, in 392,137 Bomber Command sorties to drop just under a million tons of bombs, 47,000 aircrew were killed (67 per cent. of the total R.A.F. casualties) and 18,000 wounded, taken prisoner or missing.

Preparations for the liberation of Europe started early in 1944 with systematic bombing of the French railway system, and by D-Day (June 6th) the beach-head in Normandy was

virtually isolated from enemy supplies and reinforcements. The Luftwaffe had been reduced to such straits that the vast umbrella of protective fighters of the R.A.F. had little work to do. The tactical air forces rapidly obtained such a hold on enemy communications that movement was strangled and accurate close support, aided at times by the "heavies" of Bomber Command, speeded the advance. Rocket-firing Typhoons were active against ground targets.

In the First World War the air casualties were 6,166 killed and 7,245 wounded or injured. In the Second, the R.A.F. lost 70,253 killed in action and 22,924 wounded. There were 13,115 R.A.F. prisoners of war, and about 2,000 of those shot down escaped or evaded capture.

Pioneering the Jets

Two days after VE-Day "Aries I", a Lancaster of the R.A.F. which in 1944 had flown 47,000 miles round the world, made the first flight by a British aircraft over the North Pole, and in the post-war years there have been many other notable flights demonstrating R.A.F. mobility. In 1945 a Meteor put the world's speed record to 606 m.p.h., and in 1946 to 616 m.p.h. The first Atlantic crossing by jet aircraft was made by Vampires of No. 54 Squadron in 1948. Other achievements included the first Atlantic crossing by a jet bomber—a Canberra—in 1951, and the 24,000-mile tour of South America by Canberras of No. 12 Squadron in 1952, which included the first jet crossing of the South Atlantic in both directions. Many official point-to-point speed records have been established, outstanding being the flight from London to Christchurch in less than 24 hours by the Canberra which won the England–New Zealand race in 1953.

The R.A.F. Today and Tomorrow

Today the R.A.F. has 2,000 aircraft in service and a strength of 121,400. It has guided missiles as complementary weapons to manned aircraft; the air-transportable Bloodhound surface-to-air missile is deployed with Fighter Command in the United Kingdom and with the Near and Far East Air Forces. The four-jet Vulcan and Victor V-bombers, capable of being refuelled in flight and some carrying the Blue Steel stand-off bomb, are flying with Bomber Command, and some Victors are assigned a strategic-reconnaissance role. Many outstanding flights have been made by V-bombers in the course of normal training missions, including that in 1961 by a flight-refuelled Vulcan non-stop from the United Kingdom to Australia in 20 hours 3 minutes at 573 m.p.h. A Victor has averaged 655 m.p.h. between Farnborough and Malta, covering the distance in 2 hours.

The Lightning single-seat all-weather fighter serving with Fighter Command and in Germany, Cyprus and Singapore is a highly advanced aircraft capable of speeds around Mach 2. It carries Firestreak or Red Top air-to-air missiles and, with flight-refuelling capability, has made numerous non-stop flights from the United Kingdom to overseas bases.

The New Aircraft

On order for the Royal Air Force at the moment are over 100 Phantom F4M Mach 2 aircraft for the strike, reconnaissance and interceptor roles. Including the Rolls-Royce Spey engine over 40 per cent of the aircraft will be British. The R.A.F. will also get some of the Phantom F4Ks on order for the Royal Navy.

Sixty Hawker Siddeley Harrier V.S.T.O.L. close support aircraft are on order, plus ten two-seat trainers.



Supermarine S.5



Supermarine S.6B



Fairey Long Range Monoplane Mk. II



Vickers Wellesley (long-range version)



Vickers Wellington Is

In January, 1968, the British and French Governments signed a joint production order for 400 Jaguar strike/trainer aircraft, half for each country.

The Nimrod, the first pure-jet long range maritime strike and reconnaissance aircraft, is in production for Coastal Command.

Three important transport aircraft are at present in course of being delivered to Air Support Command. Eleven of 14 V.C.10 long range aircraft are in squadron service, as are some of the ten Belfast strategic freighters, and the bulk of the 66 Hercules four-engined transports are now in service with Air Support Command and the Far East Air Force. The Hercules has now superseded the Hastings and Beverley. Some 30 Andover tactical transports came into service last year.

Other new aircraft in prospect for the R.A.F. are three types of Anglo-French helicopters, the SA 330, SA 340, and WG13, and a replacement for the standard pilot trainer, the Jet Provost 4. The R.A.F. Regiment is being equipped with two surface-to-air missiles, Tiger Cat and Rapier.

The New R.A.F. Command Structure—Mergers in 1968

The R.A.F.'s 50th Anniversary Year—1968—will be marked by radical changes in its Command Structure. On April 30th the existing Bomber Command and Fighter Command will merge into one, to be known as Strike Command. Its Headquarters will be at High Wycombe, Bucks, the present home of H.Q. Bomber Command, and its first Air Officer Commanding-in-Chief will be Air Chief Marshal Sir Wallace Kyle. There will be two Groups—No. 1 (Bomber) Group with H.Q. at Bawtry, Yorkshire, which will control the V-bomber force, the reconnaissance aircraft and the flight refuelling force of Victor tankers; and No. 11 (Fighter) Group with H.Q. at Bentley Priory, Stanmore, Middlesex, which will control the air defence squadrons of Lightnings and Bloodhounds and their associated ground environment of radars and communications, together with the Ballistic Missile Early Warning System Station at Fylingdales, Yorkshire.

R.A.F. Signals Command is to be merged into Strike Command in January 1969, and will be known as No. 90 (Signals) Group. R.A.F. Coastal Command will also become part of Strike Command in 1970/1 and will be known as No. 18 (Maritime) Group.

Two other home commands will merge in June 1968, when Flying Training Command and Technical Training Command will become Training Command, with Headquarters at Brampton, Huntingdon, the present location of Technical Training Command. The first A.O.C.-in-C. will be Air Chief Marshal Sir John Davis. Thus, all training of flying, technical and ground personnel will be controlled from one Command H.Q.

On August 1st, 1967, R.A.F. Transport Command was renamed Air Support Command, a change which heralded the new responsibilities of the enlarged Command, and of its No. 38 Group in particular. R.A.F. Maintenance Command will continue as at present, and by 1970/1 there will be four Commands at home instead of the existing eight.

Flying with manned aircraft will continue for as far ahead as can be foreseen. The primary roles of the R.A.F. are to provide:

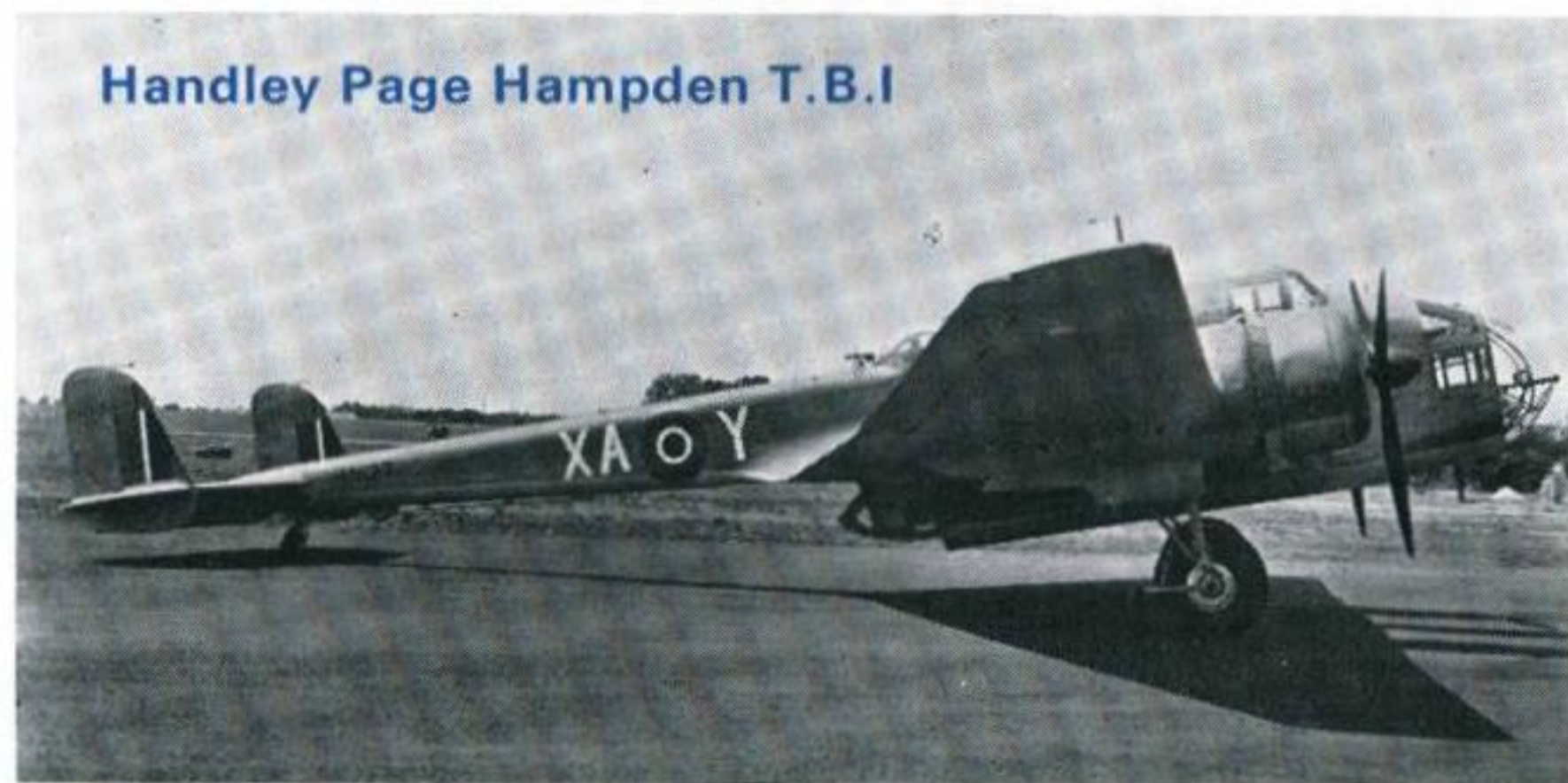
- (a) Britain's strategic nuclear striking power—(until the advent of the Polaris submarines);
- (b) The strategic airlift of men and equipment for all three Services;
- (c) Maritime reconnaissance and long-range strike against the submarine;



Supermarine Spitfire VB



Hawker Hurricane IIC (minus cannon)



Handley Page Hampden T.B.1



Armstrong Whitworth Whitley I



Bristol Blenheim IV

- (d) Air defence of the United Kingdom and overseas bases;
- (e) Strategic and tactical/reconnaissance and strike, nuclear and conventional;
- (f) Support for the Army in the field, with fighter/ground-attack, bomber and medium- and short-range transport aircraft.

ROYAL AIR FORCE COMMANDS — AT HOME

Bomber Command

Since its formation in 1936 R.A.F. Bomber Command has been built up into a force unequalled in British military history. It maintains Britain's nuclear deterrent capability with Vulcan and Victor B Mk. 2 V-bombers, which can operate at high, medium or low level, and for the latter role the force is equipped with terrain-following radar. They can carry nuclear weapons and the Blue Steel stand-off bomb which has a warhead in the megaton range. In addition the V-force has a powerful conventional capability for which it is equipped and trained to play its part should the need arise in the event of limited war anywhere in the world.

All the V-force aircraft can be refuelled in flight, and this, along with their quick reaction alert and scramble time, ensures great mobility. Aircraft are periodically dispersed to various aerodromes in the United Kingdom as exercises in reducing concentration.

Under Western defence agreements Bomber Command would operate in an emergency in conjunction with the U.S. Strategic Air Command and SACEUR.

Victor B Mk. 1s operate as tanker aircraft, with two- and three-point refuelling, so that bombers, fighters and transport aircraft can be refuelled in flight and can quickly reinforce overseas theatres. New weapons and techniques and powerful electronic counter-measures will ensure that the V-bombers continue as an effective force well into the 1970s.

Bomber Command is responsible for the Central Reconnaissance Establishment and the reconnaissance force of Victors and Canberras. Some Victor Mk. 2s, known as B/SR Mk. 2s, have been converted to a wide-scale strategic-reconnaissance role and can operate regardless of darkness or cloud cover.

Also within the control of the Command are the V-bomber and Canberra Operational Conversion Units, and the Command Bombing School, Armament School and Development Unit.

Fighter Command

Fighter Command's tasks are to provide an air-defence force wherever and whenever the need arises; to give warning of the approach of any threat of aircraft or missiles to the United Kingdom; and to exercise control of the United Kingdom airspace in peace and war.

The Command forms part of a unified system of air defence under the Supreme Allied Command Europe (SACEUR), with the United Kingdom forming one of four air-defence regions, but the size, composition, role and deployment of the Command are the responsibility of the British Government. The Air Officer Commanding-in-Chief, Fighter Command, has the NATO title of Commander, United Kingdom Air Defence Region (COMUKADR).

The control and reporting organisation is closely linked with that of the other three European air-defence regions, and with the Ballistic Missile Early Warning System (BMEWS) station at Fylingdales, Yorkshire, which in turn is linked with the U.S.-operated BMEWS stations at Clear (Alaska) and Thule



(Greenland). By spreading a blanket of radar beams some 3,000 miles across Europe and Asia, Fylingdales would give advance warning of IRBMs launched against the United Kingdom and the Continent, and of ICBMs sent against the North American Continent. Information is exchanged between the two U.S. stations and Fylingdales so that all developments are known at all three stations simultaneously. The main advantage is that it could give warning—four minutes in the worst possible case—to Bomber Command so that the V-force could scramble and escape destruction on the ground and could make an immediate retaliatory strike against enemy targets. Fighter Command also controls the Master Radar Stations and various Signals Units and administers the Royal Observer Corps, members of which are responsible at centres throughout the country for recording atomic fall-out.

Aircraft of Fighter Command are equipped with the twin-jet Mach-2 Lightning F Mk. 3 and F Mk. 6 single-seat all-weather fighters, the latter a developed version with conical camber wing leading-edge and long-range fuel tanks. They carry Firestreak or Red Top air-to-air missiles which allow attacks on enemy aircraft to be made at long range, without the pilot actually seeing the target, and can be refuelled in flight. After advanced pilot training on Gnats, Lightning pilots receive their operational training on the Lightning T Mk. 4 and T Mk. 5 two-seat trainer versions at No. 226 Operational Conversion Unit, R.A.F. Coltishall, Norfolk, before being posted to a squadron.

Although the Hunter is no longer a first-line fighter in Fighter Command it is still used in the ground-attack and fighter-reconnaissance roles in the R.A.F. commands abroad, and Hunter pilots receive their operational training at No. 229 Operational Conversion Unit, R.A.F. Chivenor, Devon, under the command of Fighter Command.

Air transportable Bloodhound Mk. 2 surface-to-air missiles with control radar are deployed in Britain and can be flown to overseas theatres.

Coastal Command

Coastal Command is responsible, with the Royal Navy, for the safety of sea communications in the Atlantic and British home waters, and makes a significant contribution to the deterrent force by helping to protect NATO carrier strike fleets against hostile submarine forces. It also maintains a force able to support internal security operations anywhere in the world, and in an emergency can assist Air Support Command.

The Command includes No. 18 Group at Pitreavie Castle, Fife, and No. 19 Group at Mount Batten, Devon. Units within the Command include the Maritime Reconnaissance Force; the Search and Rescue Organisation administered by the Edinburgh and Plymouth Rescue Co-ordination Centres; the Air/Sea Warfare Development Unit; the R.A.F. element of the Joint Anti-Submarine School (where naval and air force personnel train together); the Maritime Operational Training Unit; a number of Marine Craft Units; the School of Combat Survival and Rescue, and the Maritime Headquarters Units of the Royal Auxiliary Air Force.

The Command is mainly concerned—with sophisticated radar, navigation and attack equipment and detection devices—in anti-submarine patrols and maritime reconnaissance, so that sea communications can be used by Britain and her Allies while denied to the enemy.

The maritime-reconnaissance squadrons are equipped with the Shackleton four-engined long-range aircraft, which if necessary can remain airborne for up to 24 hours. Besides its reconnaissance role it carries rescue apparatus which can be dropped to survivors. Phase 3 versions have two Viper

de Havilland Mosquito IV



Hawker Typhoon IB



Gloster Meteor 4 (record breaker)



de Havilland Vampire F.2



B.A.C. Lightning F.6



turbojets added for assisted take-off. To replace the Shackleton MR Mk. 2 the Nimrod developed from the Comet Mk. 4 and powered by four Spey turbojets, is in production and will enter service in 1969. This aircraft will be able to fly between a scene of operations at a high-speed dash and cruise at low speed on anti-submarine patrols or rescue sorties.

Whirlwind helicopters complement the Shackletons for search and rescue in offshore areas. Although primarily for rescue of Service personnel, the Whirlwinds, deployed around the United Kingdom coasts, are frequently engaged in civilian rescue work and mercy flights and save several hundred lives each year.

The Air Officer Commanding-in-Chief, R.A.F. Coastal Command, also holds the NATO appointments of Commander, Maritime Air, Eastern Atlantic Area (COMMAIREASTLANT) and Commander, Maritime Air, Channel Command (COMMAIRCHAN) under the Supreme Allied Commander Atlantic (SACLANT) and Commander-in-Chief Channel (CINCHAN) respectively and would control some Dutch and Norwegian aircraft besides those of Coastal Command.

Air Support Command

Air Support Command is engaged in a major re-equipment programme which will dramatically increase its substantial carrying capacity.

Within the space of two years over a hundred new transport aircraft are entering service to fulfil the Command's various roles, which range from short-distance communication flying to long-range strategic reinforcement.

The long-range force of Comets and Britannias is being augmented by 14 four-jet VC.10s and ten Belfast turboprop freighters. The Command's tactical element—No. 38 Group has now got the new Andover and Hercules transports and Argosys and Wessex helicopters. The Group's ground-attack Hunters are to be replaced by the Phantom, the V/STOL Harrier (P.1127) fighter and later the Jaguar.

Military operations today depend largely on air transport, and Air Support Command provides mobility for the R.A.F. and for the Strategic Reserve of the Army, maintaining a constant readiness to airlift them anywhere in the world at short notice. The tactical element is trained to carry troops to the forefront of battle, and to support and supply them in the battle area.

The Command is therefore primarily a combat force, and its squadrons are constantly training to achieve peak efficiency. Its long-range force operates frequent scheduled services—about 60 a month—to Britain's overseas bases, and both the long- and medium-range aircraft regularly exercise with the Army.

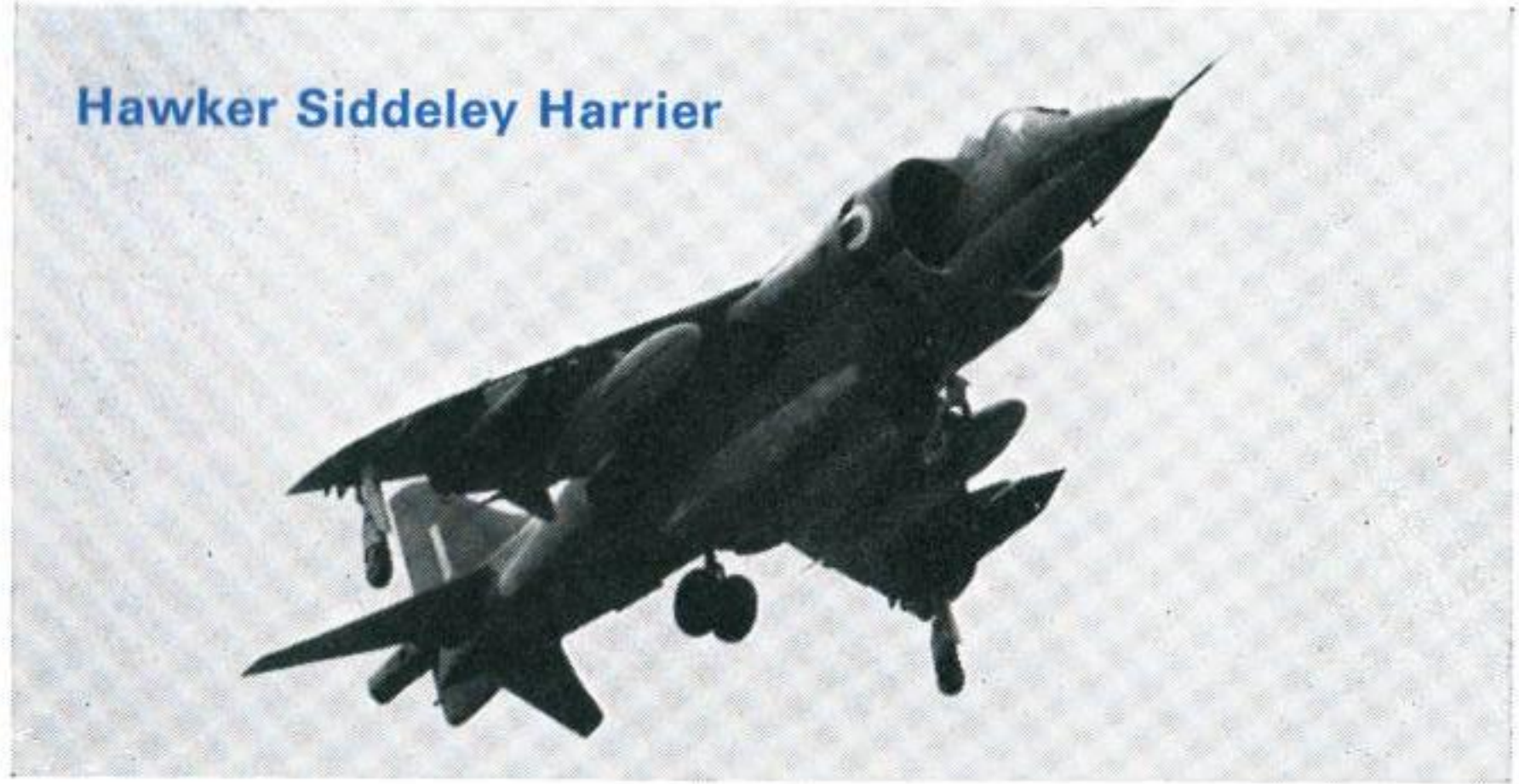
In a recent twelve-month period Command aircraft of all types flew an aggregate of 34,000,000 miles, and those engaged in scheduled services, exercises, special flights and communications flying have carried nearly 136,700 passengers. It also carried 32,000 tons of freight.

Air Support Command Comets, Britannias and VC.10s operate regular aeromedical services from the overseas bases, and these carry about 3,000 patients a year.

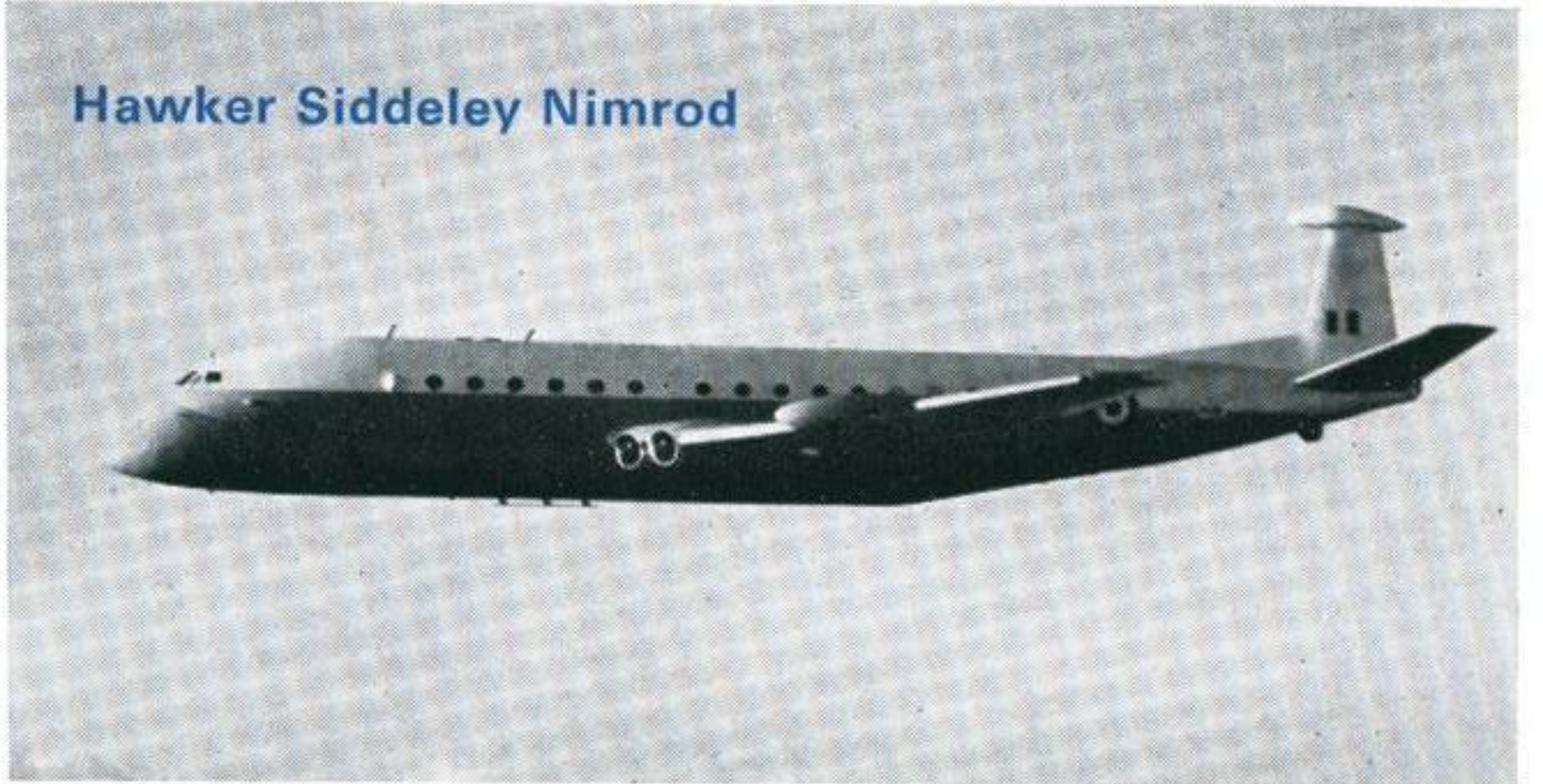
Command aircraft may be called on to assist in relief operations and to mount various other tasks, the Zambia oil-lift providing a recent example. Britannias flew 3,375,000 gallons of fuel and 1,000 tons of cargo into Zambia.

In November 1967 Air Support Command successfully completed the biggest air operation of its kind since the Berlin Airlift of 1948/9—the withdrawal by air of the British Forces from Aden and South Arabia. In three weeks over 6,000 men of all three Services and more than 400 tons of arms, ammuni-

Hawker Siddeley Harrier



Hawker Siddeley Nimrod



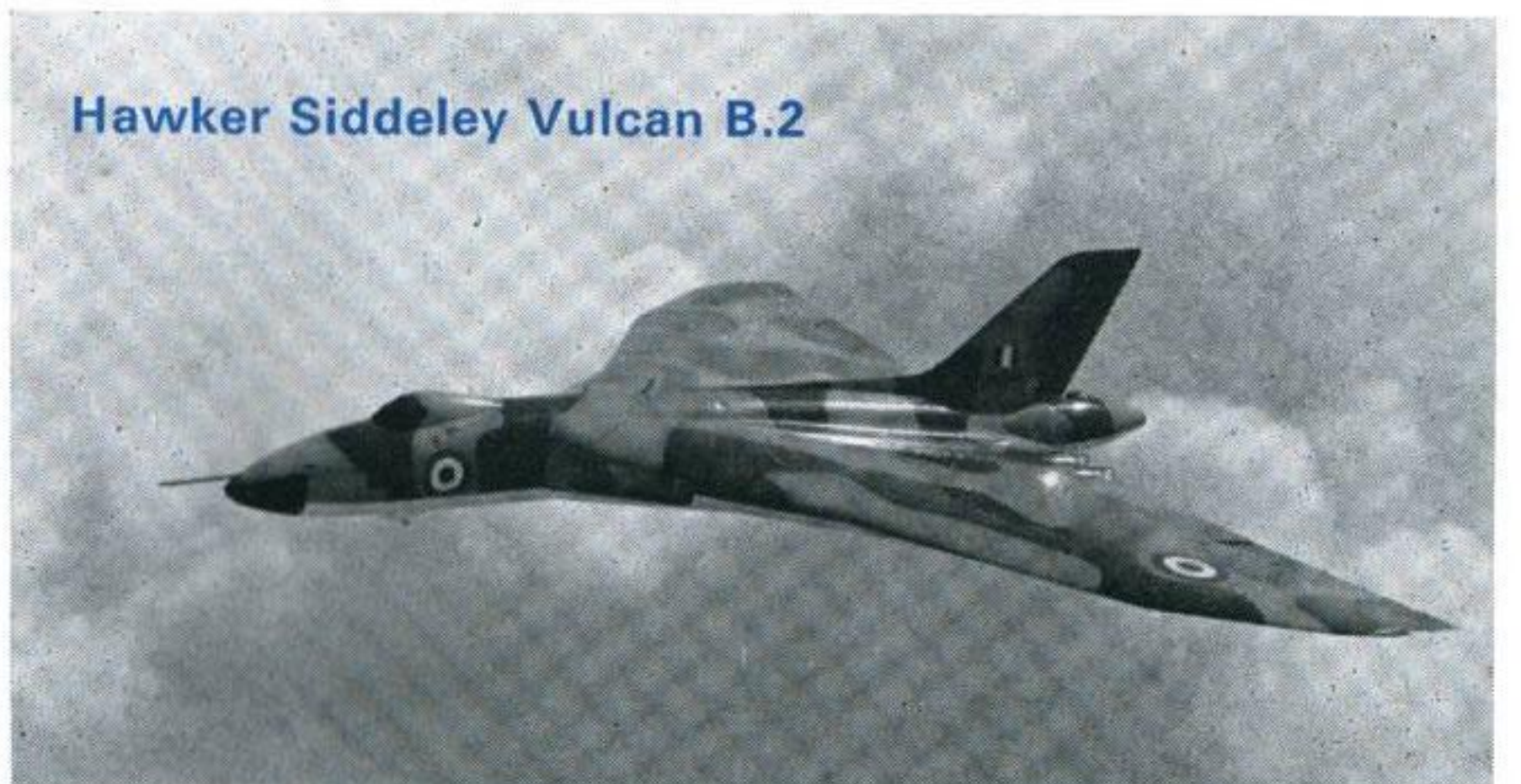
B.A.C. VC-10 C.1



Short Belfast C.1



Hawker Siddeley Vulcan B.2



tion and equipment were flown out of R.A.F. Khormaksar, Aden, to Bahrain and thence in strategic Britannias and VC.10s to the United Kingdom. The final three days saw the airlift at peak intensity with Servicemen being flown out at the rate of 1,000 a day. Fifteen Hercules (which did not enter squadron service until September 1967), Britannias, Belfasts and Argosys were used on the Aden-Bahrain leg. During this airlift the Command was able to maintain all its scheduled services to the Near and Far East.

All Air Support Command crews—and those of transport squadrons in the overseas commands—are categorised according to their skill and experience. Checks are regularly made by the Command Examining Staff, at R.A.F. Benson to ensure the maintenance of common high standards and procedures throughout the R.A.F.

Parachutists of all three Services (some 2,000 a year) are trained at No. 1 Parachute Training School, Abingdon. Instructors of this School form "The Falcons" free-fall parachute display team. The Command administers the R.A.F. Regiment Depot at Catterick, and also has a parachute-trained Regiment Squadron.

The main flying stations of the Command are Lyneham (Comets, Britannias and Hercules); Brize Norton (VC.10s and Belfasts); Denson (Argosys and The Queen's Flight); Abingdon (Argosys and Andovers); Thorney Island (Argosy and Hercules conversion training); Odiham (helicopters) and West Raynham (Hunters).

Flying Training Command

The task of Flying Training Command is the training of pilots, navigators, air electronics aircrew, air engineers and air traffic control officers from the time of their entry into the Service, starting with initial officer training and, for aircrew, continuing with basic and advanced training up to "wings" standard.

The Command controls No. 23 Group at Linton-on-Ouse, Yorkshire, and No. 25 Group at White Waltham, Berkshire; the R.A.F. College, Cranwell, Lincolnshire; the R.A.F. College of Air Warfare, Manby, Lincolnshire, and the Central Flying School, Flying Training Command also administers the R.A.F. Staff College, Bracknell, Berkshire; the Junior Command and Staff School at Tern Hill, Shropshire; the Officers and Aircrew Selection Centre, Biggin Hill, Kent, and Headquarters, Air Cadets, at White Waltham.

Nos. 23 and 25 Groups have responsibility not only for all aircrew training up to the Operational Conversion Unit stage, but for the Central Air Traffic Control School; the University Air Squadrons, and the Civilian Anti-Aircraft Co-operation Units, Headquarters, Air Cadets, is the formation responsible for the activities of the Air Training Corps and the R.A.F. sections of the Combined Cadet Force, along with the Gliding Centres and Schools.

In the Royal Air Force ab-initio pilot training is given on the Chipmunk and the Jet Provost, and pupils progress to the Gnat, the Varsity or to helicopters, according to the operational roles for which they are destined. Navigation training is undertaken on the Varsity, Valetta and the twin-jet Dominie. The Varsity is also used for the training of air electronics aircrew and air engineers. Aircrew complete their flying instruction at an Operational Conversion Unit. All flying instructors for the three Services are trained at the Central Flying School, which has its headquarters and a Fixed Wing Element at Little Rissington, Gloucestershire, and a Rotary Wing Element at Tern Hill, which operates Sioux and Whirlwind helicopters. A two-seat trainer version of the Anglo-French Jaguar aircraft will become available for advanced pilot training in the early '70s. The R.A.F.'s current premier

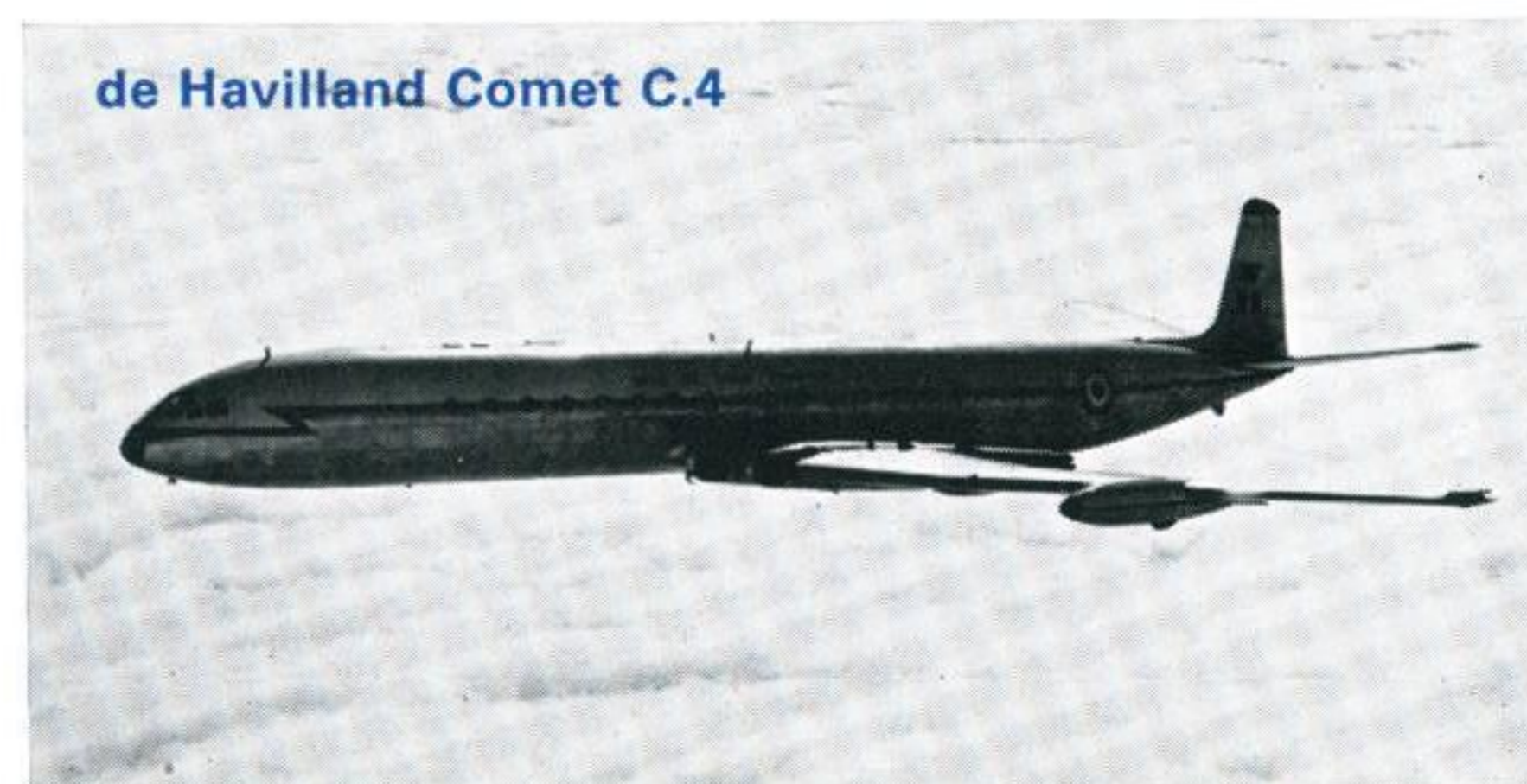
Handley Page Victor B.1



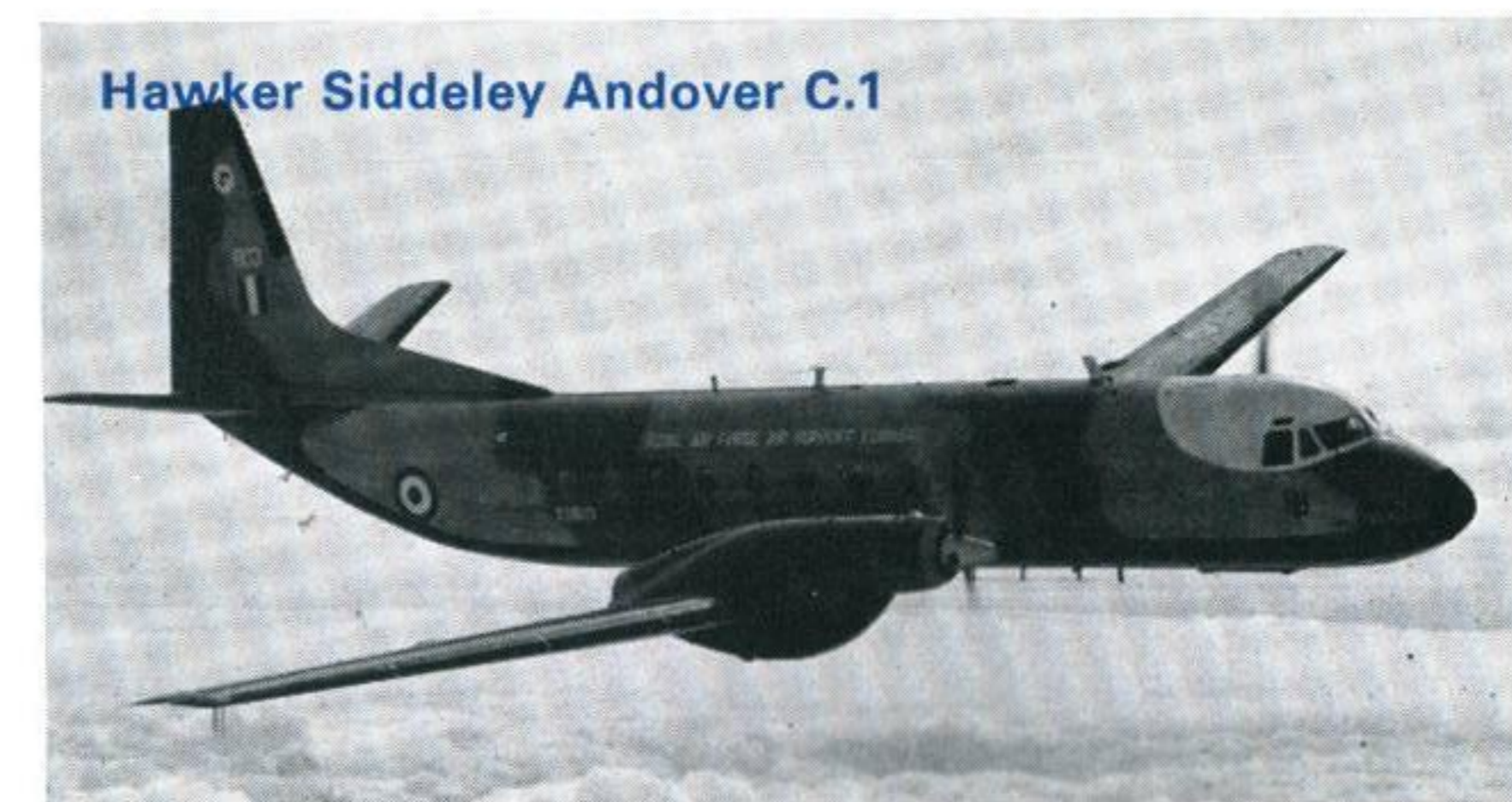
Avro Shackleton M.R.3



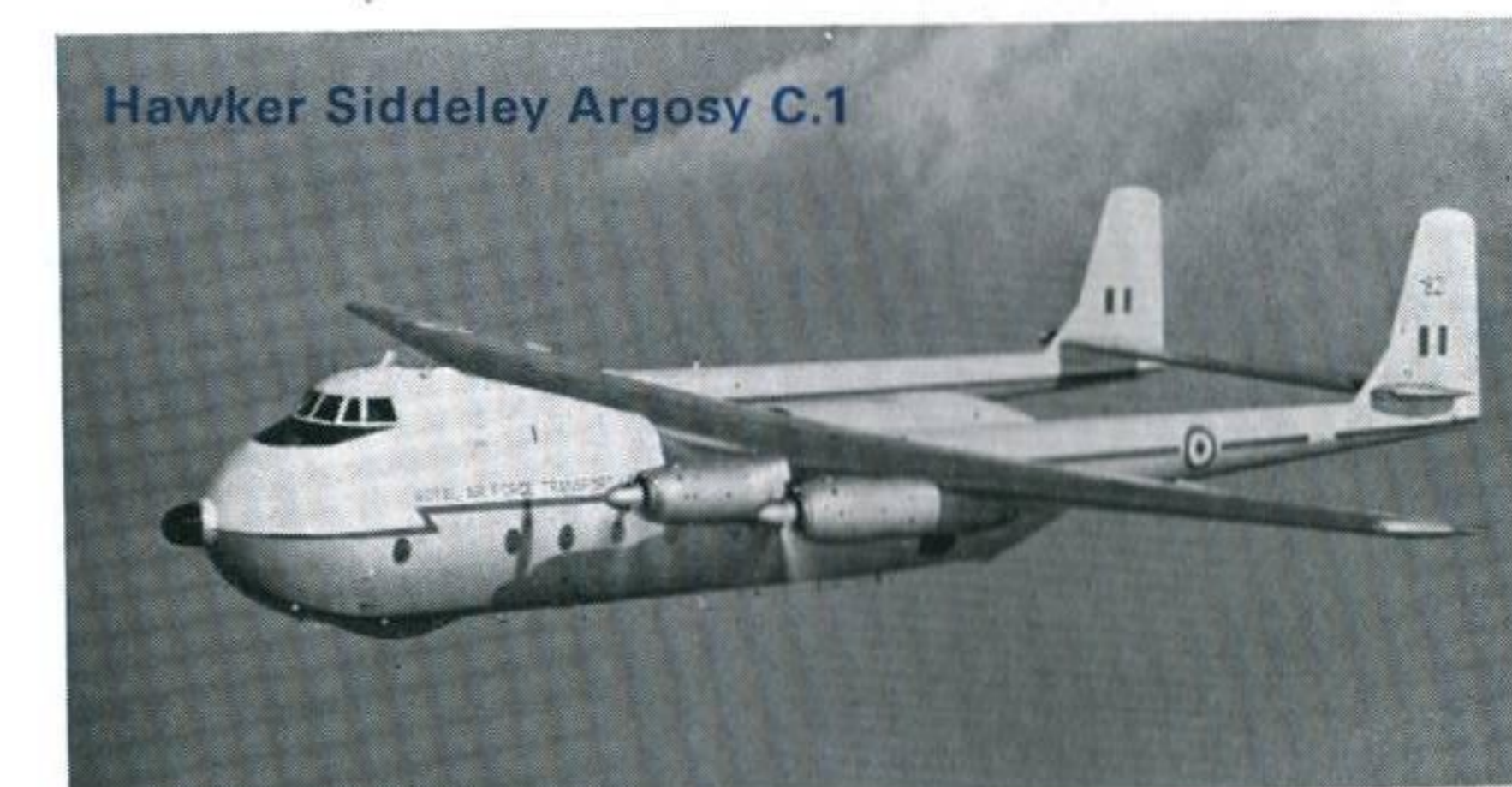
de Havilland Comet C.4



Hawker Siddeley Andover C.1



Hawker Siddeley Argosy C.1



aerobatic team the "Red Arrows" flying Gnats, is provided by the Central Flying School.

Technical Training Command

With the exception of a very limited number of trades which have civilian counterparts, and for which only qualified direct entrants are accepted, all personnel entering the Royal Air Force receive comprehensive training for the trades or branches for which they have been selected.

The majority of trade training is the responsibility of Technical Training Command. After reception and recruit training (also a Command responsibility) adult airmen and airwomen are given their basic training to the required trade. After a period of productive service they may be given further training to raise them to a higher skill level, conversion training to broaden their skill or post-graduate training to qualify for employment on specific equipments or duties not covered in basic training. The Command is also responsible for the training of all R.A.F. apprentices.

The Command is divided into two Groups. No. 24 Group at Market Drayton, Shropshire, controls all the technical training schools while No. 22 Group at Rudloe Manor, Wiltshire, controls the administrative and operative trade training schools and units, recruit reception and training, and the Officer Cadet Training Unit.

The Command also administers the R.A.F. Record and Pay Office; the Queen's Colour Squadron; R.A.F. Hospitals; R.A.F. Careers and Information Centres; the Medical Rehabilitation Units and the R.A.F. Museum unit at Henlow, Bedfordshire.

Maintenance Command

Maintenance Command exists to supply material needs and servicing aid to all Royal Air Force units both at home and overseas; it also issues certain equipment to the Royal Navy and Army Air Corps. Certain units in the Command hold and supply the entire range of Royal Air Force equipment and spares, explosives, compressed gases and medical supplies; other units provide repair, salvage, electronic and engineering backing and are doing an increasing quantity of aircraft reconditioning, modification and conversion tasks, including some for the Royal Navy. Accommodation stores for all three Services are received, stored and issued by the Command. The activities of the Bomb Disposal Flights, Mechanical Transport Squadrons and R.A.F. Movements Units are controlled by Maintenance Command, which also supervises the installations and stocks of the Petroleum Supply Depots, which include reserves for the Royal Navy and Army Air Corps.

The Command also gives administrative backing to several units including the Central Servicing Development Establishment, the Institute of Aviation Medicine, the Joint Air Trooping Centre and the Supply Control Centre at Hendon whose computers maintain a central record of stocks and consumption of spares at each of the 150 R.A.F. units at home and overseas.

Signals Command

Signals Command is charged with the control of radio engineering, electronic warfare, telecommunications, and the callibration and operation of navigational aids. This involves the control of various Signals Units, transmitting and receiving stations, communications and switching centres, GEE chains, ground radio servicing squadrons, and schools for advanced training in connection with radio warfare technique.

Canberra, Hastings and Varsity aircraft are operated by the Command for the airborne aspects of its work.



ROYAL AIR FORCE COMMANDS — ABROAD

Near East Air Force

The Air Officer-Commanding-in-Chief, Near East Air Force, is also Commander, British Forces, Near East, and Administrator of the Sovereign Bases Areas of Akrotiri and Dhekelia, and in the last-named capacity is responsible for peace, order and good government within the Areas, with legislative and executive authority.

N.E.A.F. controls units in Cyprus and Malta. The Air Officer Commanding, Malta, is also Deputy Commander-in-Chief (Air), Allied Forces Mediterranean. N.E.A.F. tasks include the safeguarding of air and sea communications through the area, and the support of defence treaties to which the United Kingdom is committed.

Canberra light-bombers (some armed with AS.30 air-to-surface missiles) at Akrotiri, Cyprus, operate in a strike role in support of CENTO, and a force of Canberra tactical-reconnaissance aircraft is in Malta. A transport force of Argosy, Valetta and Pembroke aircraft is maintained at Akrotiri, and there are also Lightnings armed with air-to-air missiles and Light Anti-Aircraft Squadrons of the R.A.F. Regiment. Whirlwind helicopters operate in the short-range transport role and for search-and-rescue duties. Some R.A.F. Wessex helicopters are detached for service with the United Nations force in Cyprus. Lightnings of Fighter Command are detached regularly from the United Kingdom to Cyprus for training, and Shackletons from Malta take part in NATO naval co-operation exercises.

Air Forces Gulf

Air Forces Gulf is the R.A.F. Element of British Forces Gulf, which is a unified Command of all three Services, formed on the withdrawal of British Forces from Aden and Saudi Arabia in 1967.

The R.A.F. in the Gulf from R.A.F. Muharraq (Bahrain), ensures the safety of British and interests in the area and guarantees the protection of Bahrain and the Trucial States. Units are also based at Sharjah (Trucial Oman) and Masirah (Muscat).

Argosy aircraft operate in the medium-range tactical transport role, with short-range Twin Pioneers and Wessex helicopters to supply and support the Army. Argosys are also used for parachute training. Rocket and cannon-armed Hunter ground-attack and photographic-reconnaissance aircraft and Shackleton maritime-reconnaissance aircraft equip Air Forces Gulf. Andovers are operated for communications duties. Whirlwind helicopters are on search-and-rescue work.

Far East Air Force

The Far East Air Force is the Royal Air Force Element of the Far East Command, which is a unified three-Service Command. The primary role of the F.E.A.F. is, in conjunction with the Royal Navy and Army, and with member countries of the Commonwealth and Allies, to maintain peace and security in the area, and to implement British policy in support of SEATO and other treaties.

The F.E.A.F. controls bases on Singapore Island; a subsidiary Headquarters (No. 224 Mobile Group); R.A.F. Kai Tak, Hongkong; the airfield of Gan in the Maldives; and at the request of the Government of Malaysia operates units from time to time in that country. During Indonesian

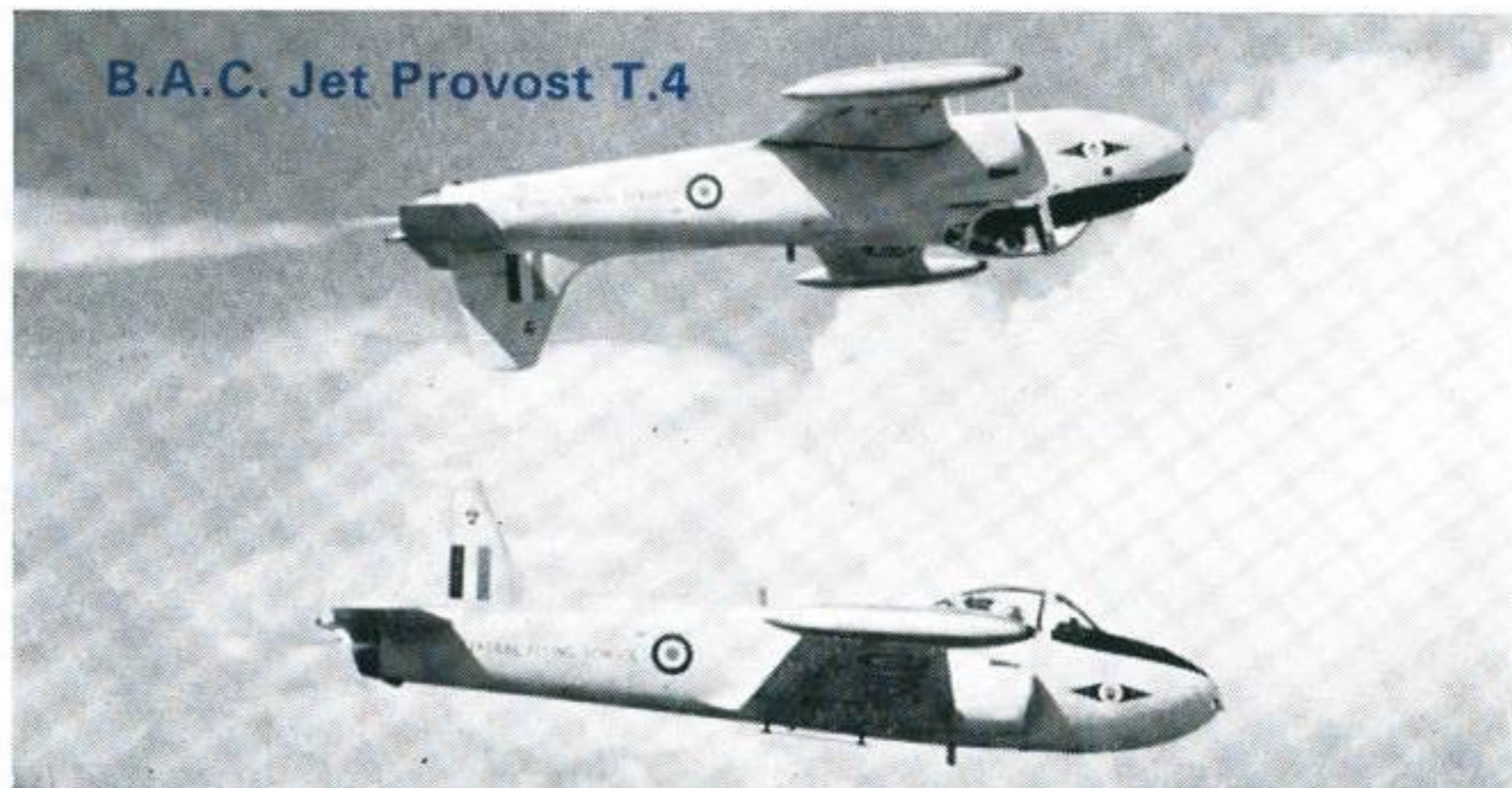
Vickers Valetta T.3



de Havilland Chipmunk T.10



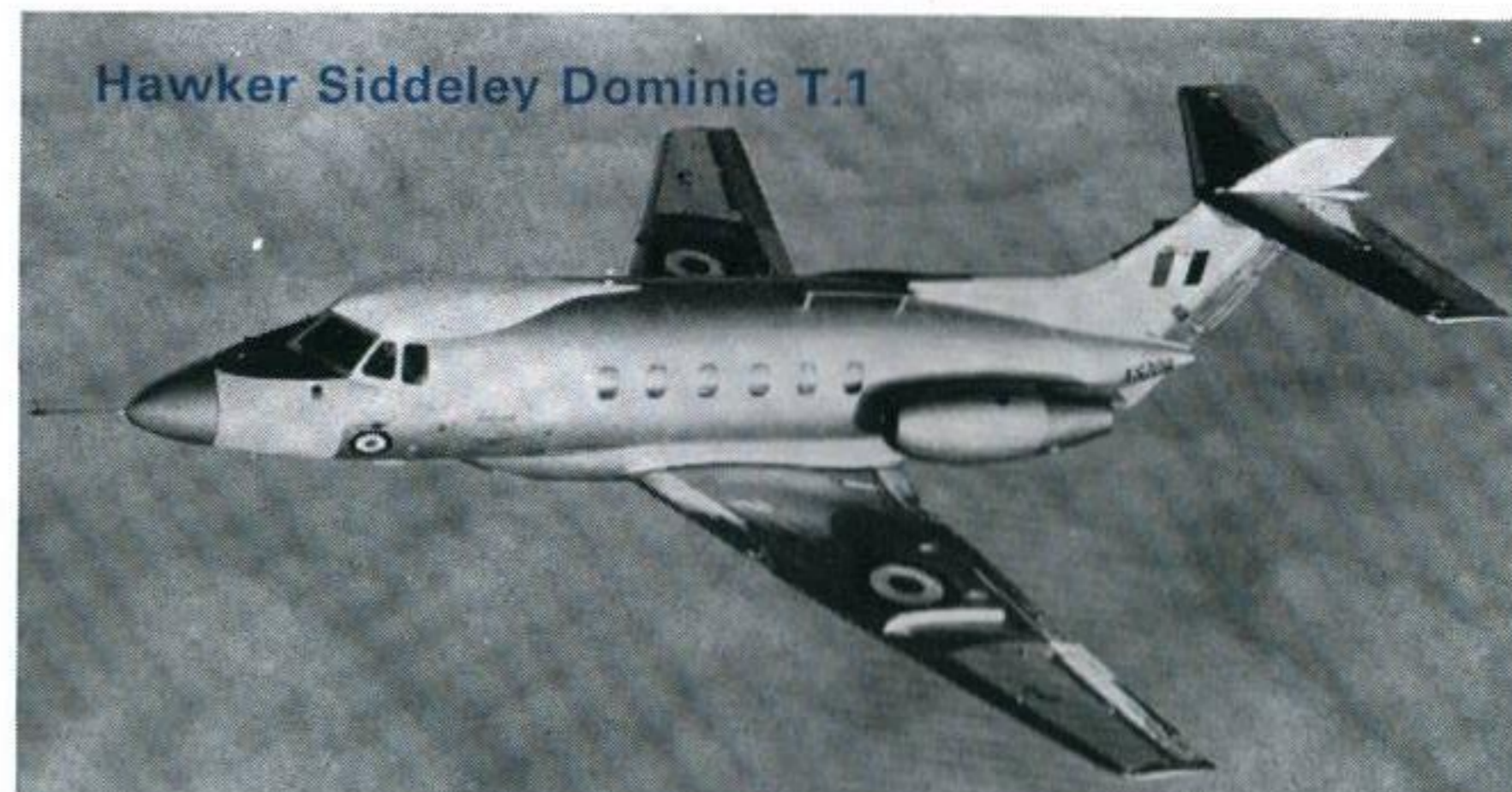
B.A.C. Jet Provost T.4



Folland Gnat T.1



Hawker Siddeley Dominie T.1



confrontation the F.E.A.F. flew extensively in the Borneo territories, operating from bases in Sarawak, Brunei and Sabah.

Aircraft operated in the Far East Air Force include Lightnings and Hunters; Canberra light-bombers and photographic-reconnaissance aircraft; Argosy, Hercules, Andover, Pioneer and Twin Pioneer transport aircraft, and Whirlwind and Belvedere helicopters, with Shackletons for maritime-reconnaissance. Bloodhound surface-to-air missiles are deployed and V-bombers from the United Kingdom are regularly detached to the F.E.A.F.

Units of the Royal Australian and Royal New Zealand Air Forces also form part of the F.E.A.F.

Royal Air Force Germany

Royal Air Force Germany is part of the United Kingdom force committed to the Supreme Allied Command Europe (SACEUR) and comes within the structure of NATO'S Allied Forces Central Europe (AFCE) under the 2nd Allied Tactical Air Force. The Commander-in-Chief, R.A.F. Germany, is also Commander, 2nd A.T.A.F.

The main tasks of the Command are the air defence of what was formerly the British Zone of the Federal Republic; maintaining, with Allied air and ground forces, access to Berlin; and, as part of the 2nd A.T.A.F., the provision of nuclear strike, reconnaissance and air-defence for immediate support of NATO operations. Elements of the force are on call for prompt reinforcement of more distant overseas theatres.

Canberra twin-jet aircraft are operated in the tactical nuclear strike and reconnaissance roles, with Lightning all-weather fighter and Hunter fighter-reconnaissance aircraft for support duties. The Wessex helicopter squadron is now based in the U.K. but is still available to R.A.F. Germany. A rigorous training and exercise programme ensures a continuously high state of readiness and operational effectiveness. Exchange visits for training are undertaken with other NATO air forces.

The Command administers the R.A.F. elements at Brunsum, Holland (AFCE Headquarters), and at Casteau, near Mons, Belgium (SHAPE Headquarters). Its units also include R.A.F. Gatow (Berlin); the R.A.F. Hospital at Wegberg, and various technical support, movements and communications units.

AIR FORCE BOARD AND SENIOR R.A.F. APPOINTMENTS

(As at February 1968)

Air Force Board

Secretary of State for Defence (Chairman, Air Force Board).—Rt. Hon. Denis W. Healey, M.B.E., M.P.
Minister of Defence for Administration (Vice-Chairman, Air Force Board).—G. W. Reynolds, M.P.
Minister of Defence for Equipment (Vice-Chairman, Air Force Board).—Roy Mason, M.P.
Parliamentary Under-Secretary of State for Defence for the Royal Air Force.—Merlyn Rees, M.P.
Chief of the Air Staff.—Air Chief Marshal Sir John Grandy, G.C.B., K.B.E., D.S.O.
Air Member for Personnel.—Air Marshal Sir David Lee, K.B.E., C.B.
Air Member for Supply and Organisation.—Air Marshal Sir Charles Broughton, K.B.E., C.B.
Vice-Chief of the Air Staff.—Air Marshal Sir Peter Fletcher, K.C.B., O.B.E., D.F.C., A.F.C.
Deputy Chief of the Air Staff.—Air Marshal Sir Peter Wykeham, K.C.B., D.S.O., O.B.E., D.F.C., A.F.C., A.F.R.Ae.S.
Chief Scientist (Royal Air Force).—L. F. Nicholson, C.B., M.A., F.R.Ae.S.
Second Permanent Under-Secretary of State (Royal Air Force).—Sir Martin Flett, K.C.B., M.A.

ROYAL AIR FORCE COMMANDERS

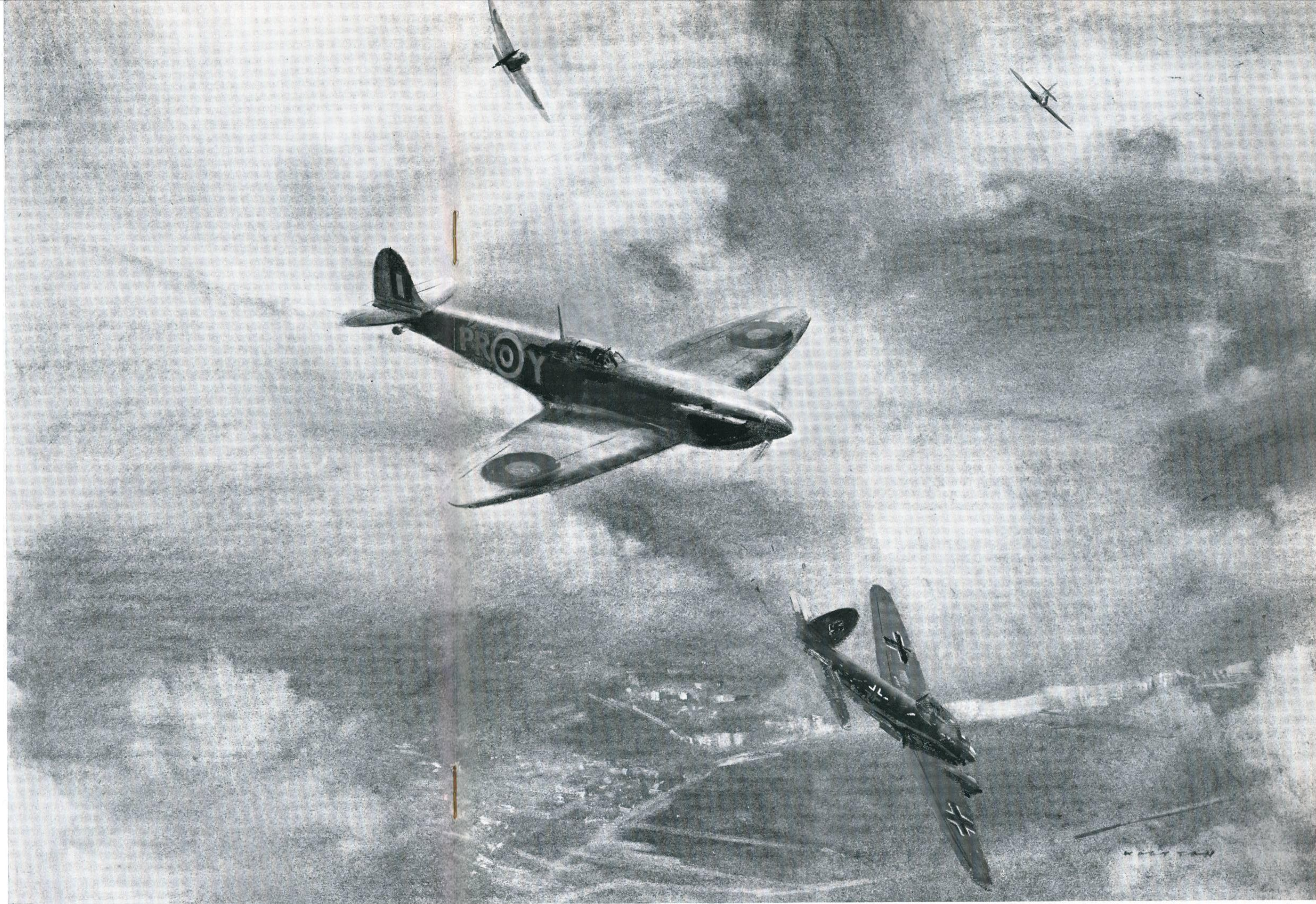
(As at February 1968)

R.A.F. Bomber Command.—Air Officer Commanding-in-Chief: Air Chief Marshal Sir Wallace Kyle, G.C.B., C.B.E., D.S.O., D.F.C.
R.A.F. Fighter Command.—Air Officer Commanding-in-Chief: Air Marshal Sir Frederick Rosier, K.C.B., C.B.E., D.S.O.
R.A.F. Coastal Command.—Air Officer Commanding-in-Chief: Air Marshal Sir Paul Holder, K.B.E., C.B., D.S.O., D.F.C., M.Sc., Ph.D.
R.A.F. Air Support Command.—Air Officer Commanding-in-Chief: Air Marshal Sir Thomas Prickett, K.C.B., D.S.O., D.F.C.
R.A.F. Flying Training Command.—Air Officer Commanding-in-Chief: Air Chief Marshal Sir John Davis, G.C.B., O.B.E., M.A.
R.A.F. Technical Training Command.—Air Officer Commanding-in-Chief: Air Marshal Sir William Coles, K.B.E., C.B., D.S.O., D.F.C., A.F.C.
R.A.F. Maintenance Command.—Air Officer Commanding-in-Chief: Air Marshal Sir Kenneth Porter, K.C.B., C.B.E., M.I.E.E., F.R.Ae.S.
R.A.F. Signals Command.—Air Officer Commanding-in-Chief: Air Vice-Marshal B. Ball, C.B., C.B.E., B.A.
Near East Air Force.—Air Officer Commanding-in-Chief, Commander Near East, and Administrator, Sovereign Base Areas: Air Marshal Sir Edward Gordon Jones, K.C.B., C.B.E., D.S.O., D.F.C.
Far East Air Force.—Commander: Air Marshal Sir Rochford Hughes, K.C.B., C.B.E., A.F.C., F.R.Ae.S.
R.A.F. Germany (2nd Tactical Air Force).—Commander-in-Chief and Commander, 2nd Allied Tactical Air Force: Air Marshal Sir Denis Spotswood, K.C.B., C.B.E., D.S.O., D.F.C.
Air Forces Gulf.—Air Officer Commanding: Air Commodore J. G. Topham, D.S.O., O.B.E., D.F.C.

THE FEW

Nearly 28 years ago the sky over Britain was pencilled with white contrails, with occasional angry puffs of smoke smearing the clear blue of a perfect English summer. This was the scene, set to the drone of aircraft engines, the menacing bark of anti-aircraft fire and the rattle of machine guns, which became commonplace during the Battle of Britain. Then it was that the Royal Air Force saved Britain from invasion and won for itself an immortality that would stand with Trafalgar and Waterloo.

On this special occasion when we remember the R.A.F.'s achievements during the past 50 years, we pay tribute to some of the machines which, flown by "the Few", served Britain so well in her hour of need.



Hawker Hurricanes



Spitfire I



Gloster Gladiator



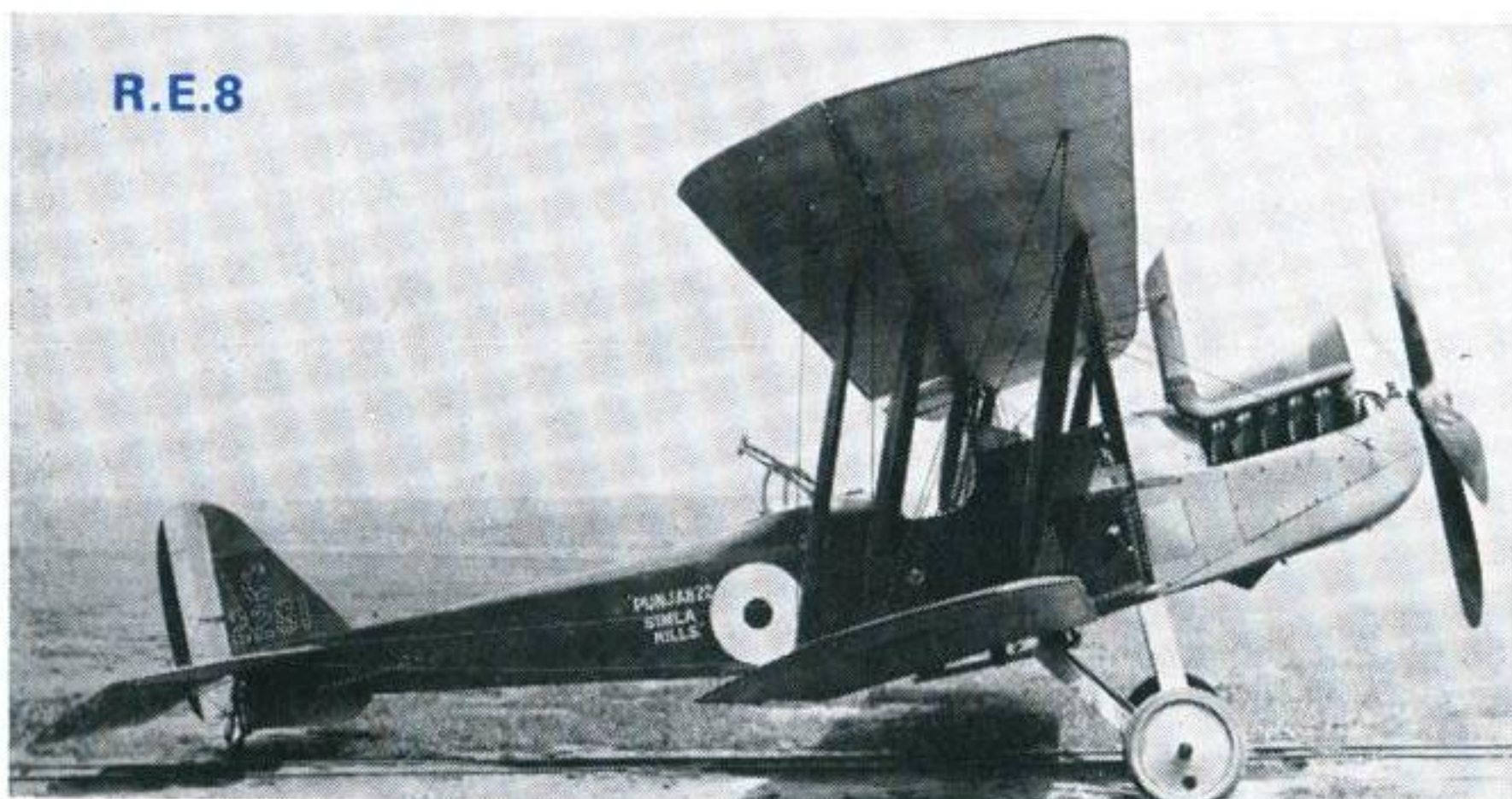
Hurricane IIAs of 71 Squadron



Defiant of 264 Squadron

A Fifty-Year Flypast

Since its formation in April 1918 the R.A.F. has used more than 300 types of aircraft (not including different mark numbers). Most of these are now merely memories, although many of the veterans of yesteryear which still survive will eventually be seen in the new R.A.F. Museum at Hendon. This however will not be for some months yet and in the meantime readers of the *Journal* might like to sample our own little trip down memory lane . . .





Handley Page V/1500



Hawker Woodcock II



Bristol F.2B Mk. II



Handley Page Hyderabad



de Havilland 9A



Avro 504N



Vickers Vernon



Gloster Grebe



Avro Aldershot



Gloster Gamecock

Handley Page Hinaidi



Fairey III F



Fairey Fox



Supermarine S.6A



Supermarine S.5



Westland Wapiti IIA



Hawker Horsley



Hawker Hart

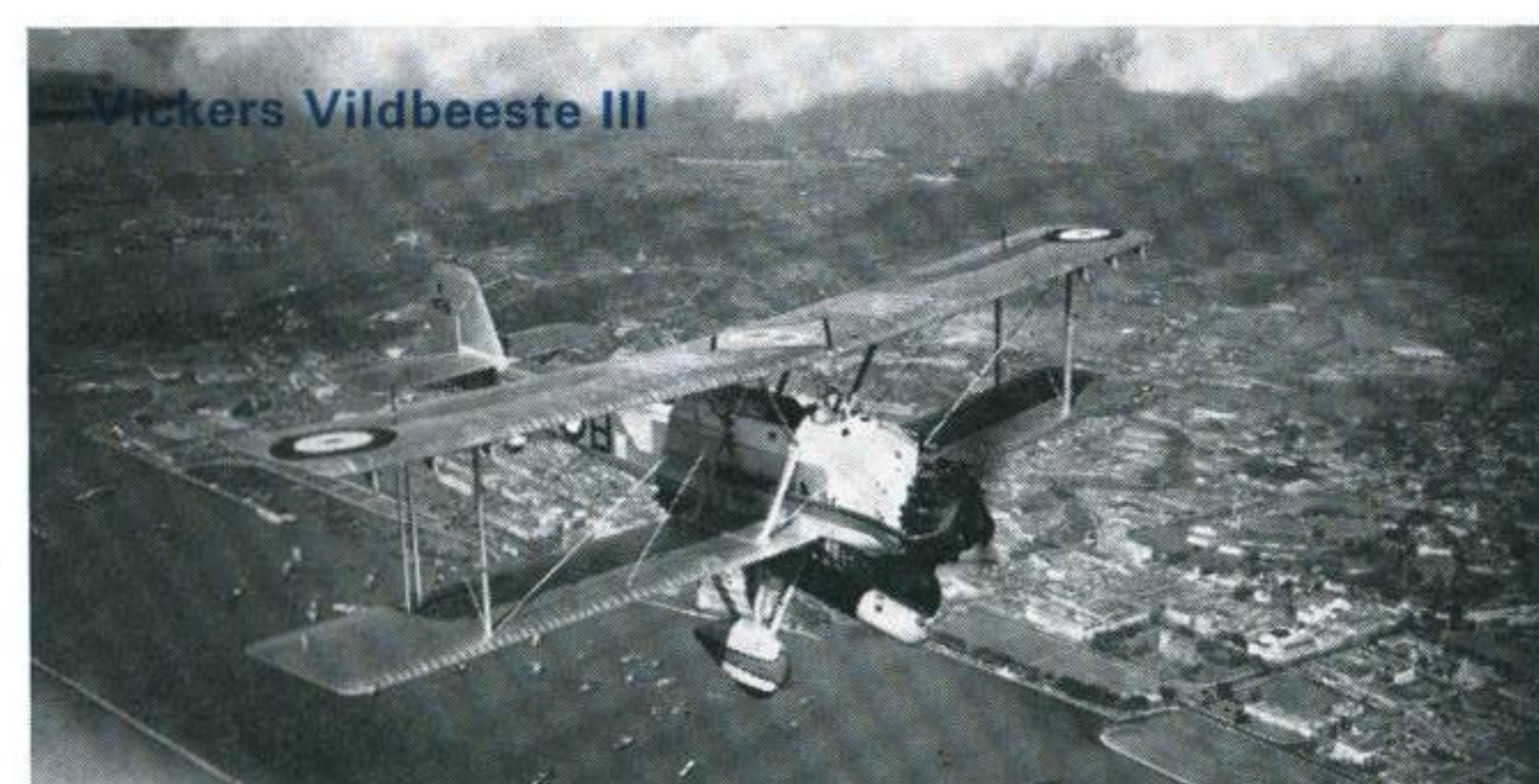


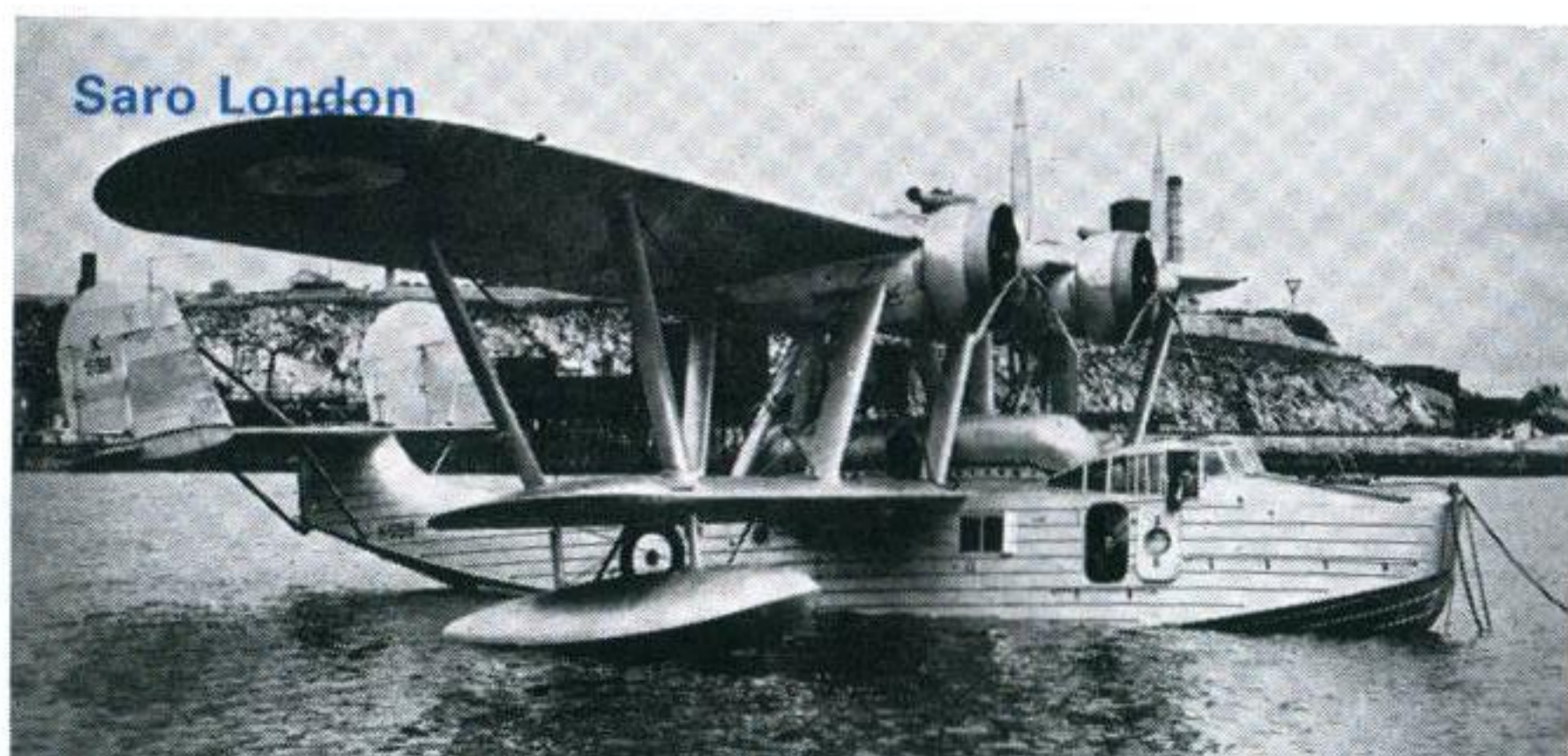
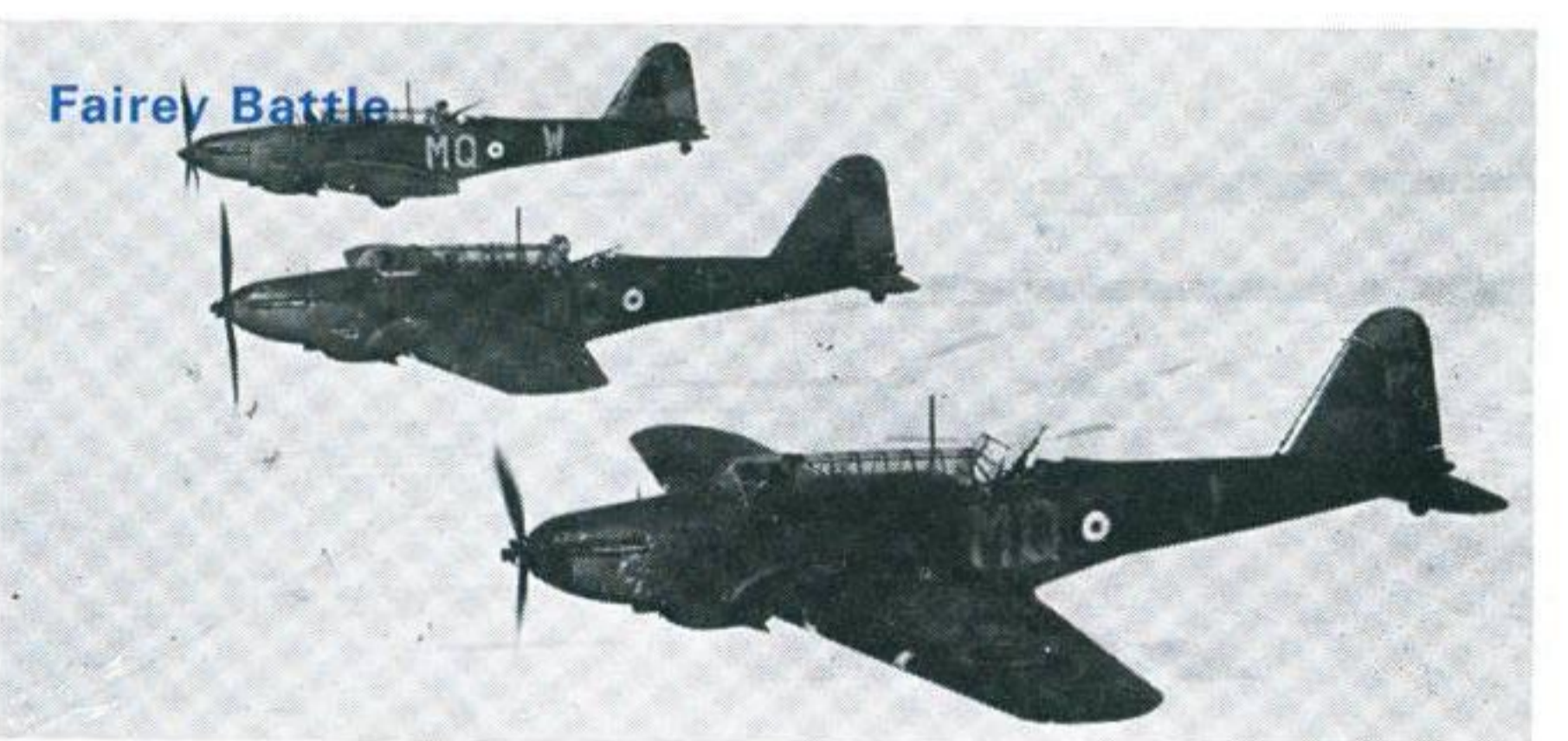
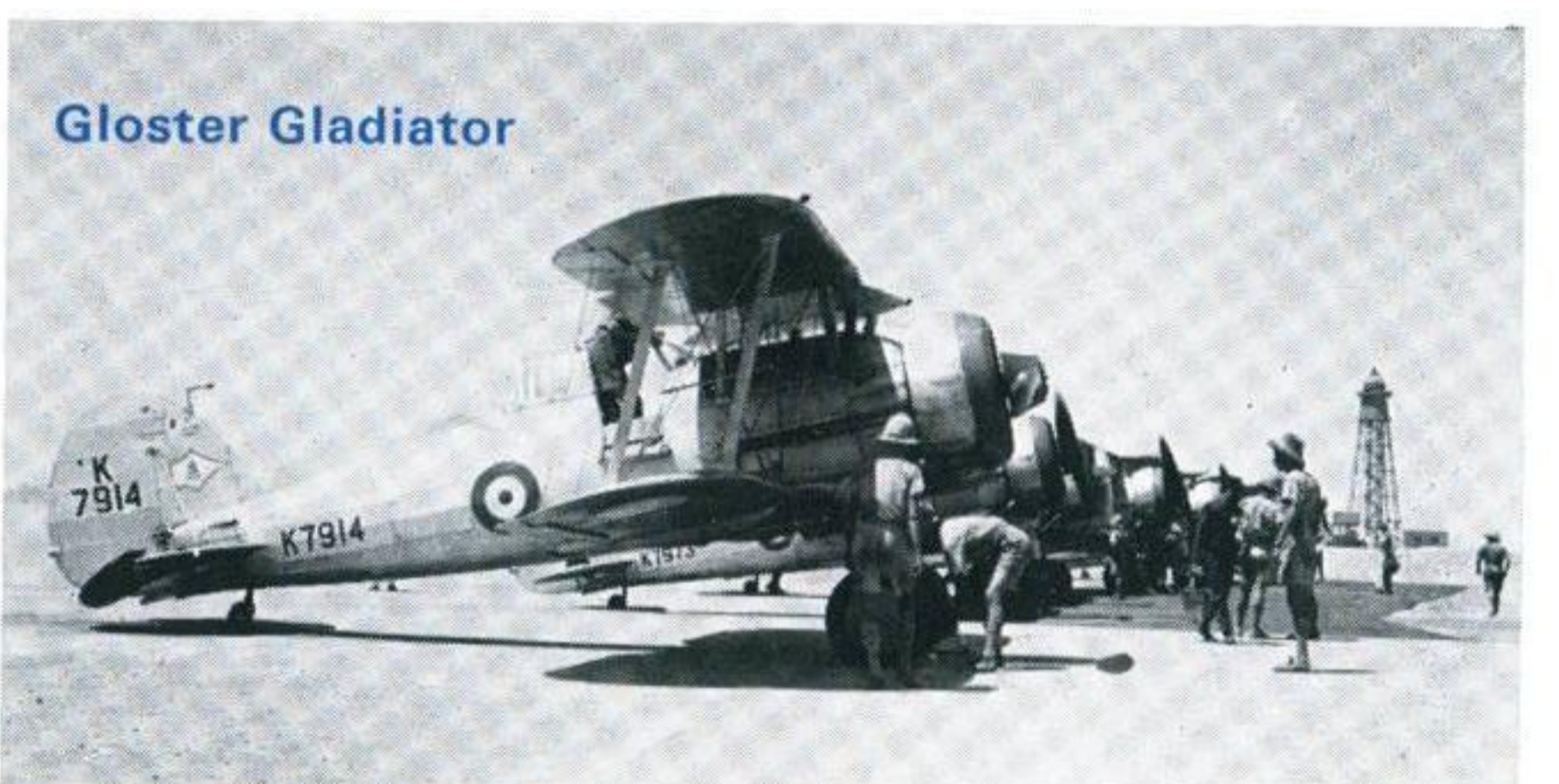
Hawker Tomtit



Bristol Bulldog IIA







Armstrong Whitworth Whitley V



Supermarine Spitfire XIX



Bristol Blenheim IV



Gloster Meteor F.8



Handley Page Hampden



Avro Lincoln



Hawker Typhoon IB



Avro York



Supermarine Spitfire XII



de Havilland Vampire F.B.5



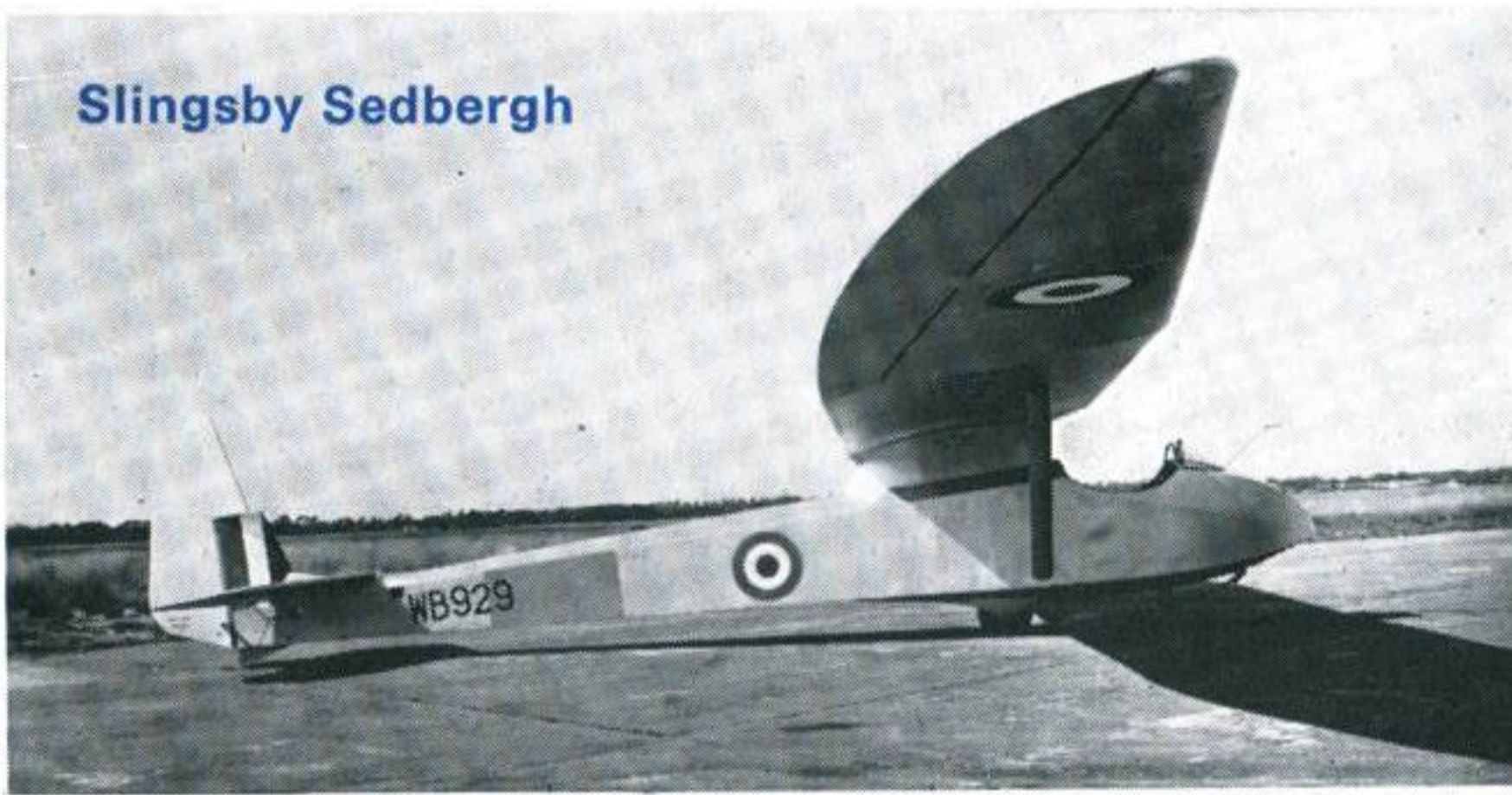
Vickers Wellington T.10



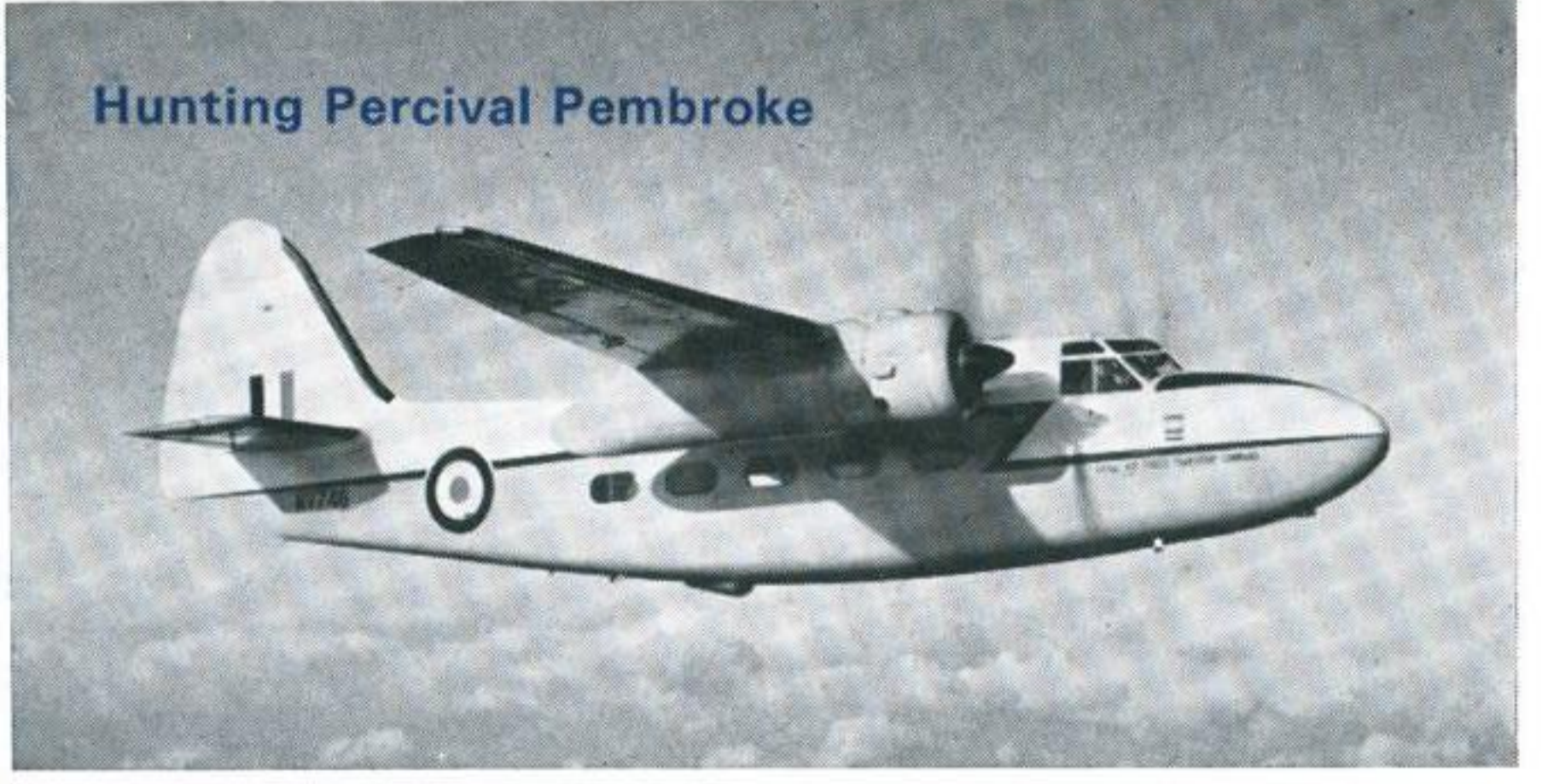
Armstrong Whitworth Meteor N.F.12



Slingsby Sedbergh



Hunting Percival Pembroke



Hunting Percival Provost



Handley Page Hastings C.2



Westland Dragonfly I



Hawker Hunter



Vickers Valiant



English Electric Canberra B(1)8



Bristol Sycamore



Gloster Javelin F(AW)8



Blackburn Beverley



Avro Vulcan B.2



de Havilland Comet C.2



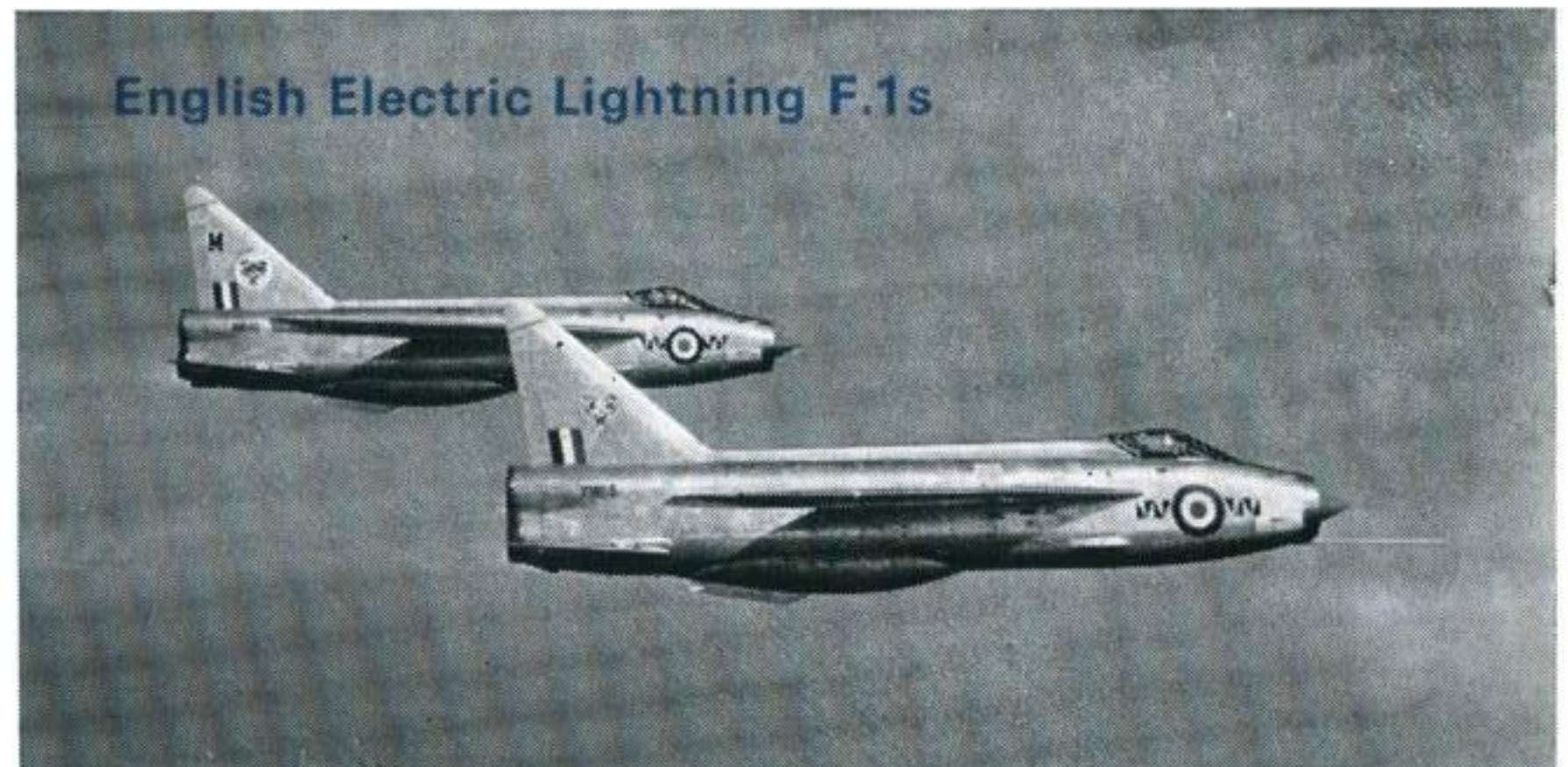
Handley Page Victor B.2



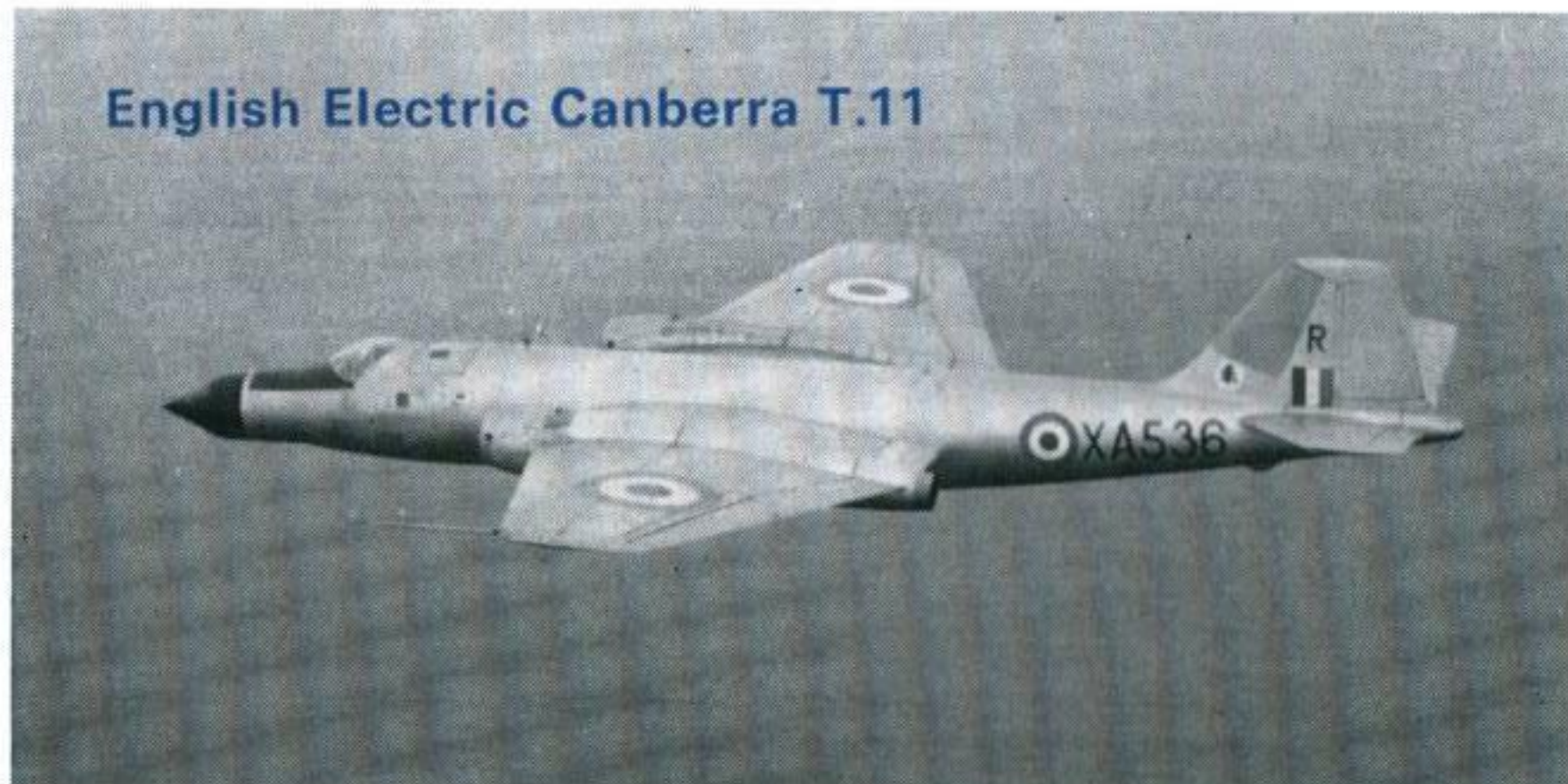
Bristol Britannia



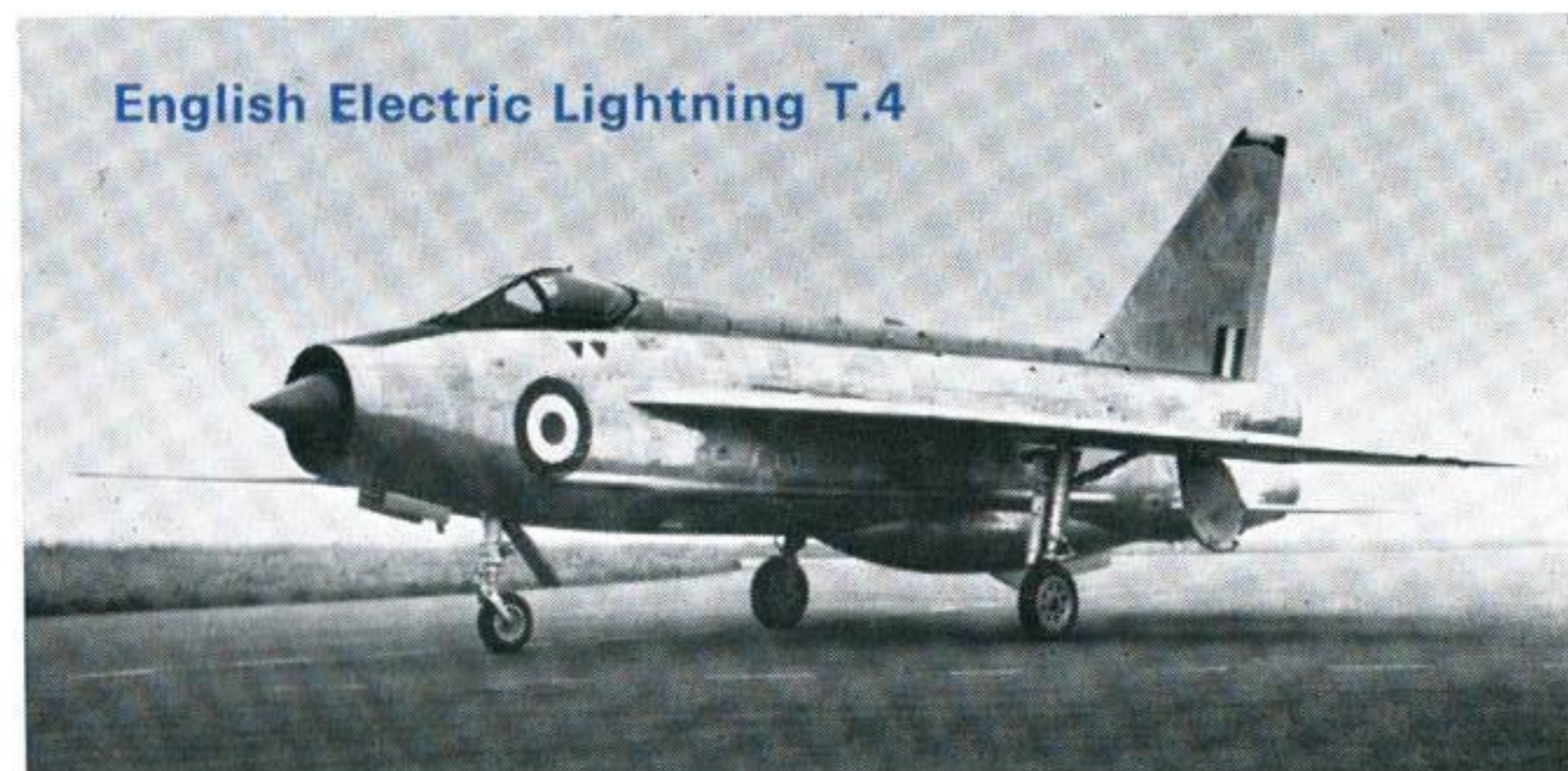
English Electric Lightning F.1s



English Electric Canberra T.11



English Electric Lightning T.4



English Electric Lightning F.3



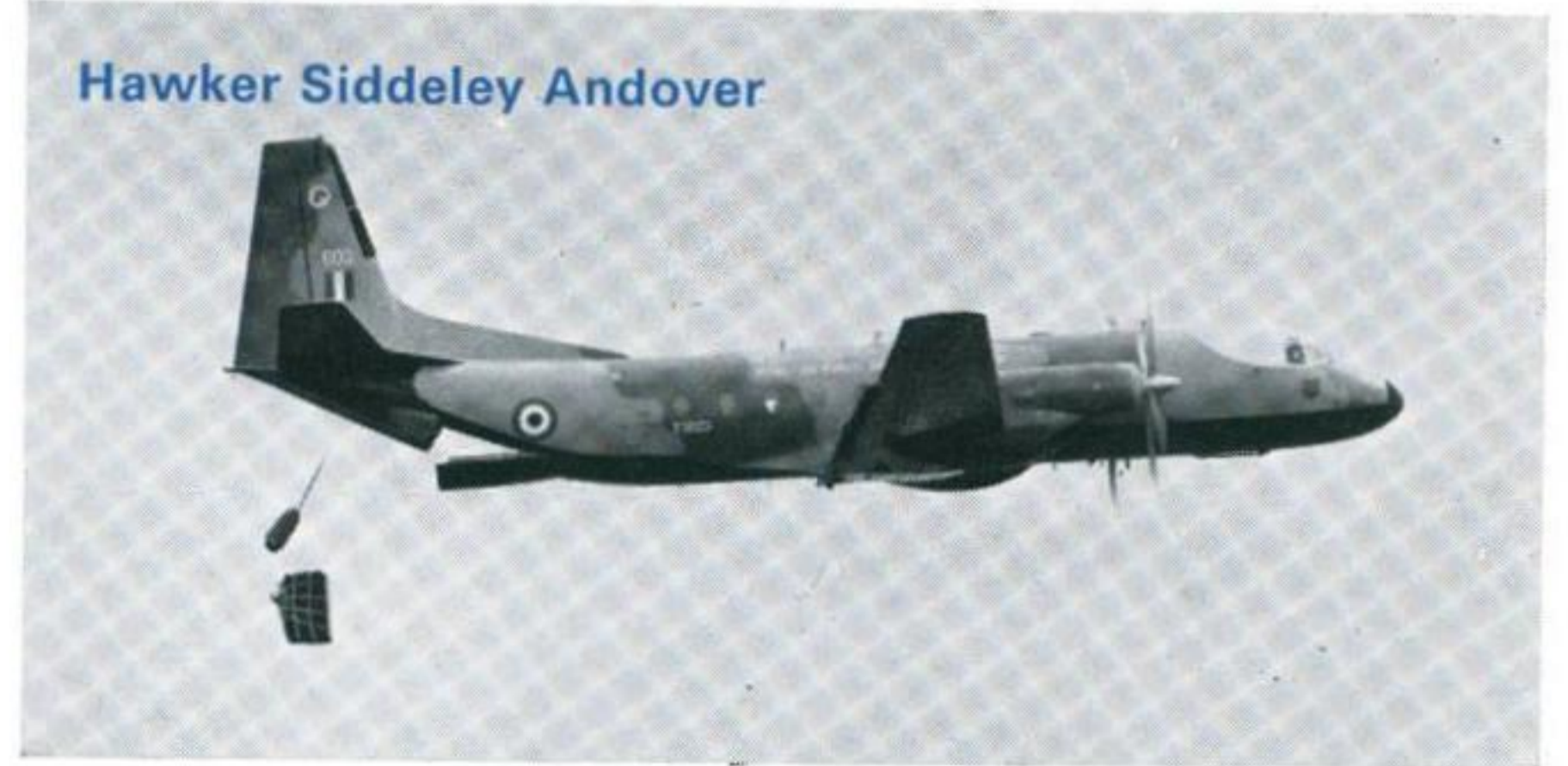
B.A.C. VC-10



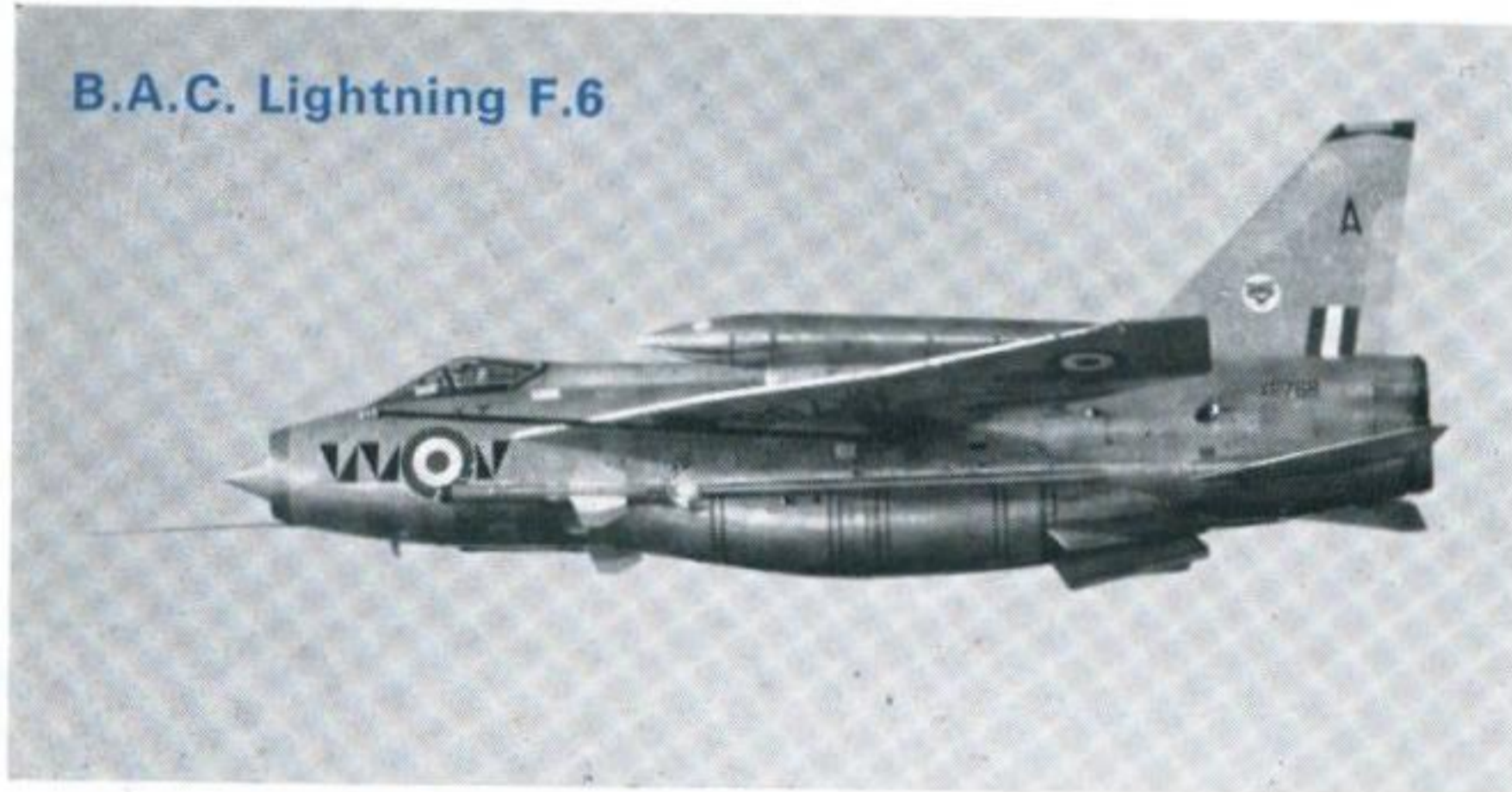
English Electric Lightning T.5



Hawker Siddeley Andover



B.A.C. Lightning F.6



Hawker Siddeley Harrier



de Havilland Heron C.3



Lockheed Hercules

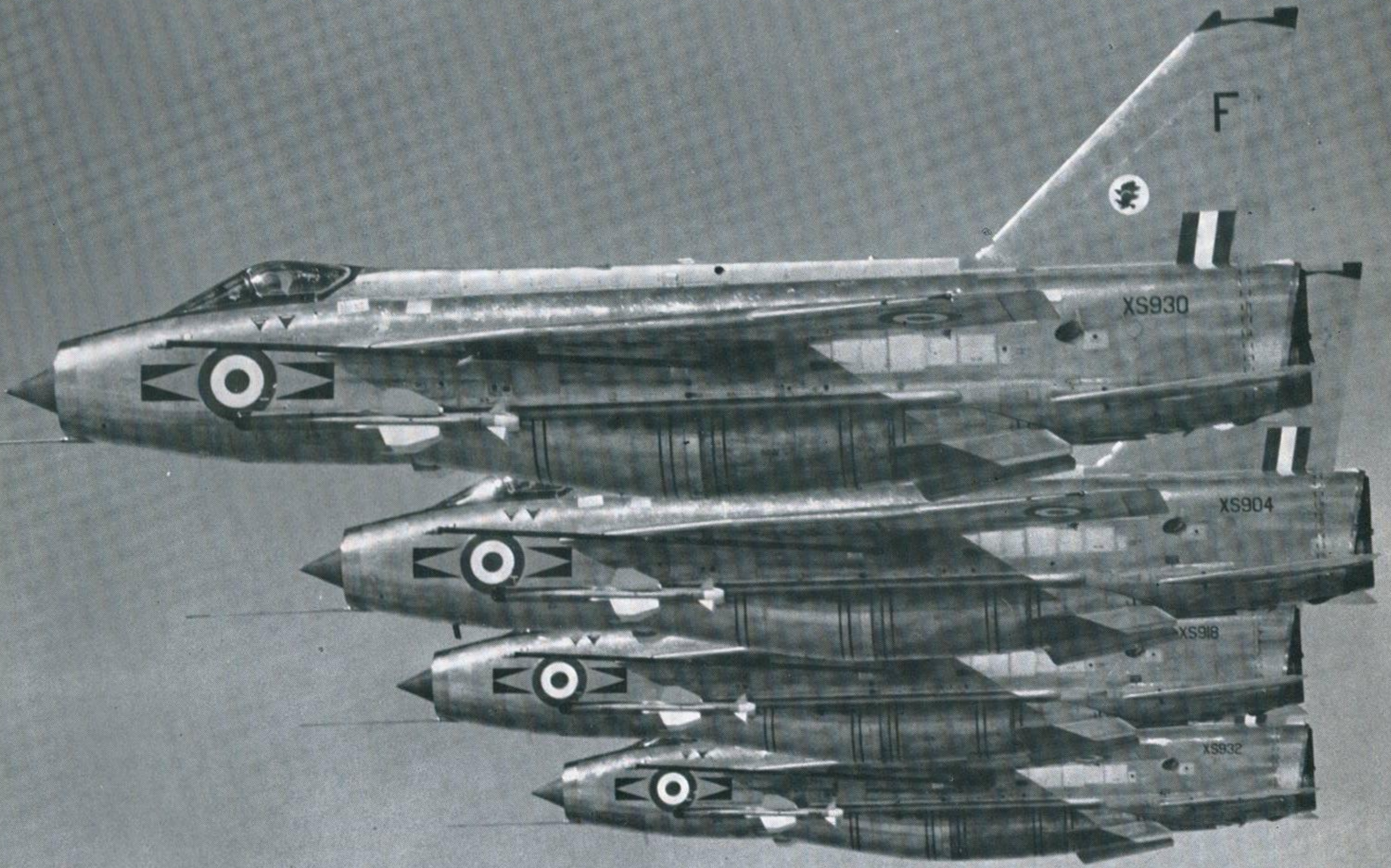


Beagle Bassetts



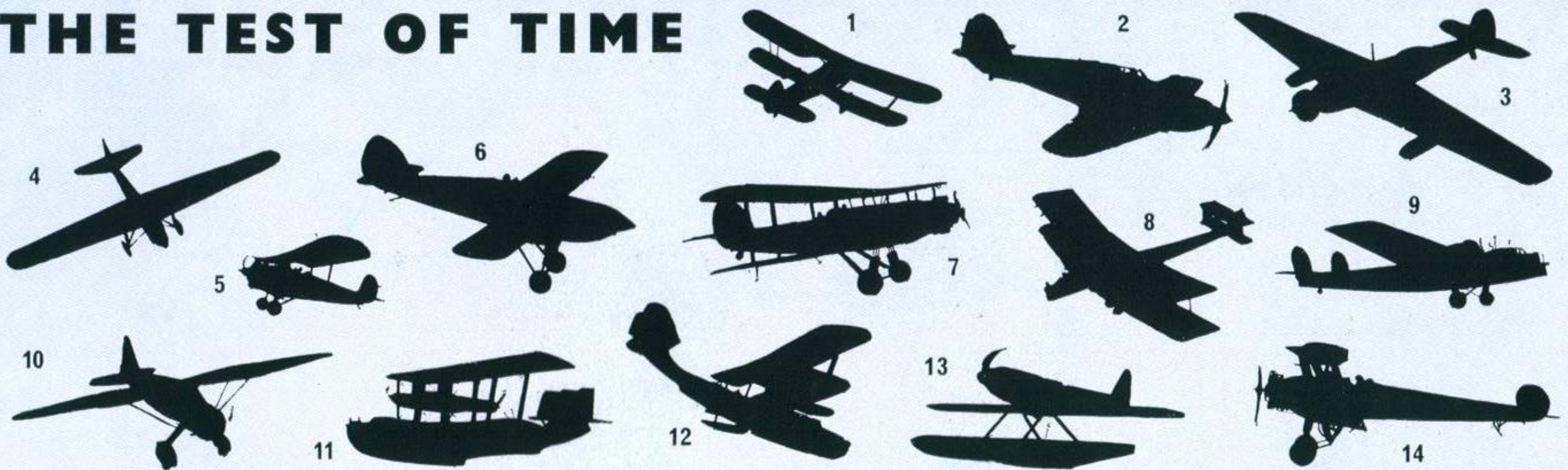
Hawker Siddeley Nimrod





Lightning F.6s of No. 11 Squadron, R.A.F. Leuchars, in line-abreast formation

THE TEST OF TIME



1. Bristol Bulldog. 2. Hawker Hurricane. 3. Vickers Wellesley. 4. Fairey Long-range Monoplane. 5. Bristol Bulldog. 6. Hawker Fury. 7. Fairey Seal. 8. Vickers Virginia. 9. Bristol Bombay. 10. Westland Lysander. 11. Short Singapore III. 12. Supermarine Scapa. 13. Supermarine S-6B. 14. Avro 504N (Lynx-Avro).

SPITFIRE

WORDS AND MEMORIES

by S. J. Paine

The R.A.F.'s 50th anniversary evokes, as does the Battle of Britain, memories of my association with Spitfires, their manufacture and introduction into Service. I watched them being built and flown—the Spitfire Mk. 1 to 24 and the Seafire Mk. 1 to 47—right through the war and beyond. I noted all the changes from mark to mark, the improvements and systematic development as I was responsible, in the Ministry of the day, for the Technical Publications on these (and other) aircraft.

The Air Technical Publications Branch, once of the Air Ministry, then successively the Ministry of Aircraft Production, Ministry of Supply and Ministry of Aviation, and now under the Ministry of Technology, produces Technical Publications on all equipments procured by the Ministry for the Services. It was to this Branch that I then belonged; I still do.

The task of producing the Airframe Vol. 1 and Vol. 6 in the pre-war and wartime days was generally the job of one man, the Technical Publications Officer. He would start by visiting the aircraft contractor and examining the aircraft on the production line. Next he would look at, and order, copies of all the general arrangement drawings. From these preliminaries he would be able broadly to plan the book's contents, the scope of the information to be presented and the illustrations necessary to give adequate visual backing to the written word.

Consultations, next, with the R.A.F. users on the servicing facilities available, and with H.Q. specialist branches on the servicing policies to be followed, would give guidance on the depth of treatment required. Not too little, not too much, but just enough for the purpose. As far as possible the Technical Publications Officer would witness, or even carry out himself, the operations the procedures he was describing so that the reader would get a practical appreciation of how things worked, or what had to be done. Discussions with design staff, of course, were necessary for pertinent information to be obtained and suitably passed on to those who would need it.

Several visits to the contractor would be necessary, and

probably to engine and component manufacturers also, to accumulate all the information to present to the man in the field so that, one hoped, he would not have to refer back any doubts, or delay work while he sought clearer instructions.

During all this time, of course, modifications were being introduced and more advanced mark numbers were coming into production, creating problems of priorities and man power. Always the aim was to deliver the printed Vol. 1 with the aircraft—and an up-to-date Vol. 1 at that.

I remember the simple, clean lines of the Spitfire 1 that, made it so graceful, and the Merlin engine that gave it the, then, fantastic performance of 364 m.p.h. It carried 85 gallons of fuel and weighed 5,800 lb.

With the war came more and more demands for improved performance; more engine power, higher ceiling and heavier armament. These, and many other changes were introduced so that the Mk. V had six variants giving a choice of armament and operational altitude to suit particular requirements. Overload (drop) tanks of more and more fuel capacity were fitted to improve ferrying range. Different sets of cameras were installed for reconnaissance purposes, and this led to some all photographic (PR) variants being produced. These had no armament, but had increased fuel capacity and were painted blue all over.

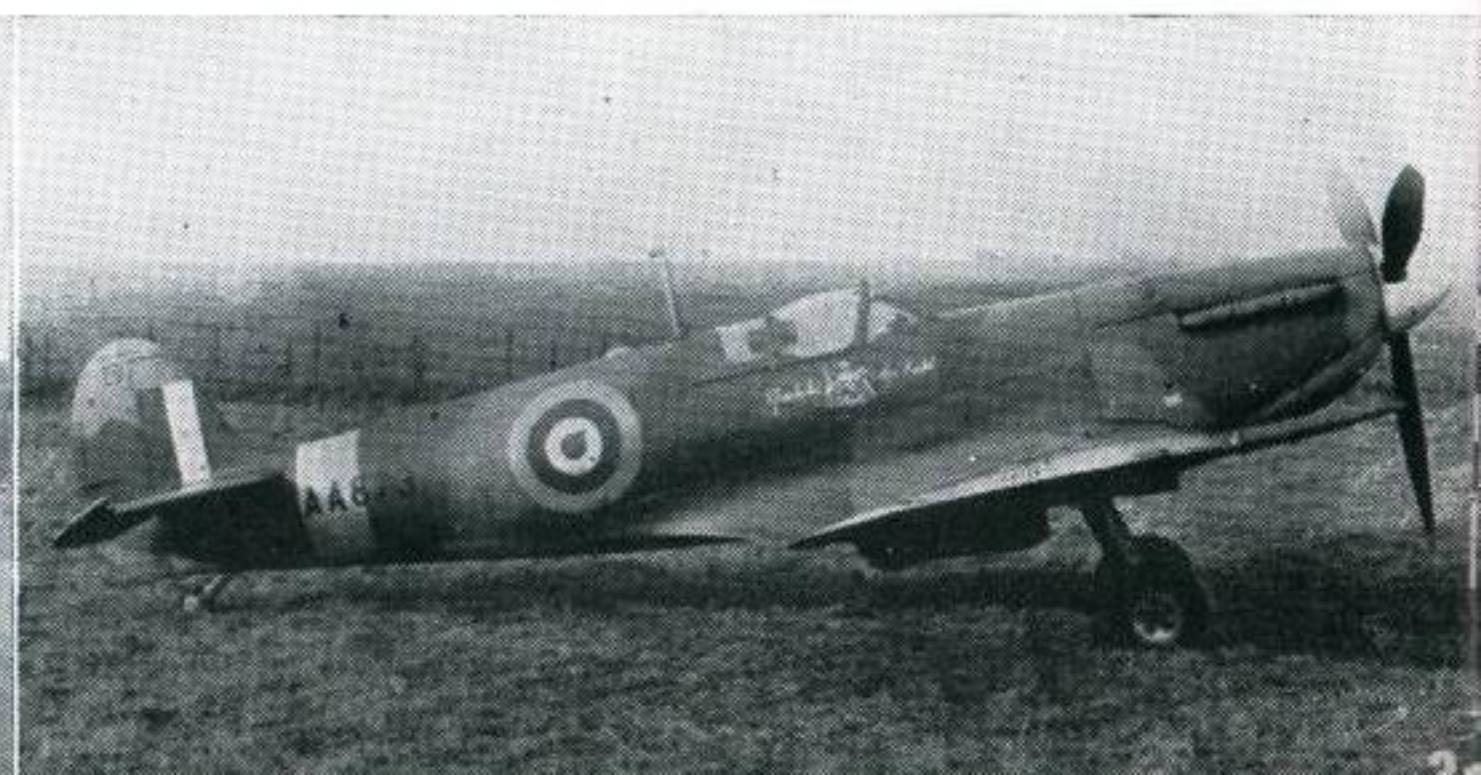
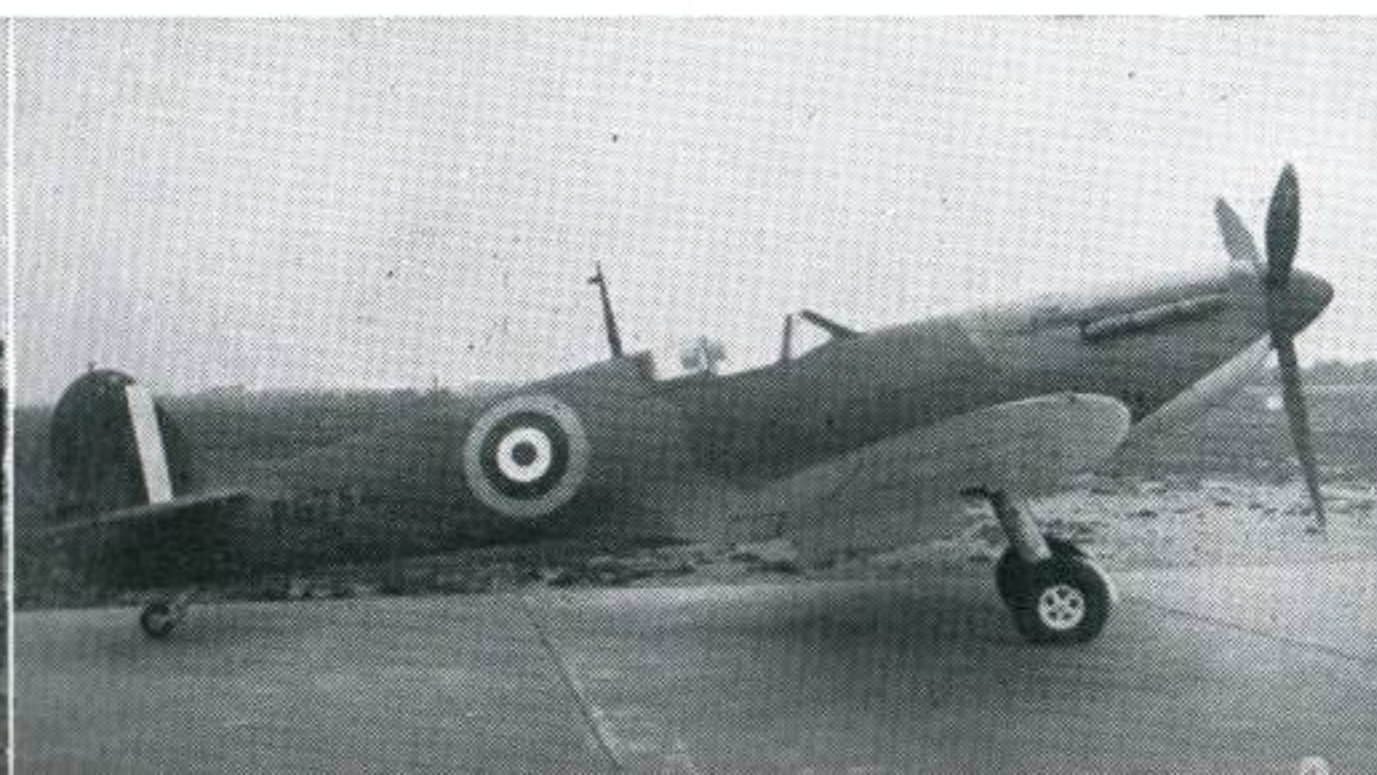
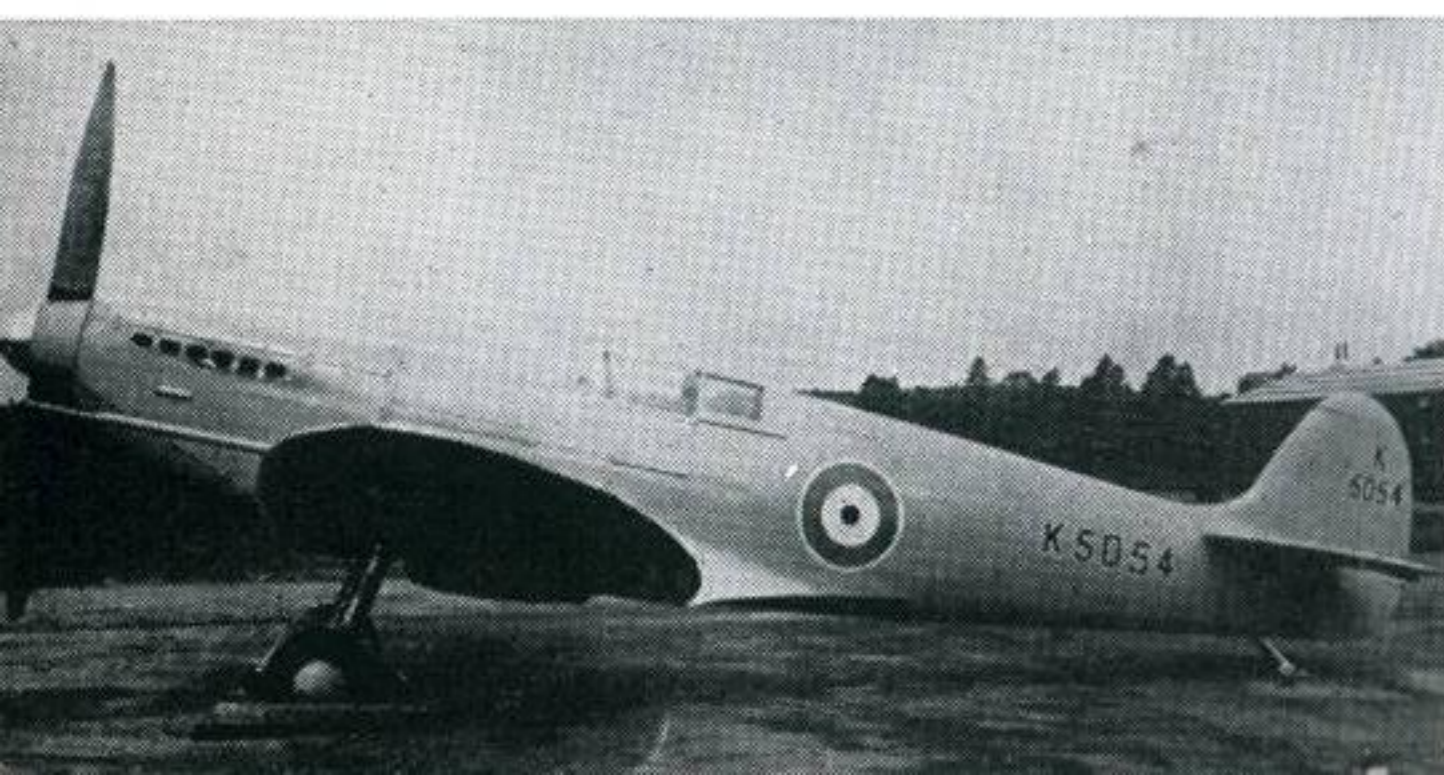
With fighter aircraft, height held the advantage, and to maintain this against improving enemy aircraft a pressurised cockpit version (Mk. VI) was produced. The extra heat produced by the extra air being blown into the cockpit enabled the pilots to operate at 40,000 feet in shirt sleeves!

A large engine brought in the Mk. VII (pressurised), the Mk. VIII, and the Mk. IX, and corresponding P.R. versions. The larger engine needed extra fin and rudder area as compensation. The wing tips, too, were sometimes extended, sometimes clipped, normally for high flying and low level work respectively. Still, it was unmistakably a Spitfire. The weight now was around 7,800 lb.

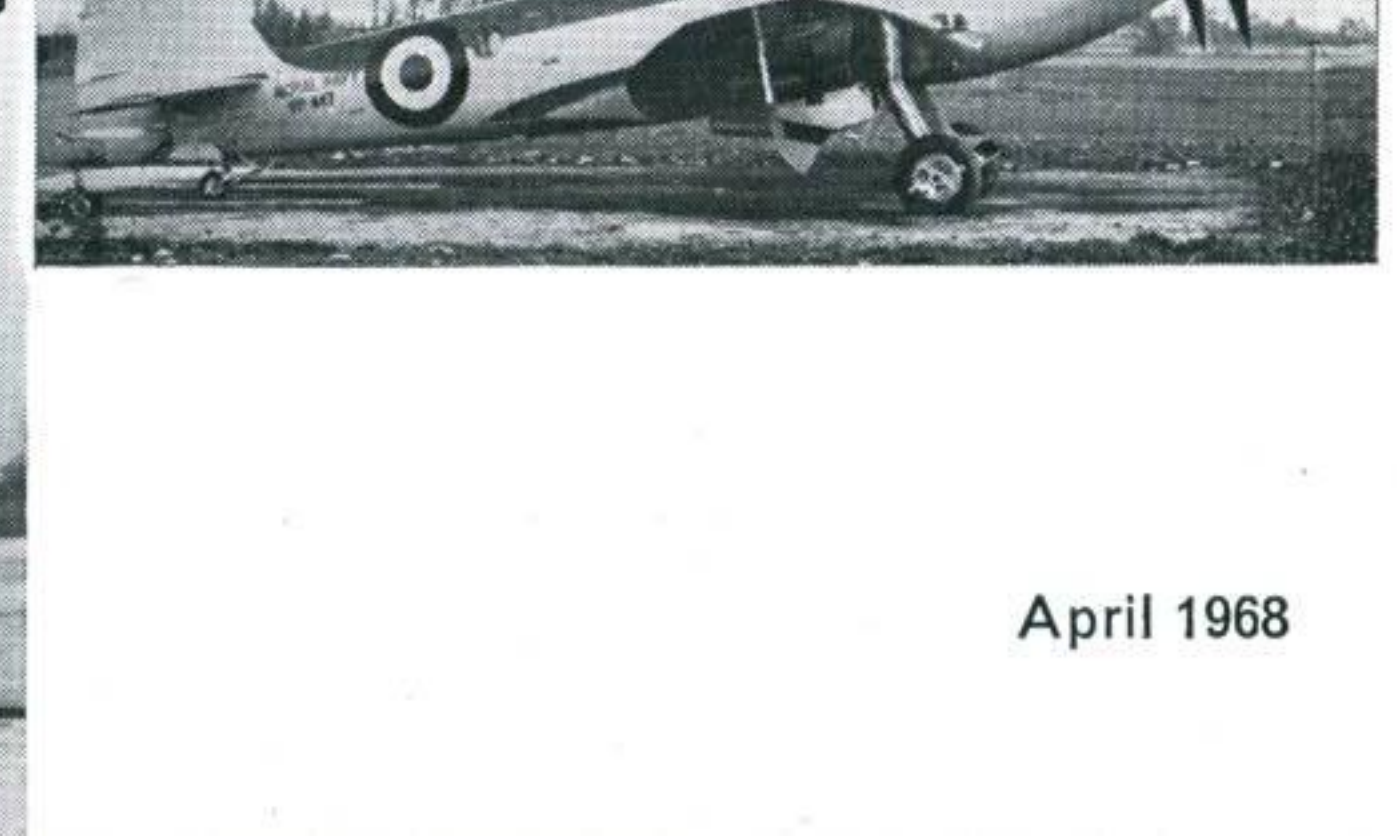
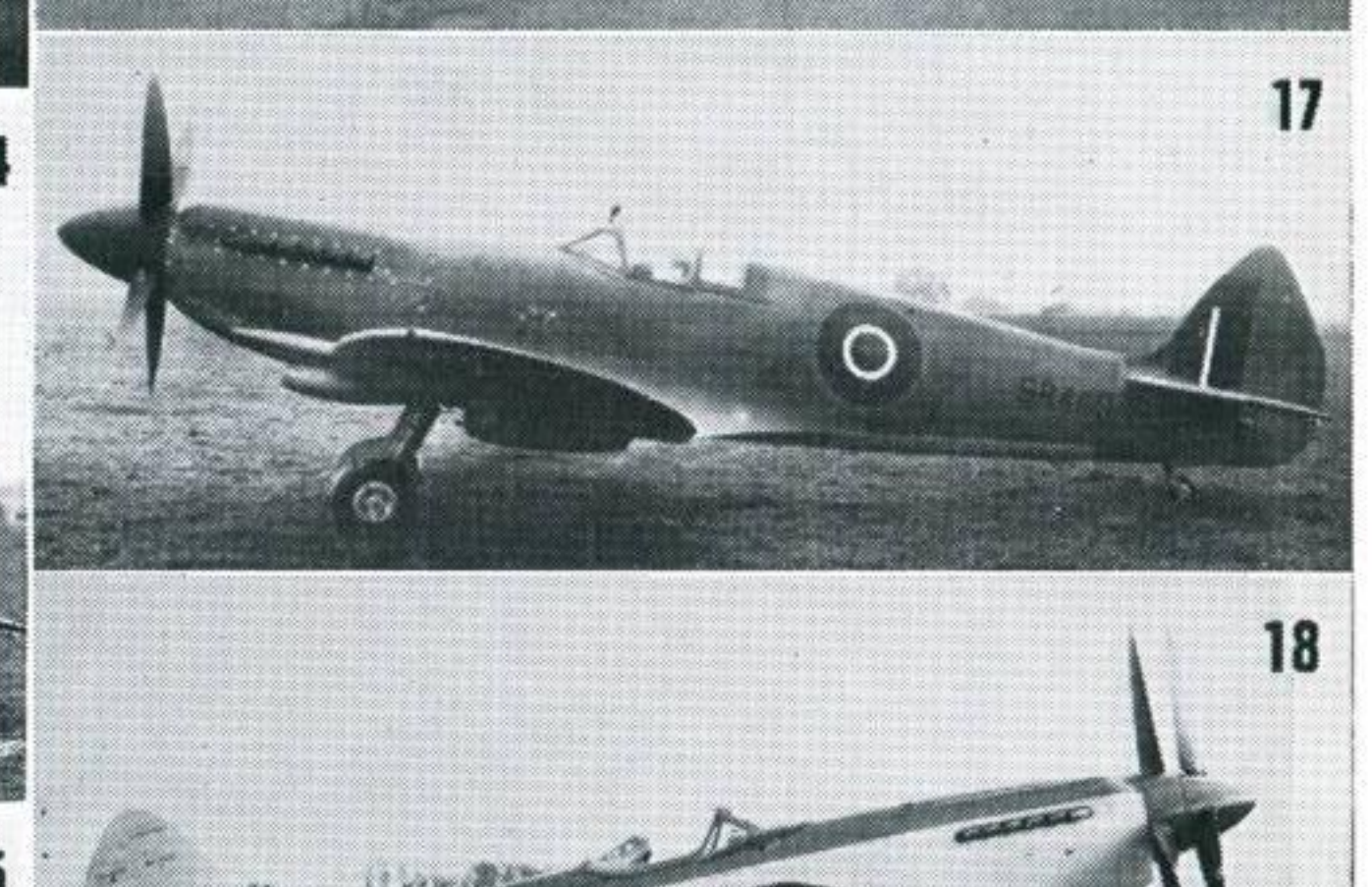
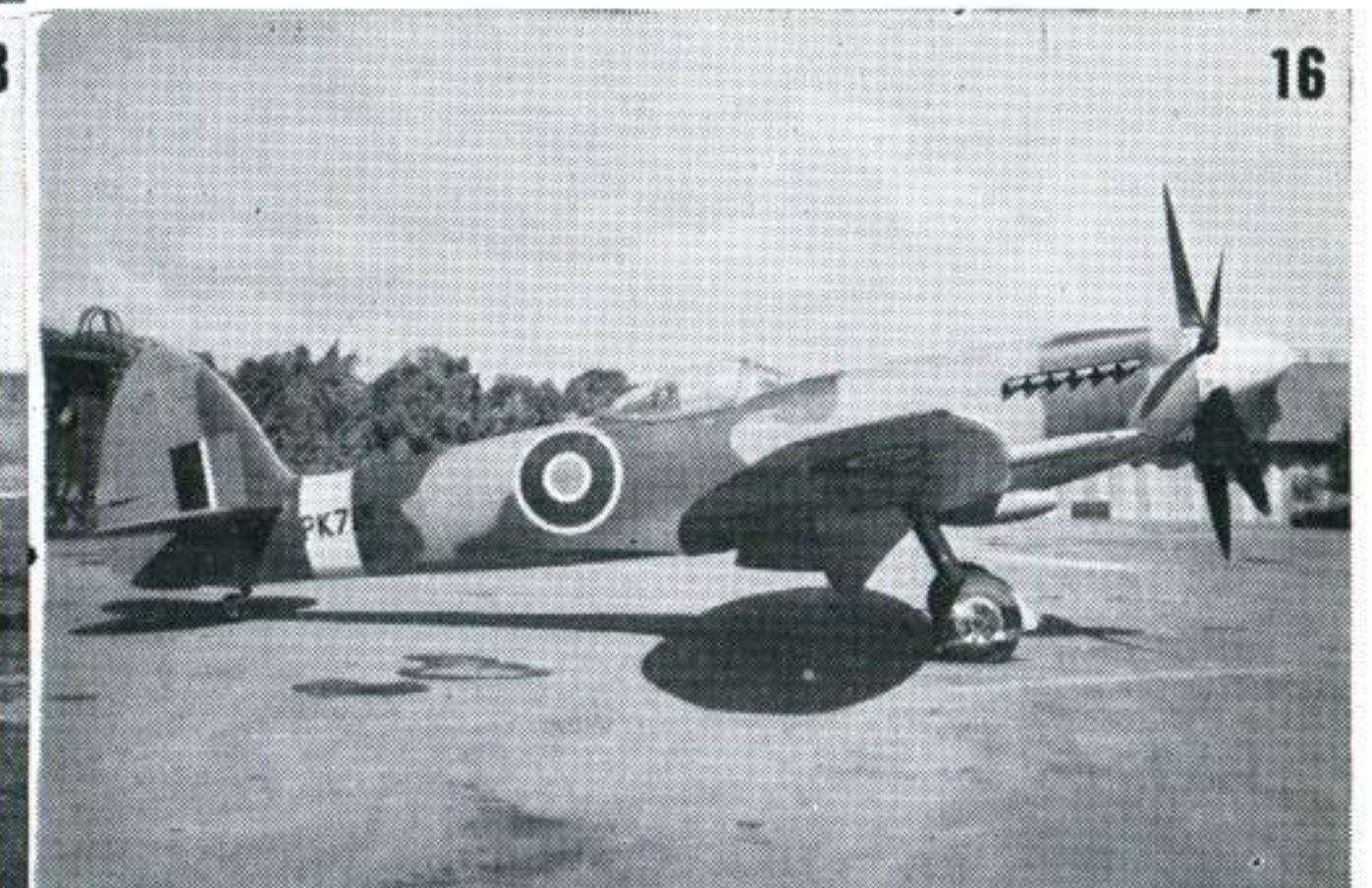
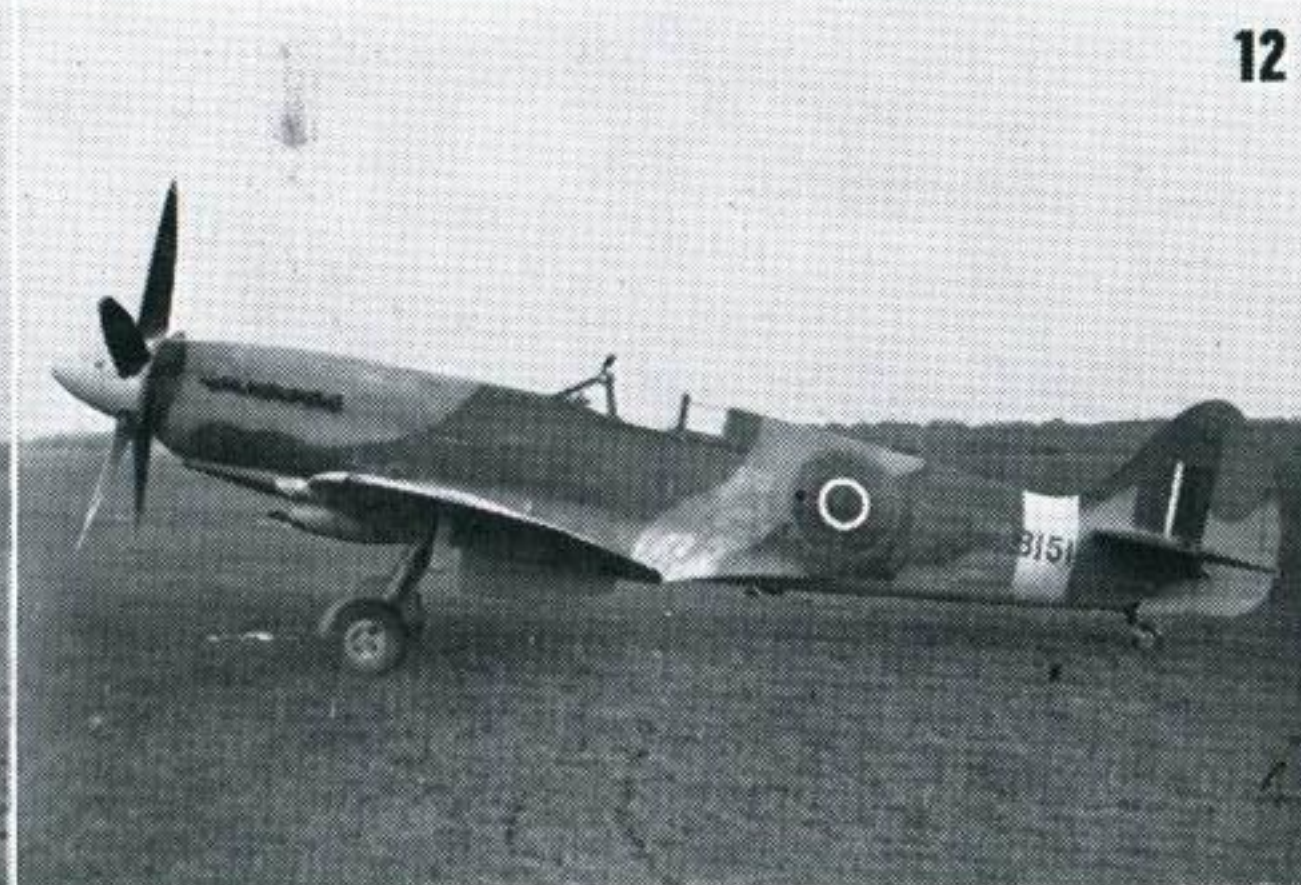
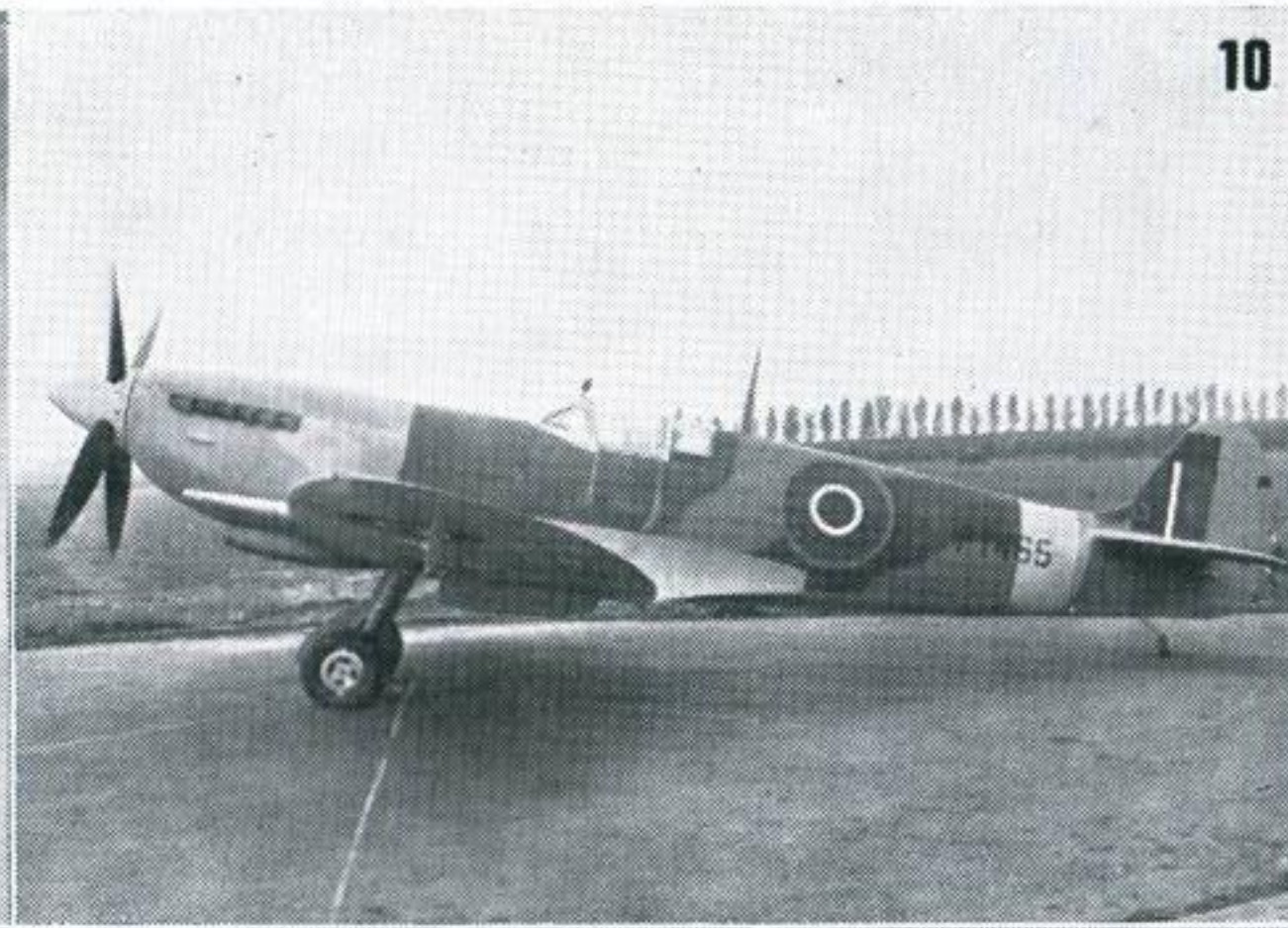
At this period the Griffon engine was introduced; larger and more powerful than the Merlin, it had 2-stage supercharging and produced 2,000 h.p. There was insufficient clearance at the front for a larger diameter propeller to absorb the extra power, and therefore Rotol produced a five-blade propeller. During ground runs now it was no longer sufficient to have men, or W.A.A.F.s, hanging on to the tailplane and this area had to be securely lashed to the ground. Suitable reinforcing was provided in the fuselage for this purpose.

The Spitfire mark numbers had now reached XIV and some of these, operating at 21 p.s.i. boost pressure, were

[Continued overleaf



SPITFIRE/SEAFIRE SEQUENCE



1. The prototype which first flew March 5th, 1936.
2. A late production Mk. I June 1940.
3. More Mk. Vs were produced than any other model; this Mk. Vc bears presentation details "Manchester Air Cadet".
4. The first of the tropicalised Vc Spitfires.
5. A Mk. V carrying the largest of the auxiliary ferry tanks (170 gallons).
6. One of the 100 Mk VIs, the first model to feature a pressurised cockpit.
7. The PR VII was a conversion of a Mk. V for photo reconnaissance with an F24 camera.
8. The HF VII (140 produced) with pressurised cabin extended engine bearers with cowling louvred for a Marshall blower.
9. The Mk. VIII represented the extent of Merlin-engined Spitfire development. It was produced in LF, F and HF versions (F version illustrated).
10. The IX was an interim type until production of the VIII could be effected, but in the event 5,665 IXs were built to 1,658 Vllls (HF IX illustrated). The XVI was a IX with a Packard-built Merlin adapted for the LF role.
11. PR version of the IX, the PR XI.
12. The first Griffon-engined Spitfire to go into large scale production, the Mk. XIV. An early production model of December 1943 illustrated.
13. A March 1944 production Mk. XIV with rear-view fuselage.
14. PR XIX, last of the Spitfires developed for PR work and the only Griffon-engined version in this role.
15. The F21/22 series introduced a new wing shape, F22 illustrated.
16. Final production Spitfire, the F24.
17. Seafire XV, the first of the Griffon-engined Seafires.
18. Final production version of the series, the Seafire 47 of which the last left the lines in March 1949.

SPITFIRE continued

used against the flying bombs in 1944. Later versions of this mark had the "rear view" hood, where the top line of the fuselage no longer met the top line of the cockpit canopy, but was lowered to give the canopy a teardrop shape.

A close relation of the Mk. XIV was the PR XIX; up to now the fastest of the range at 460 m.p.h.—100 m.p.h. faster than the Mk. 1! One of these is now in the hands of Coltishall's Historic Flight. This aircraft was capable of carrying 252 gallons of fuel plus a 170 gallon drop tank. The Spitfire I held 85 gallons!

Later variants were produced; the Mk. 21, 22 and 24 embracing all the improvements to date in speed, altitude, armament and pilot comfort. The heaviest topped 9,000 lb.

For the Navy many Spitfire marks had a Seafire counterpart for ship and carrier operation. The last of that line, the Seafire Mk. 46 and 47, had contra-rotating propellers. The heaviest of these topped 10,000 lb.

All these aircraft I saw built at Southampton, Eastleigh, Worthy Down and Salisbury. I saw them flown at these places, mostly by Geoffrey Quill. I sat in them, photographed them, sketched them and wrote about them, at first for the benefit of "the Few", but later for thousands who flew them and serviced them and repaired them. If only I could say that I had flown one!

A total of over 22,750 Spitfire and Seafire aircraft were built. Should it be so difficult to preserve some or one of these machines that performed prodigious feats in the hands of inspired youth? The name Spitfire was on the lips of the people of Britain probably more than any other implement of war. It gave its name to funds, schemes and campaigns to raise money and enthusiasm for the cause of victory. I am proud to have been associated directly with something that will always be remembered with the Battle of Britain, and therefore will be remembered for as long.

Today, the production of publications for military aircraft is a much

larger, more specialised task. Especially for a weapons system project. In general, now, the airframe publication is produced by the aircraft contractor under the control and guidance of a Technical Publications Officer in the Air Technical Publications Branch of the Ministry of Technology, and the engine and

equipment publications are produced under similar terms by the appropriate manufacturers. As can be imagined with present day sophistication in the air, a large staff is necessary to produce a complete set of publications for an aircraft within the time scale between final design and entry into service.



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