# AIRCAM AVIATION SERIES Nº 4 SUPERMARINE SPITFIRE MK\_I-XVI IN RAF·SAAF·RAAF·RNZAF·RCAF & FOREIGN SERVICE







Nice flying shot of Mk. Ia's of No. 501 'County of Gloucester' Squadron. Aircraft 'A' has a different size under wing roundel, serial X4354. Early 1941. (CH2823 IWM)

# SUPERMARINE SPITFIRE MKI - XVI

The basic design of the Spitfire was finalised by R. J. Mitchell in 1934. While the aircraft has often been compared with other famous types of World War II, it must be remembered that its true contemporaries were the Hurricane, P-36, and Messerschmitt Bf109, and that the Fw190, Mustang, and others, were designed three to six years later.

The success of the Spitfire was due to several factors. When used in its intended role as a defensive fighter, its performance was always equal to, and often superior to that of its opponents. Notable examples were the Battle of Britain, the defence of Malta, and the defeat of the Japanese over Northern Australia and the India/Burma border. The aircraft was also a delight to fly, and its adaptability was quite remarkable. Therefore it remained as the supreme Allied single-seat fighter and photoreconnaissance aircraft until 1944. Even later, it could out-manoeuvre many jet fighters and had a higher limiting Mach number in the dive than most until the F-86.

Coupled with the early-warning ground radar, which allowed the Spitfire to be used to its best advantage, and with the excellent Rolls-Royce Merlin and Griffon engines, it was a war-winner.

On the other hand, it must be recognised that, with the exception of the photo-reconnaissance versions which did not have to undergo the stresses of combat it proved rather difficult to load the lightly-built airframe with the extra fuel and bombs required from 1941 onwards. This occasionally hampered its offensive deployment and gave some headaches to the operations planners, especially before the D-day invasion.

In this publication we shall cover the operational history of the Merlin-engined Spitfires. Those versions which used the Griffon engine will be dealt with in a later issue.

The prototype, K5054, first flew in March 1936, the first production Mk. I, K9787, appearing in June 1938.

The aircraft remained in production until August 1945, when the last, a Mk. XVI, SL745, was built.

Nearly two hundred squadrons of the R.A.F. used the aircraft between August 1938 and September 1951, peak strength being reached in June 1944 when 25% of the R.A.F. on all war fronts was equipped with Merlin-Spitfires. In addition, over eighty other units, schools, etc., used this variant, together with some twenty foreign and Commonwealth Air Forces.

## THE EARLY DAYS - 1938 TO JUNE 1940

Up to May 1940 this period was marked by the slow, but steady, increase in the number of operational Spitfire squadrons. After the outbreak of war in September 1939 and, while the Hurricanes went to France, the Spitfires of 72, 602, and 603 squadrons engaged in a few short, sharp battles with Luftwaffe bombers over the north-east coastline of Britain between October and December 1939. During this time the Spitfires' qualities in fighterto-fighter combat were an unknown quantity and, in some official circles, it was felt that manoeuvrability, exemplified by the Hurricane and P-36, was the key factor in combat.

However, Sidney Cotton, engaged in clandestine reconnaissance work for the Air Ministry, recognised the aircraft's potentialities for photo-reconnaissance. Cotton, together with his pilots, Longbottom and Niven, formulated the concept of a modified fighter carrying cameras instead of guns and thus set a pattern which has lasted to the present day. The initial conversions were designated Spitfire A, B, and C (extra fuel tanks being added to the type B onwards), and the first successful sortie over Germany-was on November 20th, 1939.

Operated by the Special Survey Flight (later 212 squadron), the Spitfires were scattered around various French airfields, and a surprisingly large number were used until evacuated in June 1940. Aircraft included



N3071, 3116, P9313, 9331, 9385, and 9453.

As a result of the German attack on France, the Dunkirk evacuation began on May 26th, 1940. For some of the Spitfire squadrons this was their first real test. The units involved were: 19, 54, 64, 65, 66, 74, 92, and 610 squadrons. They emerged somewhat battered and weary, but scored considerable successes against both the Luft-waffe bombers and fighters.

Also noteworthy, during the retreat in France, were the first real fighter tactical-reconnaissance sorties carried out by some 212 squadron Spitfires carrying guns as well as cameras.

# JULY 1940 TO DECEMBER 1941

After the fall of France came the Battle of Britain and the final realisation that speed was more important than manoeuvrability. Thus, the tactics of using the Spitfires against the Bf109E developed, while the Hurricanes were encouraged to attack the bombers.

All the nineteen Spitfire squadrons were engaged at one time or another between August 12th and October 12th. In this period Eric Lock of 41 squadron emerged as the top-scoring pilot, with twenty-one victories, including twelve Bf109's—a remarkable effort.

In August, the Spitfire IB's (two 20 mm. cannon) of 19 squadron were tested in combat, being somewhat disappointing, and 222 squadron re-equipped with the Mk. I's of No. 19 Squadron base at Duxford, Cambridgeshire, the first uint to be equipped with the Spitfire. Note red 19 on fin of second aircraft and 'odd and even' camouflage patterns. Red 19 for 'A' flight, white 19 for 'B' flight. Markings of late 1938 early 1939 period. (CH19 IWM)

first of the new Spitfire IIA's (Merlin XII engine). As the daylight battles subsided, production of the Mk. II began to increase and, with cannon stoppage problems solved, the new Mk. VB entered service with 92 squadron in December.

1941 saw the R.A.F. go on to the offensive over France and the Low Countries. Backed up by the pilot output of the Operational Training Units (O.T.U.'s), equipped with the Spitfire IA and later, Mk. II's, a large increase in Spitfire fighter squadrons was accomplished by the end of the year, from nineteen to sixty. Together with the bomber-escort, ground attack sorties, and the fighter "sweeps", the wastage and loss rate was very high, especially after September when the Fw190 was encountered in increasing numbers. For example, 317 squadron, having an establishment of eighteen aircraft, got through sixty-four Mk. VB's in the ten-month period November 1941 to August 1942.

Meanwhile, the photo-reconnaissance Spitfires were kept busy, and over one hundred and twenty were modified from fighter airframes until, in late 1941, the Spitfire D entered production as the Mk. IV (later PR. IV). In September, 140 squadron formed in England with the Spitfire G (PR. VII), and by December, 69 squadron in Malta were operating one or two PR. IV's.

# THE TURNING POINT -1942

That year saw the tide of battle begin to turn in favour of the Allies, and a contributing factor was the increased adaptability of the Spitfire. The high-altitude Spitfire VI entered service in April

The high-altitude Spitfire VI entered service in April with 616 squadron, but it was never to be really successful, as the weight of its cockpit-pressurisation equipment reduced its effective ceiling. However, the Mk. VII overcame this problem with the new supercharged Merlin 60/70 series engine, and a few went into service in the autumn. This version was followed by the Mk. VIII (essentially a Mk. VII without pressurisation) which first flew towards the end of the year. Incorporating many refinements, it had the best handling characteristics of all the Spitfires and also the highest speed, at altitude, of all the Merlin-engined fighter variants.



Neater formation by No. 65 'East India' Squadron. the sixth unit to equip with the Spitfire. Markings summer 1939. (HU1664 IWM)



Mk. Ia's of No. 611 'West Lancashire' Squadron on dispersal area in early 1940. (C413 IWM)

However, early in the year it was obvious that the threat of the Fw190 could not wait for the Spitfire VIII. Therefore, the Mk. IX was hurriedly introduced as a "stop-gap", using the Mk. VC airframe with, initially, the Merlin 61 and 63 engine. Going into service with 64 squadron in July it averted the crisis in Fighter Command, but its introduction was rather slow until larger numbers became available in 1943.

Meanwhile, yet another crisis had developed, this time in Malta and the North African desert. Pleas for more modern aircraft were finally answered and, starting in March, Spitfire V's were flown into Malta from the carrier H.M.S. Eagle. Further deliveries followed, both to Malta and Africa, so that by August, 126, 185, 229, 249, and 1435 squadrons were using Spitfires in Malta. In Egypt, 92, 145, and 601 squadrons were providing high-altitude cover for the 8th Army and the Desert Air Force.

Also, in that month the Special Performance Flight at Aboukir shot down their first Ju86P at over 40,000 feet, using one of the specially modified Mk. VC's. This was the task for which the Mk. VI had been created, but when the first examples (BS133 and 134) arrived in October they were too late and disappointing in performance.

At home, the operations over "Fortress Europe" continued and, in the Dieppe raid in August, the first U.S.A.A.F. Spitfire units took part; by the end of the following month the 4th, 31st, and 52nd Fighter Groups were operational with the Mk. VB. Since the latter was available in large numbers, the last Mk. II's were phased out of the fighter squadrons by June and, at the turn of the year, the original four Air Sea Rescue squadrons (275-278) were replacing their Defiants with specially modified Mk. IIC's.

Finally, in November the Axis line broke at El Alamein in Egypt. Four days later, on the 8th, the Allies landed in North-West Africa, part of the air cover supplied by nine Spitfire squadrons of the R.A.F. (72, 81, 93, 111, 152, 154, 232, 242, and 243), and six squadrons of the 31st and 52nd F.G.

### 1943 TO 1945

In 1943 the Spitfire came to be used on all the war fronts. In Australia, 54, 452, and 457 squadrons defended the Darwin area with their Mk. VC's, between February and June. In India, No. 3 P.R.U. (later 681 squadron) had already received their first Spitfire PR. IV, and continued to operate the type until April 1944—their last aircraft being AA786. Spitfire VC's arrived in September 1943 to replace the Hurricanes of 136 and 615 squadrons, and 607 squadron arrived from England. These three units quickly began to break up the Japanese air attacks and reconnaissance sorties intended as the prelude to their attempted invasion of India. The first Spitfire PR. XI's for 681 squadron were

The first Spitfire PR. XI's for 681 squadron were flown out from England in October and, in November, the first of many Mk. VIII's arrived. They were quickly taken over by 155 squadron to replace their ageing Mohawks. At the same time, 81, and 152 squadrons, which had just arrived from Italy, took over some of the new Mk. VIII's. By June 1944, the Japanese were retreating into Burma and their Air Force was never to recover. The Spitfire VIII had the longest range of any of the fighter variants with an extra thirty-nine gallons of internal fuel—it was certainly needed in the Pacific. As more aircraft arrived, the Australian squadrons were re-equipped and, in December 1944, 79 (R.A.A.F.), 452, and 457 squadrons went on the offensive over the East Indies and the Philippines.

Meanwhile, in the Mediterranean, 81 squadron obtained the first, much needed, Spitfire IX's at the end of January 1943 and the first Spitfire V's modified as fighter-bombers went into action with 152 squadron in April. With the German defeat in North Africa, the Allies landed on Sicily in July and the Mk. VIII began to arrive to supplement the increasing numbers of Spitfire IX's. Among the first units to receive the Mk. VIII were 81, 92, 111, and the 308th squadron of the 31st F.G.

The invasion of Italy followed, some units initially using a combination of Mk. VC, VIII, and IX. (Many of the VIII's had extended wing-tips which has since caused some confusion with the Mk. VII. Very few, if any, of the latter saw service in the Mediterranean.)

In the spring of 1944 seven Spitfire squadrons were withdrawn from Italy to the United Kingdom for the D-day landings in Normandy.

For operations in 1943, preparatory to the invasion, the Spitfire LF. VB had supplemented the Mk. IX, but by D-day nearly all the first-line Spitfire squadrons had the Mk. IX. Many were fighter-bomber versions, carrying one 500 lb., and two 250 lb. bombs. During the trials earlier in 1944, 403 squadron had experimented with a 1000 lb. bomb under the centre-section of one aircraft, but the idea was abandoned after it ripped open the bottom of the fuselage!

Introduction of the Mk. IXE (0.5" guns) and the installation of gyro gunsights increased the effectiveness of the aircraft in 1944. As the Spitfire LF. XVI\* began to appear on the production lines in September, most Mk. IX's that followed went to foreign Air Forces, particularly to Russia—over one thousand being shipped in the short period remaining up to the end of the war.

Finally, while it must be recorded that the Mk. IX and XVI were the most common Merlin-Spitfires at this time, the PR. XI saw extensive service in both the tactical and strategic role, and three squadrons (124, 131, and 616) used the Mk. VII for high-altitude defence and escort duties from 1943 until just after D-day. Other squadrons "rotating" on rest at Skeabrae in the Orkneys flew a small number of the Mk. VII's based there for the defence of Scapa Flow.

### THE POSTWAR YEARS

As the War ended the Spitfire IX was phased out of R.A.F. service and became available for the many foreign air forces requiring new equipment. While the Belgian Air Force operated Mk. XVI's for a short while, they were traded for Mk. IX's in 1947. So apart from a short period in North-West Europe, the Spitfire XVI never saw service abroad, but soldiered on for a number of years in the Anti-Aircraft Co-operation units and in the Royal Auxiliary Air Force. When the latter was recalled to active service in 1951, 612 squadron was still operating the type.

In foreign service the Mk. IX only saw action with the French, Israeli, and Egyptian Air Forces. The French used them for ground attack in Indo-China between 1946 and 1950, operated by GC. 1/7 and II/7. The Israeli and Egyptian aircraft were ex-R.A.F. and S.A.A.F., handed over to the Egyptians and resurrected from the scrap dumps by the Israelis. The two forces fought each other—and the R.A.F.—during 1948 and 1949, 105 squadron of the Chel Ha'avir using both Spitfires and Avia S.199's

Avia S-199's. In England, No. 3/4 Civilian Anti-Aircraft Cooperation Unit at Exeter used a number of LF. 16's until 1956, while in the Irish Air Force, a few Mk. 9 Trainers were flown up to 1961.

\* The Spitfire LF. XVI was simply a Mk. IXE, but with the U.S. Packard-built Merlin 266. Considerable confusion has since arisen between the IX and XVI, and their designations. The following is offered as some clarification:

LF., F., HF. IX Built by Supermarine at Castle Bromwich. Except for one or two odd aircraft with 'B' wings, all had 'C' wings, earlier type canopies and rudders, and until June 1943 (MH 312 onwards), no tropicalisation. LF., F., HF. IXE All built at Castle Bromwich (NH series onwards), replacing the IX from April 1944. All with 'E' wings. After September 1944 (RK 883 onwards), had broad-chord pointed rudders. Those with serials between TD 175-TE 343, produced after February 1945, had "tear-drop" canopies. Very few F. IXE built.

LF. XVI

All with 'E' wings-official designation omits the suffix letter. All had broad-chord pointed rudder. Aircraft in the RR, SM, TB, serial batches had earlier type canopies. After February 1945, had "tear-drop" canopies, i.e., RW, SL, TD, and TE batches.

Further confusion has arisen over the semi-official designation of IXA for those with the Merlin 61/63 (F. IX), and the IXB for the Merlin 66 (LF. IX)—regardless of wing armament. It should also be noted that a few rebuilt aircraft could confuse the issue by having rudders or tropical intakes other than described above. Many IX's and XVI's had clipped-wings from 1944.

Many IX's and XVI's had clipped-wings from 1944. LF. XVI's were re-designated LF. 16 after 1948. There was no such aircraft as a IXF. It should also be noted that there has often been confusion (in official publications particularly) between the Mk. XIV and XVI.





Mk. Ia's of No. 616 'South Yorkshire' Squadron at readiness and taking off for an evening patrol, in typical Battle of Britain markings. (CH1449 CH1450 IWM)

One of the very few photographs of the Spitfire Mk. Ib. The two aircraft in the foreground: QJ-DX4272 and F R6908, are Ib's; QJ-B X4561 a Ia. All three No. 92 'East India' Squadron, Manston, December 1940. (CH2536 IWM)





One of the few Battle of Britain formation shots in existence today. A neat vic by three Mk. Ia's of No. 610 'County of Chester' Squadron based at Biggin Hill. K N3289. (CH739 IWM)



Mk. Ja's of No. 501 'County of Gloucester' Squadron, same formation as heading shot. (CH2825 IWM)

Three aircraft of the above formation showing to good advantage the graceful Spitfire plan-form. Note roundel variations. (CH 2822 IWM)



Only a publicity shot of K5054 the prototype but it shows the camouflage pattern in good detail. (HU1665 IWM)





Good detail shot of a Mk. IIa of No. 41 Squadron, flown by Sqdn.-Ldr. D. O. Findlay, D.F.C. Serial was P7618 later to No. 54 Squadron as KL-Z and subsequently shot down. Sky blue under surfaces. (CH1890 IWM)



Mk. Ia probably of No. 58 OTU. Code BO-K. (via Frank F. Smith)



Mk. IIa's of No. 303 'Kosciuszko' (Polish) Squadron, aircraft taxying carries the presentation name 'Garfield Weston III' on fuselage. Code RF-L. (J. B. Cynk)

Mk. Ila's of No. 308 'Krakowski' (Polish) Squadron being refuelled early in 1942. Code ZF-F (farthest a/c). (J. B. Cynk)



A Spitfire Mk. IIa P8194 of No. 91 Squadron at Hawkinge, April 1941. Four months earlier the squadron had been formed from No. 421. Flight. (vra L. Bachelor)





Mk. IIa's of The Air Fighting Development Unit. Sky blue under surfaces. sky band. spinner and code. Serial P7290. (CH5291 IWM)



Mk. IIb of No. 52 OTU. Presentation name on fuselage in white 'British and Friends Ex Japan'. Note unusual position of serial, P8348. (CH10597 IWM) Formation of Mk. Vb's of No. 122 'Bombay' Squadron getting airborne. Code MT-. (CH5761 IWM)





Good detail shot of W3902, a Mk. Vb of No. 302 'Poxnan' (Polish) Squadron. Note cannon and wheel blisters. (J. B. Cynk)







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Starboard side detail of W3902. (J. B. Cynk)

Mk. Vb's of No. 303 'Kosciuszko' (Polish) Squadron beginning their take-off run. RF-A AB183. (J. B. Cynk)



Mk. Vb of No. 317 'Wilno' (Polish) Squadron. Note non-standard roundel. Serial W3970. (J. B. Cynk)





Mk. Vb of No. 317 'Wilno' (Polish) Squadron with standard roundel. Note squadron insignia below cockpit (on JH-Y aft of cockpit). (J. B. Cynk)

Mk. Vb of No. 312 (Czechoslovak) Squadron being re-armed. Note Czech national insignia below cockpit, serial EP660, square, stencil style letters. (via Leif B. Hansen)



Line-up of Mk. Vb's of No. 485 RNZAF Squadron, nearest aircraft named 'Wellington I', serial AB918. Code OU-. (CH3752 IWM)



Mk. Vb of No. 64 Squadron, Squadron Leader's pennant and name 'Atchashikar'. (CH5756 IWM)





Nice flying shot of a Mk. Vb of No.121 'Eagle' Squadron, 'Olga' in white below cockpit, serial BM590, stencil style, ICH7337 IWM)

Neat stepped up formation by No. 81 Squadron, Mk. Vb's. Nearest two aircraft have had their serials overpainted, FL-A BM461, stencil style. (CH6377 IWM)



Low level pass by a Mk. Vb of No. 412 RCAF Squadron, serial unknown. (H27934 1WM)





Mk. Vb. YO-C, the CO's aircraft of No. 401 RCAF Squadron, winter 1942-43. The name on the cowling is 'Phyl-Marie', (Canadian Dept. of National Defence)





Nice flying shot of a LF Vb of the Air Fighting Development Unit in 1943. Code AF-O, serial AA937. (Canadian Dept. of National Defence)

Mk. Vb's of No. 332 (Norwegian) Squadron. (via Frank F. Smith)

Mk. Vb's of No. 331 (Norwegian) Squadron, nearest aircraft is FN-O, serial overpainted. (CH6512 IWM)





Mk. Vb of No. 452 RAAF Squadron, serial W3821. Note Hurricane in background with unusual code ?-DX, No. 245 Squadron. (F.F.S.)



Mk. Vb No. 457 RAAF Squadron, serial AB138. (F.F.S.)



Mk. Vb, AD563 of No. 452 RAAF Squadron. (F.F.S.)







Mk. Vb of No. 350 (Belgian) Squadron (above left), note unusual dapple camouflage on nose, code MN-M. (Left) Another unusual nose scheme on a No. 350 Squadron Mk. Vb. (M. C. Terlinden)

An LF Vb. BM449 (serial high up on sky band in very small letters), this Spitfire has an incorrectly painted code. The aircraft was H of the Air Fighting Development Unit in 1943, whose code was AF-. (via Ted Hooton)





Neat formation of Mk. Vb's, nearest aircraft AB502 flown by Wing-Cdr. I. R. Gleed, Leader No. 224 Wing, other aircraft from No. 601 'County of London' Squadron, farthest aircraft UF-F has the squadron badge, a Winged Sword above fin flash. Note Wing-Cdr's, pennant under cockpit, 'Figaro' on starboard side (see Battle of Britain Special for details), code IR-G dark blue outlined white. Abouqir filters and azure blue under surfaces. (CNA821 CNA818 IWM)

UF-? a Mk. Vb of No. 601 Squadron landing on a recently prepared airstrip in North Africa. (CNA1099 IWM)







Mk. Vb's probably of No. 243 Squadron on the airfield at Maison Blanche shortly after the North African landing. Note crowbar on door of EP650. (CNA30 CNA33 IWM)



Nice shot of a Mk. Vc of an unknown unit in North Africa. (CNA2272 IWM)

Mk. Vc of No. 81 Squadron damaged during Luftwaffe raid. FL - 4 outlined white, serial JK322, Sicily, August 1943. (via Frank F. Smith)



Mk. Vc of No. 43 Squadron raising the dust on an airfield in the Naples area. Code FT-. (CNA1638 IWM)





One of the less successful, and not so popular Spitfires was the Mk. VI. Note cabin pressurisation intake and extra frame on a canopy, AB534 was later flown on No. 616 'South Yorkshire' Squadron in 1942 by 'Johnnie' Johnson. (HU2195 IWM)





Mk. VI of No. 124 'Baroda' Squadron. (CH18087 IWM)

HF VII of No. 131 'County of Kent' Squadron, overall pale blue. (?)

HF VII in pale blue upper surfaces and azure blue under surfaces. (IWM)





LF VIII LV729 of No. 145 Squadron flown by Sqdn.-Ldr. G. R. S. McKay, Italy, 1944. 500 lb. bomb under fuselage.

MT928 was the replacement aircraft for LV729 early in 1945. (both photos via L. Bachelor)



No. 145 Squadron insignia, silver sword, gold handle, red cross on white disc.





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F VIII of No. 417 RCAF Squadron taking off from a landing strip in Italy. (NA8706 IWM)

F VIII, JF526 of No. 417 RCAF Squadron on an airfield in Italy during the winter of 1943-44, below AN-J of same unit. (Canadian Dept, of National Defence)

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LF VIII, JF814 flown by Air Vice Marshall Sir William F. Dickson in Italy. (via Stan Staples)

Mk. VIII, No. 3 RFU, Poona. Serial MT562. Note spiral on white spinner. (via G. H. Thomas)





Mk. VIII of the Burma Command Flight, Mingaladon 1945. (W. Wright)

Interesting shot of 81's 'Ace of Spades' being chased by the ' Panther' of 152 Squadron. Mk. VIII, Imphal Main, July-August 1944. (?)



(Below) Mk. VIII of No. 155 Squadron raising the dust in Burma. (CF271 IWM)



(Bottom) Mk. VIII's of No. 136 Squadron in the Cocos Islands at the close of the Japanese war, 1945. The squadron provided fighter defence for the island base from which Nos. 99 and 356 Squadrons operated Liberators. (IWM)





First squadron to equip with the Mk. IX was No. 64 Squadron in July 1942. One of their early aircraft is shown here. Note code letters aft of roundel. (?)



Two Mk. IXc's of No. 611 'West Lancashire' Squadron, autumn 1942. (Flight International)



Mk. IXc, UZ-Z, BS456 of No. 306 'Torun' (Polish) Squadron at Northolt, late 1942. (Flight International) Mk. IXc's of No. 317 'Wilno' (Polish) Squadron in France, August 1944. (MH6852 IWM)





Mk. IXc's of No. 453 RAAF Squadron in France, June 1944. (MH6847 IWM) Mk. IX of No. 312 (Czechoslovak) Squadron. Note national insignia below cockpit. (via Leif B. Hansen)





Mk. IX of No. 332 (Norwegian) Squadron. LZ915.

Mk. IX's of No. 349 (Belgian) Squadron. (CH12434 IWM)



Mk. IX of No. 322 (Dutch) Squadron in 1944. Note invasion stripes only under the wings. (?)





Mk. IX's of No. 241 Squadron, note sky fuselage band, unusual in Mediterranean area. Lower photo shows same two aircraft flying past Mount Vesuvius. RZ-R serial MA425. (CNA2487 CNA2486 IWM) Mk. Vc's and Mk. IX's of No. 152 Squadron on an airfield in the Naples area. Black codes on IX's and white on Vc's. (CNA1643 IWM)





Mk. IXc of No. 1435 Squadron in Italy, probably early 1945. Code V-.



Mk. 1X's of No. 73 Squadron operating from an airfield in Yugoslavia in support of the local patriot forces (see colour illustration). (CNA3527 CNA3525 IWM)





Early production LF IX with 'E' type wing. Flown by C.O. of No. 87 Squadron in Italy early 1945. Note sky fuselage band. (via L. Bachelor)



LF IXe, PV117 of No. 208 Squadron, probably photographed in 1946. Note white aerial mast and upper wing roundels.



















(Above) Mk. IXe's of No. 443 RCAF Squadron, 2nd TAF. Note upper wing roundel. (MH6851 IWM)





Above. While most Mk. IX aircraft did not have the 'tear-drop' canopy. a few late-production models incorporated this feature, as TE215. a HF IXe of No. 130 'Punjab' Squadron at Odiham in 1946. (via L. Bachelor)

Nice flying shots of two Mk. XVI's of No. 349 (Belgian) Squadron. Above, GE-V, right, GE-L. (via M. C. Terlinden)





LF XVI flown by Sqdn.-Ldr. Lauemand. OC No. 349 (Belgian) Squadron at Fassburg 1946. (via M. C. Terlinden)



From the end of 1945 until early 1949 No. 631 Squadron flew LF XVI's. One of their a/c, SL614, is shown here before the unit was renumbered No. 20 Squadron, and continued using the aircraft for antiaircraft co-operation work until early 1951. (via L. Bachelor)







LF16 of No. 609 'West Riding' Squadron, R.Aux.A.F. at Church Fenton. These aircraft were in use on the squadron from 1948 to 1950 when they were replaced by Vampires. (?)

LF 16, RW376 of No. 601 'County of London' Squadron, R.Aux.A.F., at North Weald in 1950-51, after the Reserve code RAH was replaced by HT. (via L. Bachelor)





Line-up of LZ 16's of No. 631 Squadron at Llanbedr, SM360 in foreground. (F. W. Fielding)



This PR IV was extensively modified by No. 103 MU at Abouqir, Egypt, in the winter of 1942-43. Its apparently ragged appearance is the result of much sealing and sanding to give a smooth finish. Fitted with locally made pointed wing tips, a highly tuned engine and Abouqir type filter, it was one of several later used by No. 680 Squadron for long range sorties over Salonika. (T. P. M. Cooper-Slipper)



Abougir modified PR IV, upper surfaces PR blue under surfaces light blue. (T. P. M. Cooper-Slipper)

PR IV refuelling at Marble Arch airfield, Western Desert, unit unknown. All white under surfaces, PR blue on top of cowl, wings and tailplanes. (Col. O. C. Davies, SAAF, via A. Blake)



Converted from a Mk. Ia to a F in early 1941, X4492 is shown here in Canada as a PR IV. Flown by No. 13 Photo Survey Squadron, Rockcliffe, it was used to photograph an eclipse of the sun in July 1945. (Canadian Dept. of National Defence)





Originally known as a G when converted by Heston Aircraft, this PR VII is possibly one of those that were painted pink and used by No. 1416 Flight which became No. 140 Squadron in 1941. (?)

A strong cross wind caused this upset to a PR XI, one of the first of its type, on delivery to No. 682 Squadron, Maison Blanche, Algeria, in early 1943. (T. H. Geb)







Mk. IX modified for PR duties. Unit unknown, serial 5536. South African Air Force. (SAAF)






Mk. IXe of No. 2 'Flying Cheetah' Squadron, SAAF. (SAAF)

Mk. IXe, serial 5555, No. 1 Squadron, Waterkloof, 1950. (SAAF)





Mk. IXe, serial 5581. Note bomb and rocket attachment points. (SAAF)



Mk. IXe, serial 5621 in green uppers, grey unders. (?)



Mk. Vc's of No. 2 OTU, Mildura, New South Wales. Serial of nearest aircraft 4, BS224. Green /brown uppers, pale blue unders, wide grey wing-walk on port wing. Royal Australian Air Force. (via Frank F. Smith)

Rather rare flying shot of a Mk. Vc of No. 452 Squadron, RAAF. Darwin 1943. Scheme as above, serial EE609. (via Frank F. Smith)



Mk. VIII, No. 79 Squadron, serial A58-517 in black. Note all white tail unit. Morotai 1945. (via Frank F. Smith)

Mk. VIII, No. 452 Squadron, No. 80 Fighter Wing, Morotai 1945. (Note the 'Ace of Spades' should face forward on the port side of colour illustration, facing aft on starboard side.) (via Frank F. Smith)





Formation shot of No. 452 Squadron, all green/brown uppers with white leading edge to wings. (via Frank F. Smith)



'Shark mouthed' Mk. VIII of No. 457 Squadron at Morotai in 1945. Note raised under surface grey on rear fuselage. Serial A58-614 stencil style. Green/grey uppers. (via Frank F. Smith)



A58-611 of No. 457 Squadron revving up prior to take-off on op. Note white fuselage hand. (via Frank F. Smith) Line-up of 'Shark mouthed' Mk. VIII's of No. 457 Squadron on Morotai, 1945. (via Frank F. Smith)





Mk. Vb, 31st Fighter Group, 309th Fighter Squadron, 8th Air Force, USAAF.

Mk. Vb. BM635 of the 67th Observation Group, Membury, March 1943. At this time no code letters had been issued to the unit and the aircraft still carries the code of its previous owners—the 309th Fighter Squadron. (USAF)





Mk. Vb, 67th Observation Group, 107th Squadron, 8th Air Force, Membury, U.K. Aircraft is AX-D, BM 181. Note red border to national insignia. Photo taken July-August 1942. (USAF)



Mk. Vb, BL680 used on communication duties in UK. USAAF (?)



A late production PR XI, PL767 of the 7th Photo Reconnaissance Group, 14th PR Squadron, 8th Air, Force, USAAF, Mount Farm 1944-45, (?)



Rare formation shot of USAAF Spitfire Mk. Vb's of the 67th Observation Group. Leading aircraft with no fuselage bands are coded VX (probably 12th Squadron), the three aircraft in the rear are coded ZM. 153rd Squadron. (USAF)

Mk. Vb of the 4th Fighter Group, 334th Fighter Squadron, 8th Air Force, USAAF. Based at Debden. Code QP-V. (?)







Mk. IXc flown by Col. E. P. Allen, 9th Tactical Air Command in England in 1944. Bare metal with OD anti-glare panel and black code letters. (?)

Mk. Vc, HL - AA, JK226 of the 31st Fighter Group, 308th Fighter Group, 308th Tighter Group, 308th Africa. Standard RAF camouflage, yellow ring to national insignia. AA gode letter indicates second A in Group. (CNA4582 IWM)

Mk. Vc, 307th Fighter Squadron, 31st Fighter Group, 12th Air Force, North Africa. Scheme as above. (H. Levy)





Mk. IX's of an unknown Free French Air Force unit, probably No. 341 'Alsace' Squadron. (E.C.A. via J. Cuny)



Mk. IXe's of No. 340 'lle de France' (Free French) Squadron taking off from a UK airfield. (IWM)



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Mk. IX of an unknown Free French Squadron based in the U.K. (E.C.A. via J. Cuny)

Mk. IXe's taxying out to the runway, unknown French Air Force unit. France 1944. (IWM) Mk. IXe of unknown French Air Force unit in France. Note long range tank and invasion stripes on fuselage only. (FRA200453 IWM)



Mk. Vc. GC 11/7, 4th Escadrille. high over the Corsican coastline (see colour illustration). In 1943 some aircraft of this unit, when operating from Ghisonaccia, sported RAF roundels, others French, Black 'Panther' insignia port side only. (via J. C. Cuny)







Mk. IXc used by training unit in Algeria, French Air Force, 1950. (via J. C. Cuny)

Mk. IX's of an unknown French Air Force unit, probably in Indo-China. (via J. C. Cluny)





Mk. Vc of No. 352 (Yugoslav) Squadron coming in to land, note national insignia in all positions. (CNA3102 IWM)

Mk. Vc. No. 352 (Yugoslav) Squadron being re-armed. Note USAAF insignia on wings. Standard RAF camouflage. (CNA3096 IWM)







Mk. IX's of the Operational Training Unit. Brusthem, Belgian Air Force. Bare metal finish with black anti-glare panel, yellow fuselage and wing bands. Blue outline to national insignia. (via M. C. Terlinden)



LF XVI of No. 350 Squadron, Belgian Air Force, Fassburg, 1946. (M. C. Terlinden)



Mk. IX's of No. 312 Squadron, Czechoslovakian Air Force, upon their return to Prague in 1945. Note Czech roundel under wings, Czech flag on fin and rudder. (Zdenek Titz)

Mk. IX (S-98) of the Letecka Vojenska Akademie (Central Flying School) Hradec Kralov, 1946. Czechoslovakian Air Force. Serial on tin MH758, ex No, 312 Squadron. (Zdenek Titz)



Line-up of Czechoslovakian Mk. IX's, unit unknown, serial of nearest aircraft SL634. (Zdenek Titz)













LF IX, No. 322 Squadron, Neth-erlands East Indies Air Force. Serial MJ469 in small letters under fin flash. Standard RAF camouflage. (via G. H. Kam-phuiel phuis)

LF IX in bare metal scheme, serial MJ642. Black anti-glare panel, note wing-walk area and size and position of national insignia on wings. (via C. H. Kamphuis)

H-28 in standard RAF scheme somewhat altered due to code letter changes. (via C. H. Kam-phuis) -





Rear view of Spitfire IX Trainer, code 3W-22, serial BS147, col-our scheme as for 3W-11 above.







ne-up of Mk. ('s of No. 331 Vorwegian) juadron, splendent in ieir national arkings, on ieir return fo orway, Kjevik, ay 1945. N-Z, PL187 is LF IXe. 12819 IWM)

ormation by o. 331 Squadron ver Norway in ter national signia. WM)





HF IXe of No. 725 Squadron, Royal Danish Air Force, Karup 1947-52. (Leif B. Hansen)



PR XI of No. 722 PR Squadron, Royal Danish Air Force, Karup 1954. Serial PM134. (via Jacob Stoppel)





Mk. IXe's of the Israeli Defence Force /Air Force. (S. P. Peltz)

Mk. IXe of the Italian Air Force (see colour jllustration). Italian Air Force)







Mk. Vb's in Russian markings await collection at Abadan, April 1943. All in green / grey camouflage, first aircraft is AD194 built at Castle Bromwich in the autumn of 1941. (E23982 IWM)



Spitfire IX Trainer of the Irish Air Corps in early scheme and markings. Greenish-yellow overall, black wing-walk and 161. National insignia green and orange. (Irish Air Corps)



161 in later bare metal scheme, black anti-glare panel, red spinner, black 161. National insignia now green, orange, white,  $(P,\,R,\,March)$ 





# SUPERMARINE SPITFIRE MERLIN ENGINE ROYAL AIR FORCE SQUADRONS List by TED HOOTON

The following list covers all known squadrons using Merlin-engined Spitfires from 1938 to 1951. A few units excluded from the list only used Spitfires for a short training period, or a few for strictly non-operational purposes.

For reasons of clarity, the exact dates by months are not shown, and mark numbers are given in arabic numerals. For the same reason, function prefixes are deleted with the exception of the LF Vb and the PR VII. The HF and F VII are shown as 7.

tunction prefixes are deleted with the exception of the LF volate the FA vit. The FF and F vit are shown as here in some cases, squadrons re-equipped with Griffon-engined Spitfires or other types of aircraft or disbanded, but returned to Merlin Spitfires later. In such cases, two separate lines are shown for the same unit and the same practice has been followed for changes in code letters.

The following abbreviations apply:

Duty:		Base:	2017 Cold 2010 a 1017
AAC	Anti-aircraft co-operation (Target-towing etc)	AUS	Australia
ASR	Air Sea Rescue.	ETO	North-West Europe, including the United Kingdom.
F	Fighter and Fighter-bomber.		India, Burma, Cocos Islands and New Guinea.
FR	Fighter Reconnaissance.	ME	Mediterranean, including Southern France and
MET	Meteorological.	1100	Gibraltar.
PR	Photographic-reconnaissance.	UK	United Kingdom.

RDC Radar Calibration.

TR Tactical photo-reconnaissance and gun-spotting.

SQDN.	DUTY			CODE	VERSIONS	SQDN. 91	DUTY F	BASE	YEAR 41-43	CODE	VERSIONS 2a 5a 5b 5c	
1	F	UK	44-45	JX	9 9e	91		<b>U</b> N	44-45	DL	9 9e	
2	PR	ETO	45-46	01	11	92	F	UK	40	GR	1a	
4	TR	ETO	43-45	Nil	11 13	92	E.	UK	40-42	QJ	1a 1b 5b 5c	
5	AAC	UK	49-51	7B	16				42-46	ÕJ	5b 5c 9 8	
6	F	ME	45-46	JV	9	122		ME		HN	5B	
11	F	FE	45	Nil?	8	93	F	UK	42		5c 9 9e	
16	PR	ETO	43-45	Nil	11			ME	42-45	HN GO?		
17	F	FE	43-45	YB	8	94	F.	ME	42		5b	
	AAC	UK	49	5S	16				43-44	GO?	5c 9	
	-AC	0	49-51	UT	16				45	GO?	9e	
10	F	UK	39-39	19/WZ	1a	111	F	UK	41-42	JU	1a 2a 2b 5a 5b	1
19	5	OIN	39-44	QV	1a 1b 2a 5a 5b 5c			ME	42-47	JU	5c 9 8 9e	
			03-44	Q.	LF5b 9	118	F	UK	41-44	NK	2a 5a 5b 6 LF5b 9	
			46	QV	16	121	F	UK	41-42	AV	2a 5b	
	-		45	ĤŇ	8	122	F	UK	41-44	MT	2a 5b 9 LF5b	
20	F	FE			16	123	F	UK	41-42	XE	1b 2a 2b 5b	
22	AAC	UK	49-51	TH	LF5b 11	120	10.0	ME	43	XE	5c	
26	TR	ETO	44-46	XC		124	F	ETO	41-45	ON	5b 6 7 9 9e 16	
28	F	FE	45	Nil	8	126	F	ME	42-44	Nil &	5b 5c 9	
32	F	ME	43-47	GZ	5b 5c 8 9 9e	120		INIC		TD	2011-00-00-0	
33	F	ME	43-44	NW	5c 9			UK	44	5J	9 9e	
		UK	44	5R	9	407	F	ME	43-44	?	5c	
34	AAC	UK	49-51	4M/8Q	16	127	F	UK	44-45	9N	9 9e 16	
				/6J?		1000	-		41-45	DV	2a 5b 6 9	
41	F	UK	39	PN	1a	129	F	UK		DV	9 16	
		ETO	39-43	EB	1a 2a 2b 5a 5b		~		45-46	PJ	2a 5b	
43	F	ME	43-47	FT	5c 9 9e	130	F	UK	41-44			
54	F	UK	39	DL	1a				44	AP	5b	
34		0	39-42	KL	1a 2a 5b				45-46	AP	9e	
		AUS	43-45	DL	5c 8	131	F	UK	41-45	NX	2a 5b 9 7	
50	F	ÛK	44	us	9			FE	46-47	NX	8	
56 63	TR	UK	44-45	UB	LF5b	132	F	ETO	41-44	FF	1a 2b 5b LF5b 9 9e	
63		UN	46-48	ŬB	16			FE	45	FF	8	
-	F	1117		GR	1a 2a	133	F	UK	41-42	MD	2a 5b 7 9	
64	F	UK	40 40-44		1a 2a 5a 5b 9 LF5b	134	F	UK	41-42	?	2a 5a 5b	
100.000				SH	이 방법 전화 이 공격 전자 이 방법 이 요구가 있는 것이 있는 것이 있는 것이 있다. 이 가지 않는 것이 있는 것이 있다. 이 가지 않는 것이 있는 것이 있는 것이 있는 것이 있는 것이 있는 것이 있다. 이 가지 않는 것이 있는 것이 있다. 것이 있는 것이 없는 것이 없는 것이 없다. 것이 있는 것이 있는 것이 있는 것이 없는 것이 있는 것이 있는 것이 있는 것이 있는 것이 있는 것이 없는 것이 있는 것이 없는 것이 없는 것이 없는 것이 없다. 것이 있는 것이 없는 것이 없 것이 없는 것이 있 않은 것이 없는 것이 않는 것이 않는 것이 없는 것이 않는 것이 않는 것이 없는 것이 없는 것이 없는 것이 않은 것이 않는 것이 않는 것이 않는 것이 않는 것이 않이 않이 않이 않이 않는 것이 않는 것이 않는 것이 않는 것이 않은 것이 않은 것이 없는 것이 않이	104		ME	43	?	5c 9?	
65	F	UK	39	FZ	1A	136	F	FE	43-45	HM	5c 8	
			39-44	YT	1a 2a 5b 9 LF5b	140	PR	UK	41-44	Nil	PR7 4 11	
			45-46	YT	16	140	F	ŬK	41-42	SO	2a 2b 5b	
66	F	UK	38-39	RB	1a	145	5	ME	42-45	ZX	5b 5c 9 8	
		ETO	39-45	LZ	1a 1b 2a 5a 5b 5c 9 9e 16	450	F	UK	40-42		1 1a 2a 5b	
		UK	46-47	LZ	16	152	F		42-43	UM	5c 9 7?	
67	F	FE	44-45	RD	8			ME		UM	5c 8	
69	PR	ME	41-44	Nil	4 11		-	FE	43-45	UO/HT		
71	F	UK	41-42	XR	2a 5b	154	F	UK	41-42		5b 5c 9	
72	F	UK	39	SD	1a			ME	42-44	нт		
12		0.11	39-42	RN	1a 2a 2b 5b 9			UK	44-45	?	9	
		ME	42-46	RN	5c 9 9e	155	F	FE	44-46	DG	8	
70	E.	ME	43-47	Nil	5c 9 9e	164	F	UK	42-43	Nil &	5a 5b	
73	F	UK	39	JH	1a					FJ		
74	F	UN	39-42	ZP	1a 2a 5b			ETO	44-46	UB	16 9e	
		ME	43-44	ZP	5c			UK	42-44	SK	5a 5b 9	
					9 9e 16	165	F			SK	16 9e	
1141411	-	UK	44-45	4D				ETO	45-46		16 9e	
80	F	ME	43-44	EY	50			ETO	45-46	SK		
	10	UK	44	W2	9	167	F	UK	42-43	VL	5b	
81	F	UK	41-42	FL	5a 5b	185	F	ME	42-45	GL	5b 5c 9 8 9e	
		ME	42-43	FL	5c 9 8	186	F	UK	43-44	AP	5b	
		FE	43-45	FL	8		F	ME	44-47	RG	5b 5c 9 8 9e	
87	F	ME	43-46	LK	5c 8 9 9e	208	10.5		44-41	no.		
0.530								130				

						CODN	DUTY	BASE	YFAR	CODE	VERSIONS	
SQDN.					VERSIONS Spitfire A and B (PR1	SQDN. 451	F	ME	43-44	BQ	5b 5c 9	
212	PR	ETO	40	Nil	and PR2)			ETO	44-45 41-42	NI UD	9 1a 2a 5b	
213	F	ME	43-44	AK	5c 9	452	F	UK AUS	41-42	UD	5c	
222	F F/TR	ETO ME	40-44 43-45	ZD WU	1a 2a 5b 9 5b 5c 4 9			FE	44-45	QY	8 5b 9 9e 16	
225 229	F	ME	42-44	Nil	5b 5c 9	453 457	F	ETO UK	42-45 41-42	FU BP	2a 5b	
	1	ETO	44-45	9R EF	9 16 5b	457	5	AUS	43-44	KU	5c	
232	F	UK ME	42 42-44	EF	5c 9		-	FE	44-45 41-45	ZP	8 1a 2a 5b 9 l	F5b 7 9e 16
234	F	UK	40-44	AZ	1a 2a 2b 5a 5b LF5b 9	485 501	F	ETO UK	41-45	SD	1a 1b 2a 5a	
097	F	ME	45-46 43-45	FX DV	16 5b 5c 8 9	0.0			46-49	RAB	16 5b	
237 238	F	ME	43-44	KC	9	504	F	UK	41-44 44-45	HX TM	9	
241	F	ME UK	43-45 42	RZ LE	5b 9 8 5b	519	MET	UK	43-45	Z9	5b 7	
242	F	ME	42-44	LE	5b 5c 9	520	MET	ME UK	43-45 42-45	2M 50	5b 7 2a 5b 6 9 1	
243	F	UK	42 42-44	? A?	5b 5b 5c 9	521 527	RDC	ŬK	44-46	WN	5b	
245	F	ME UK	41-42	бż	2a	541	PR	UK	42-45 42-45	NII	4 10 11 13 4 10 11 13	Squadrons shared
249	F	ME	42-44	GN	5b 5c 9 9e	542 543	PR PR	UK UK	42-43	Nil	4 11	same
253	F	ME	45 43-47	GN SW	5b 5c 9 8 9e	544	PR	UK/	42-43	Nil	4 11	aircraft
266	F	UK	40-42	ZH	1a 2a 2b 5b	548	F	ME AUS	44-45	TS	8	
269	ASR F	UK FE	44-45 44	UA? MS	5b 8	549	F	AUS	44-45	ZF	8	
273 274	F	ME	43-44	NH	5c 9	567	AAC	UK	44-46 44-46	14 3Y	5b 9 16 5b 16	
		UK	44 42-44	JJ	9 2c	577 587	AAC	UK	44-46	M4	5b 16	
275 276	ASR	UK	42-45	AQ	2c 5b	595	AAC	UK	44-49 42-45	7B UF	5b 9e 16 5b 5c 8 9	
277	ASR	UK	43-44	BA	2c LF5b 2c 5b	601	F	ME UK	46-48	HT	16	
278 283	ASR ASR	UK ME	42-44 43-45	MY ?	5c 9	115.048555			47-49	RAH	16	
286	AAC	UK	45	NW	16	602	F	UK ETO	39 39-45	ZT	1a 1a 2a 5a 5i	LF5b 7 9 16
287	AAC	UK	45-46 43-46	KZ RP	16 55 9 16	603	F	ŪK	39	RL	1a	
288 289	AAC AAC	ŬK	44-45	YE	5b			ME	39-42 42	XT T	1a 2a 5a 5l 5b 5c	2
290	AAC	UK	45-46 41-46	X6 WX	5b 16 5b LF5b 9 16			UK	45	9R	16	
302 303	F	ETO	41-45	RF	1a 2a 5b 9 LF5b 9e				46-47 47	XT RAJ	16 16	
306	F	UK	41-44	UZ ZF	1a 2b 5b 9 LF5b 1a 2a 2b 5b 9 LF5b 16	604	F	UK	46-48	NG	16	
308 310	F	ETO	41-46 41-46	NN	2a 5b LF5b 9 9e				47-49	RAK	16	
312	F	ETO	42-45	DU	2a 5b LF5b 9 9e 1a 2a 5b LF5b 9 9e	607	F	FE UK	43-45 46-47	AF RAN	5c 8 16	
313	F F	ETO	41-46 41-44	RY PK	2a 5b 9 LF5b	609	F	UK	39	BL	1a	
315 316	F	ŬK	41-44	SZ	2a 5b 9 LF5b				39-42 48-50	PR	1a 2a 5b 16	
317	F	ETO ME	41-46 44-46	JH LW	2a 5b 9 LF5b 9e 16 5c 9 9e				50	PR	16	
318 322	F	UK	43-44	зW	5b	610	F	UK	39 39-43	JE DW	1a 1a 2a 5b 9	LF5b
	-	ETO	44-45 44-45	3W 91	9 16 9 9e	611	F	UK	39	GZ	1a	
326 327	F	ETO	44-45	?	5b 9 9e	640	F	UK	39-45 48-50	FY RAS	1a 2a 5a 5 16	b 9 LF5b 9e
328	F	ETO	44-45 44-45	S8 5a	5b 9 9e 9 16	612	F	UN	50-51	8W	16	
329 331	F	ETO	41-45	FN	2a 2b? 5a 5b LF5b 9 9e	614	F	UK	46-48	RAU KW	16 5c 8	
332	F	ETO	42-45	AH	5a 5b 9 9e 5b 5c	615 616	F	FE UK	43-45	QJ	1a	
335 336	F	ME	43-45 43-45	FG? ?	5b 5c		3	UK	40-44	YQ	1a 2a 5b ( 5b LF5b 1	
340	F	ETO	41-45	GW	2a 5a 5b 9 LF5b 9e 16 5b 9 9e 16	631 667	AAC		43-49 44-46		5b 16	0
341 345	F	ETO	43-45 44-45	NL 2Y	5b 9 9e 16	680	PR	ME	43-46	Nil	4 11	
349	F	ETO	43-44	GE	5b 9	681 682	PR	FE ME	43-46 43-46		4 11 11	
250	F	UK	45-46 41-43		16 2b 5a 5b LF5b LF5c	683	PR	ME	43-45	Nil	4 11	
350	E .		44	MN	5b 9	691	AAC		46-49 45-49		16 9 16	
	-	ETO	45-46 44-45		16 5c 8	695	AAC		40-45	8Q		
352 400	F PR	ME ETO			11	1435	F	ME	42-45	v	5c 9	
401	F	ETO			2a 5b 9						alag athor t	uppe of aircraft
			45	YO	16 55 5 0	In set 12	artially a	anuinner	with S	nittires	for purely tr	ypes of aircraft aining or non-
402	F	UK	42-44 45	4 AE AE	5b 5c 9 16	00000	tional du	tine Ale	o includ	ed are th	ose that wer	e fully equipped
403	F	ETO		1000	1a 2a 5a 5b 9 9e 16	sectate 4	Caltfires	but only	tor a ne	riod less	s than a mon	th. With the ex- e in the United
403	F	ETO	41-4	5 DB	1a 2a 5b 9 9e 16	King	dom. Coc	de letters	are give	n after d	late.	NAN AM NANGS CONSTRUCTS
412	F	ETO		5	2a 5b 5c 9 9e 16							
414	FR	ETC			9 2a 2b 5b 9 9e 16	24		nsport		41-4		
416 417	F	ME	41-4		5b 5c 8 9	137 138	Figh			43-4 45	NF	
417	F	ETC		5 AU	5a 5b 9 9e 16	141	Figh	ter		40	TW	
441	F	ETO		9G	5b 9 9e	162	Spe	cial 1y Co-op		44 44	QC	
442	F	ETC		Y2 5 21	5b 9 9e 5b 9 9e 16	168 239		iy Co-op		42	ĤB	31
443	F	ETO	44-4;	1	M.M.M.M.M.	ः तम्बर्थः ।		et				

249	Fighter	40	CN
251 ?	Meteorological	44	GN
256	Fighter	40-41	AD
257	Fighter	40-41	JT
295?	Glider towing	40	DT
486	Fighter	42-43	PX
510	Communications	42-43	SA
617?	Bomber	44	Nil AJ
Numb	ered Flights and Units		
421	Special		
1401	Meteorological		LZ TE
1402	Meteorological		BN
1406	Meteorological		DQ
1416	Photo-reconnaissance		?
1490	Gunnery Training	,	Nil
1563	Meteorological		7
1656	Heavy Conversion		Nil?
1660	Heavy Conversion		BL
1663	Heavy Conversion		TV
1665	Heavy Transport Conv		00?
1675	Heavy Conversion	ersion	NY
1687	Bomber Defence Train	la e	Nil
1688	Bomber Defence Train	ing	4E
1692	Bomber Support Traini	ing	6H
1695	Bomber Defence Train	ing	4X
	Defence Train	mg	зĸ

## Spitfire Operational Training Units (OTU's) 1940-1947

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5	Fighter. Renumbered 55 OTU only.	, with Hurricanes and Typhoons
78		
8	Photo-reconnaissance	
41	Army Co-operation	BE Partial equipment.
52	Fighter	6R Partial equipment.
53		CT GK NS OQ TJ
56	Fighter	QG
57	Fighter	FE GF OD Partial equipment.
58	Fighter	JZ LV PW XO
61	Fighter	?
	righter	DE HX KR TO UU Partial after
63	Fighter	44.
71	Army Co. operation (F	MV
73	Army Co-operation (Egypt) Fighter (Egypt)	Nil Partial equipment.
80	Fighter (Egypt)	Nil Partial equipment.
151	Fighter (Free French)	3H
101	Fighter (India)	?

Other OTU'S using Merlin-engined Spitfires. The code letters given are those used on the Spitfires only.

10 17 20 21 28	Bomber Bomber Bomber Bomber Bomber	K7 UY AY JG JM UH QN	54	Army Co-operation Night-Fighter Army Co-operation Bomber Bomber	BF ST	
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Advanced Flying Units:	No. 5 (P) No. 9 (P)	EA? FBE
	No. 21 (P)	FDA

# Advanced Flying School: No. 203 (later became part of 226 OCU) HX JH UU

Communications Flights:	No. 2 Group	Ko	
	No. 11 Group	K2	
	No. 12 Group	JC	
	S.F. Sector Fighter C	WQ	
	S.E. Sector, Fighter Command Staff College	SO	
		TBR	
	Reserve Command	RCA	

Royal Aircraft JW UX Nii   Operational Conversion Unit: No. 226 (ex-61 OTU & 203 AFS) HX KR UU Operational Conversion Unit: No. 226 (ex-61 OTU & 203 AFS) HX KR UU   Photo-Reconnaissance Flights: Heston (later No. 2 Camouflage Unit) Special Survey (later 212 sqdn.) Nii   Schools: Armament Practice Army Co-operation Central Flying Central Flying Central Gunnery Control and Reporting Empire Air Armament Empire Air Armament FGA FGC Empire Air Armament FGA FGC Empire Air Armament FGA FGC Empire Flying No. 17 Reserve Flying No. 17 Reserve Flying No. 2 Initial Training No. 2 Camouflage (later P.D.U.) Nii Coastal Command Fighter Affiliation Training Gunnery Research No. 1 P.R.U.) No. 2 Photographic Reconnaissance (later 541-544 sqdns.) AF GO HP Nii Nii Nii Nii Nii No. 2 Photographic Reconnaissance (later 680 sqdn.)   No. 2 Datotraphic Reconnaissance (later 680 sqdn.) Nii Nii Nii Nii No. 2 Datotraphic Reconnaissance (later 682-633 sqdns.) Nii Nii Nii Nii Nii Nii No. 2 Tactical Exercise	Establishments:	Central Fighter		DF AG GO
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Fotablichments to

Commonwealth Squadrons (Unit numbers outside the 400 series). All listed here were fighter or fighter bomber units with the ex-ception of No. 40 (S.A.A.F.), tactical reconnaissance.

5b 5c 9

WR

SQDN	BASE	YEAR	CODE	VERSIONS
Indian	Air Force			
1	FE	45	2	1
3	FE	45	1	8
10	FE		?	8
10	FE	45	?	8
Royal A	ustralian	Air For		
79	AUS	43_45	UP	
4	Iso No. 2	OTU	UP	5c 8
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South A	African A	ir Force		
1	ME	42-45	AX	5c 9 8
2	ME	43-45	DB	
3	ME	44-45	CA	5c 9
4	ME	43-45		9
5	ME		KJ	5c 9
7		45	GL	5c
10	ME	43-45	ND?	9

43-45

40

ME

#### CAMOUFLAGE U.K. and N.W. Europe. Fighter aircraft.

Upper surfaces.

- 1. 6/38 to 8/41. Dark green and dark earth. 'Mirror' patterns to Scheme 'A' and 'B' used until early 1941, but did not always follow correct alternating sequence with even and odd serial numbered alrcraft.
- 2. 8/41 to 4/46. Dark green and dark sea grey.
- 4/46 onwards. Officially authorised as silver, but usually aircraft were not re-painted until they received a major overhaul, so green/grey was quite common until 1950.
- Under surfaces. 1. 6/38 to 4/39. Silver.
- 4/39 to 4/40. Port side—black. Starboard side—white. Variations rather numerous initially, with tails and fuselage often left in the original silver.
- 3. 4/40 to 7/40. Sky blue (light blue).
- 4. 9/40 to 8/41. Sky (duck-egg green). Exception-12/40 to 4/41, port wing black, with yeliow surround to roundel.

5. 8/41 to 4/46. Medium sea grey (light grey). 6. 4/46 onwards. Silver, but see upper surfaces (3) above.

Main Exception: Some F.Mk. VII of 124 and 131 squadrons in 43-44 having Mediterranean light blue (light blue-grey) overall with red/blue roundels on fuselage and upper surfaces only.

Middle East and Mediterranean. With the exception of Mk. V aircraft passing through Egypt during 1942 and early 1943, most (but not all) Spitfires were left in their factory colours, so the particular version often is a good clue as to camouflage.

- Mark V. Some initial deliveries to Malta early in 1942 in temperate green/grey. Remainder, and those to Egypt, repainted dark earth and middle stone (light sand brown) on upper surfaces; azure (medium blue/mauve) or sky blue under. Azure seems to have been more common up to 1943, and a few aircraft had Mediterranean dark blue. However, from 7/42 onwards, all Mk. V's leaving Castle Bromwich (about EP380) were painted in the desert scheme with sky blue undersides.
- Mark IX. All delivered in green/grey, but some locally repainted in the desert scheme with sky blue (e.g. 232 sqn.).

Mark VIII. All early aircraft, up to and including the MD serials, delivered in the desert scheme. Later deliveries varied, some being in green/grey temperate-type.

#### Far East and Australia.

All Mk. V and VIII delivered in desert schemes were re-painted so that dark green replaced the middle stone, leaving the dark earth and sky blue. Deliveries in green/grey temperate-type were untouched.

#### Photo-Reconnaissance Aircraft.

Prior to the production models of the PR. IV, all PR Spitfires were modifications of fighter versions. With the exception of those intended for low-altitude work (which were left in their fighter-type camouflage—notably some PR. VII's and probably all the RP XIII's), many different schemes were tried on those modified for high-altitude work. In the U.K. between 1940 and 1942, sky, white and pink were all used. In the Middle East, white and/or mediterranean dark blue were common in various combinations.

Production PR. IV and XI were generally in PRU blue overall. This was a rather muddy dark blue-grey with a slight greenish tinge. Some PR. X and a few PR. XI were mediterranean light blue, but this was the exception, not the rule.

#### MARKINGS

Serials. On squadron aircraft, deleted from wings and fuselage 4/39, transferred to fin. Replaced on fuselage, early 1940. Fin/fuselage combination used by some aircraft in 1942-43 period. Under-wing serials replaced 4/46.

Roundels and fin flash.

- 1. 6/38 to 4/39. Red-white-blue (RWB) all surfaces, yellow (Y) surround on fuselage and upper surfaces.
- 4/39 to 12/39. Fuselage and upper wings only—RB. Note—followed by nearly all Merlin-engined PR aircraft until they went out of service in 1946, except in the Far East.
- 3. 12/39 to 5/40. Fuselage—RWB. 4. 4/40 onwards. Under surfaces—RWB, except PR aircraft.
- 5. 5/40 to 5/47. Fuselage-RWBY. Fin flash introduced. 6. 12/40 to 7/42. Fin flash size standardised at 2½' by 2'.
- 7. 7/42 to 5/47 Reduced thickness of yellow and white in fuselage/under-wing roundels and fin flash, the latter being standardised at 2' square.
- 8. 1/43 to late '45. Australia and New Guinea. All surfaces-WB roundel and flash.
- 9, 9/43 to late '45. India and Burma. All surfaces—16" light blue/dark blue roundel. Some RWB on under surfaces from 1944.
- 10. 1/45 to 5/47. Upper surfaces-RWB except in Far East. Aircraft of 2nd. T.A.F. in Europe required yellow or white surround.
- 11. 5/47 onwards. Original pre-war style RWB roundel on all surfaces introduced. Took some time to effect, even on production aircraft, and was not really universal until late 1950.

Spinners. U.K. Generally black until 9/40, then sky. Some multi-colours, but this was not common.

2nd. T.A.F. Mostly sky, some other colours until 1/45 when black was standardised.

Middle East. Black or same colour as under surfaces. Other colours were quite common, and red was mandatory for invasion of Southern France-8/44.

- Far East. Most aircraft on delivery had black, but many were changed to white in service. In India/Burma in early 1944, the following squadrons had individual colours: 81 (FL) red; 136 (HM) green; 152 (UM) brown; 607 (AF) dark blue: 615 (KW) light blue Bands. Rear fuselage sky band introduced 12/40 for all U.K. aircraft. Very rarely seen on aircraft in Mediterranean except for most
- Mk. IX's delivered in temperate colours. Not used in Far East, and deleted from 2nd. T.A.F. aircraft from 1/45. Wing leading-edge yellow band (‡ span) introduced 8/41 in U.K. It generally remained for as long as the camouflage lasted.

It was quite rare in the Middle East, except for many of the Mk. IX's, and was very rare in the Far East. In Australia, many aircraft were painted with a large full-span white band.

Cross-wise wing and tail bands in white were introduced in Burma, 3/45, and at about the same time some Australian Spitfires had all-white tail units. However, both of these schemes had apparantly died out by about August 1945.

Invasion bands in Europe need no elaboration here, except to state that the black and white markings were reduced to under surfaces from mid-August 1944, and had almost disappeared by the end of the year.

From 7/42 Air-Sea Rescue Spitfires carried a 1' black band on the under-side of the fuselage.

Code letters. Allocation of codes is given in the unit lists following this section. The colours used varied considerably, from 4/39 to 4/40 light grey was the main colour. From then on the colours tended to be the same as the under surface camouflage—sky blue, sky, and medium sea grey. Red was occasionally used—particularly on ASR aircraft, but yellow was the standard for these types after 6/43. White was quite a common colour, particularly in the Mediterranean area, and even more so in the Far East.

From 1943 onwards the letters C and I appeared in unit code letters, as did numerals. Numerals for Individual aircraft identity were confined to certain training units, but during 1943, squadrons having Mk. V and Mk. VIII or IX in the Mediterranean, used numerals for the VIII/IX aircraft.

Letter size varied, height usually being 20 or 24 inches, but during the Battle of Britain 30 inches was quite common, and in the Burma area, 18 inches was usual.

In 1946 the three-letter codes appeared for Flying Training, Reserve, and Technical Training Commands. All of the Auxiliary Air Force squadrons used the appropriate 'R' codes, but 601, 603, and 604 squadrons used two-letter codes on their Mk. XVI's up to 1947-48 alongside other aircraft on the units having the 'R' codes from 1947. All Spitfires in use with the R.Aux.A.F. in early 1950 switched to two-letter codes after being transferred to Fighter Command, late in 1949.

Gas-detector Panels, 1939 to 1941. Yellow diamonds on the top surfaces of the wings and rear fuselage.

Presentation names. Supermarine-built aircraft-starboard fuselage, in script. Castle Bromwich-port side in block letters.

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- No. 5 NORTH AMERICAN P-51B/C MUSTANG IN USAAF SERVICE. Similar content to No. 1 but with brief coverage of the P-51 and A-36.
- No. 6 CURTISS (P-40) KITTYHAWK Mk. I-IV. In RAF; RAAF; RNZAF; SAAF; RCAF; Netherlands East Indies; Russian and Finnish Air Forces. The Curtis P-40 Warhawk will be covered in a future issue.

#### SPECIFICATION

Example chosen is the Type 361 Spitfire L.F. Mk. IXE, built at Castle Bromwich during 1944-45 and fitted with the Rolls-Royce Merlin 66 engine of 1,720 h.p.

#### General

Span/wing area: 36 ft. 10 in./242 sq. ft., or with clipped wing — 32 ft. 7 in./231 sq. ft. Length (flying position): 31 ft.  $3\frac{1}{2}$  in., later rudder — 31 ft. 9 in.; (tail down): 31 ft.  $0\frac{1}{2}$  in., later rudder — 31 ft.  $4\frac{1}{2}$  in. Height, propeller vertical (flying position): 11 ft.  $5\frac{1}{2}$  in.; (tail down): 12 ft. 8 in. Internal fuel: 85 Imp. gal. in mains. Later production aircraft, 95 Imp. gal. mains and 75 Imp. gal. in rear tanks (very rarely used, and in acft. with cut-down rear fuselage the 66 Imp. gal. tanks were never used due to stability problems). External fuel: 30 or 45 Imp. gal. "slipper" tanks, or a 50 Imp. gal. "torpedo" tank. Occasional use of 90 Imp. gal. "slipper" tank.

#### Weights

Empty: 5,610-5,634 lb. Loaded (85 gal. fuel, no ammunition or external stores): 7,150 lb. Normal combat 7,400-7,500 lb. At take-off (45 gal. external tank): 7,800 lb. Maximum: 8,700 lb. Maximum overload: 9,500 lb.

#### Armament

Two 20 mm. Hispano Mk. II cannon with 120 r.p.g. and two 0.5 in. Browning machine guns with 250 r.p.g., giving a combined weight of fire of 8.6 lb. per second. Many aircraft carried one 500 lb. bomb and/or two 250 lb. bombs.

#### Performance

Maximum level speeds: 408 m.p.h. at 25,000 ft., and 312 m.p.h. at sea level. Maximum diving speed: Mach 0.85 (600 m.p.h. at 20,000 ft.). Cruise speed: 250-330 m.p.h. Climbing speed: 160-240 m.p.h. Initial rate of climb: 3950 f.p.m. Time to 20,000 ft.: 6.4 mins. Combat radius of action/endurance (with 45 gal. external tank): 170-190 miles in 2 hours. Best combat altitude: 15,000-25,000 ft. Normal landing speed: 90-105 m.p.h. I.A.S. Stalling speed, landing configuration: 69-82 m.p.h. I.A.S.

Note. Maximum speed of any Merlin-engined Spitfire was achieved by the P.R. Mk. XI with the Merlin 70-422 m.p.h. at 27,500 ft. The P.R. IV and XI also had the greatest operational range, many of their sorties involved flights of 1,000 to 1,300 miles.

#### Front Cover Illustrations.

Mk. Ia, No. 610 ' County of Chester ' Squadron, Battle of Britain. N3289.

Mk. Vc, No. 81 Squadron, North Africa, 1943. JK322. ' Joy'.

Mk. IX, No. 132 'City of Bombay' Squadron, 1944. MH978.

Mk. VIII, No. 457 Squadron, RAAF. Flown by Sqdn.-Ldr. B. D. Watson, OC., Morotai/Labuan, June, 1945. A58-606.

Mk. IXe, Royal Netherlands Air Force.

# AIRCAM AVIATION SERIES

No. 4



Mk. Va, flown by Wing Cdr. D. R. S. Bader, Leader Tangmere Wing. July 1941. W3185.

# SUPERMARINE SPITFIRE MK.I-XVI In Raf·Saaf·Raaf·Rnzaf·Rcaf & Foreign Service

## Illustrated by Richard Ward Compiled by Ted Hooton and Richard Ward Text by Ted Hooton

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Mk. Vc flown by Wing-Cdr. C. R. Caldwell, Leader No. 1 Fighter Wing, Royal Australian Air Force, Darwin, 1942-43. Green/brown uppers, pale blue unders. BS 234

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