



Curtiss Hawk 75s of GC 1/4 over the West African Coast in 1942. (Photo - Etablissement Cinema des Armees, 12.367)

HAWK 75 IN FRENCH SERVICE

By J. CUNY

Early history of the Curtiss Hawk 75 saw this we 1 1 known fighter type enter service with the U. S. Army Air Corps in 1938 under the designation, P-36A. The type attracted French attention when a mission arrived in the U. S. to evaluate combat aircraft, or trainers, for possible purchase. Combat aircraft were needed to augment French Industry production, which was notably insufficient to face the growing Hitlerian threat.

The French Air Force selected the Curtiss pursuit plane, and the first order was placed in May 1938 for 100 Hawk 75 A-1s. During December 1938 the first two planes were delivered and tests were successful. An assembly line was opened at the Bourges S.N.C.A.C. plant, and the new fighters began reaching Reims bases squadrons in March 1939. Thereafter, the Curtiss Company was given supplementary orders, and at the outbreak of WW II it became necessary to organize a second assembly line at Toulouse in southern France.

Official French designation for the type was Curtiss Hawk 75 C-1 (fighter-one seat) and there were no designation variations for engine or armament changes which occasioned various manufacturer designations:

Hawk 75 A-1: first 100 plane order; Pratt & Whitney R 1830-SC3-G engine, four machine guns.

Hawk 75 A-2: second 100 plane order; 2 additional machine guns.

Hawk 75 A-3: 135 plane order; same as A-2 but with more powerful S1C3-G engine.

Hawk 75 A-4; 395 plane order; Wright GR-1820-G engine.

All planes were equipped in the French fashion with metric instruments (though altimeters were graduated in feet) and inverted operating throttle control. Armament consisted of Browning, F.N. (Belgium) machine guns firing French standard 7.5 mm cartridges. All Hawk 75 A-1s and A-2s (except a few lost during sea transportation)

were delivered to France but only a part of the A-3 order and a few A-4s arrived before the June 1940 collapse. Actually, 291 planes reached French Air Force units and 23 more (A-4 models) remained in the West Indies at Guadeloupe and Martinique for two and a half years. Subsequent to Allied landings in North Africa they were delivered to French training bases.

Between March and September 1939 the 4th and 5th Escadres, with four Groupes (squadrons), received Curtiss fighters while based at Reims. The units were GC (Groupes de Chasse) 1/4, 1/5, 11/4 and 11/5. Three had previously flown Dewoitine D 500 fixed undercarriage monoplanes but the fourth (GC 11/4) was newly created during April 1939 as the successor of two former WW 1 Escadrilles. One Escadrille of GC 11/5 was the famous "Lafayette" unit. Neither 11/4 or 11/5 were ever equipped with Hawk 75s.

STATIC WAR PERIOD: Sept 1939 to 10 May 1940

As soon as war broke out on 1 September 1939, the Escadres were replaced by a new operational organization: 1/4 and 1/5 became parts of Groupement 23, and 11/4 and 11/5 became parts of GP 22. Such Groupements comprised four or five units based in the same region and under the same strategic command. Similar to later RAF Groups they added territorial defense responsibilities to "general defense" missions with the following order of priority:

- "Groupement" territory Air Base Defense against enemy bombing and reconnaissance aircraft (mainly defense of friendly bomber bases).
- Protection of Strategic Railways.
- Interception of enemy planes returning from long range intrusions over France (notably from missions over the industrial complexes of Paris, Le Havre, Lyon or



Curtiss Hawk 75 A-1 No 4 is presented to the press during February 1939.

(Photo - From the collection of Mr. Mutin)

Clermont-Ferrand).

In addition to such "normal" missions the units could be placed temporarily under direct Land Armies Command for cooperation duties such as observation and reconnaissance. Generally, and frequently in the case of Hawk Groupes, one Groupe was lent to each Army. At the beginning of the 1939-40 winter such was the case of 11/4 (Fifth Army), 1/5 (Second Army) and 11/5 (Third Army).

Each Groupe had a theoretical first-line strength of 18 planes (two Escadrilles, each with three 3-plane sections or "patrouilles legeres"), but the total real strength varied from 20 to 25 planes, including non-flyable aircraft. There was an enormous disproportion between the strength required for the assigned roles, given here by official priorities order, and the strength of the Groupes and Groupements (which later never fought with more than 100 immediately available fighters). Actually French fighters encountered German planes in ratios of one to three (November 1939) and one to six (June 1940).

Less apparent, but extremely important after long, non-stop operations, was the handicap placed on French crews by the organization under which they operated. So many different and numerous mission requirements necessitated two Escadrilles be kept on constant alert, one ready to scramble immediately, the other in five minutes. This, in turn, required two times nine planes and nine pilots, and such numbers constituted the basic first-line strength of units in planes and pilots. There was thus no rest time for crews except during periods of very bad weather. And later, during the first four

weeks of the 1940 German offensive, the weather was remarkably fair.

In the early war days, French Land Forces launched small, local attacks in the Saar River area to prevent the Germans from applying their total strength against Poland and to probe their defenses. Groupes were quickly involved in aerial fighting over the Siegfried and Maginot Lines. On 8 September, Hawks of 11/4 shot down the first two Messerschmitt Bf 109s of WW II. It was a good start, and subsequent actions were to prove that the U. S. pursuit plane was more than a match for the early versions of the Bf 109.

It is true that during September 1939 the best German pilots were not on the Western Front as indicated by French successes. Between 8 and 30 September no less than 37 German planes were shot down (27 sure victories) including 35 fighters. Most of these fell to Curtiss-equipped Groupes 1/5, 11/4 and 11/5, and only four French pilots were lost (two from Morane-equipped units). The first Curtiss pilot to be killed was an Escadrille leader, Capitaine Claude of 11/4 who was machine gunned by an enemy fighter while parachuting to earth on 25 September. He was the third French pilot killed in WW II.

Actually during the early stages of the War (last months of 1939) French fighters encountered lessening numbers of Messerschmitt Bf 109Bs, Cs or Ds and growing numbers of Bf 109Es (initially E-1s, without wing-mounted 20 mm cannons). Only a few Heinkel He 112s were seen by French pilots, and apparently none was shot down by Hawk 75s (only two were credited to all F.A.F. fighter squadrons and perhaps these were mistakenly identified



Hawk 75 A-1 No 19 during testing, probably by C.E.M.A., and before adoption of camouflage finish. (Col. Brian)



No 58 of Cne Monraisse, leader of 1st Escadrille, 11/5, in the winter of 1939-40. (Photo - from Match Magazine)



In flight from the C.E.M.A. (French Test Center) during March 1940 is Hawk No 37. (Photo - Col. Brian Collection)

Bf 109s). Rather than relate all the small-scale actions of this period ("Drole de Guerre" or "Phony War"), the tenor of it can be seen in some of the highlights of the last months of 1939.

During October, five Henschel Hs 126 two seat observation planes were shot down over French lines, four by Curtiss Hawks. On 6 November, 11/5 Groupe sent nine Hawk 75s to protect a lone Potez 63 photo reconnaissance plane flying over the Siegfried Line. Two Bf 109 formations, totaling 27 planes, attempted interception and a stiff fight ensued. During the engagement, one Hawk was belly-landed (it was later flown) but French pilots claimed eight Bf 109s destroyed and two "possibles". Six of the French fighters displayed the famous Lafayette Indian Head insignia as Lafayette was the first Escadri He of 11/5. The Potez 63, which had provoked this first, great WW II dogfight, was forgotten by everyone and did its photo work without any further trouble beyond a few flak bursts.

As soon as Poland had fallen, it appeared necessary to modify the French defensive organization to protect Northern France from an attack through Belgium such as occurred during the First World War. Therefore, in December 1939 a new fighter Groupement, GP 25, was created to assume the aerial defense of this region. On 11 January 1940 such a threat was confirmed when a German invasion plan was discovered in a German staff officer's liaison plane that had accidentally crashed in Belgium following a navigation error. The German intentions appeared serious (and it was so, as proved by the 1947 Nurnberg documents), and this sector received priority for newly-equipped F.A.F. fighter units. One result was to leave three Curtiss-equipped Groupes, or two at the minimum, constantly ready for action over France's fortified eastern sector, without relief. As an example of the activity 1/5 was never relieved and 11/5 had but a month's rest. (1/4 had become a part of the new Groupement 25.)

At French bases situated along the Mediterranean there was a high degree of training activity. However, newly created or reequipped Groupes were not all sent to the North quickly, at least prior to 10 May. Some were kept along the Alpine border or the coast to repel possible Italian attacks (which were to come later).

Most of the missions during the frosty 1939-40 winter were flown in attempts to intercept and destroy high-flying German photo-recon planes. Often these Do 17Ps and Do 215s escaped, thanks to the Hawk's insufficient speed margin, gun freezing problems or by flying over neutral Belgium or Luxembourg. By the Spring of 1940 the activities of Curtiss-equipped units lessened as new

Groupes with new planes (Dewoitine 0 520s, Bloch MB 151 or 152s) began to reinforce the defenses.

BATTLE OF FRANCE: 10 May to 25 June 1940

The long-awaited German Offensive began at dawn on 10 May. Enemy forces simultaneously invaded Belgium, Holland and Luxembourg. French and British Armies went into action but their situations deteriorated before the quickly advancing German panzer forces. The panzers broke the French defensive front in the Sedan sector and then swung to the Channel Coast at the rear of the best Allied divisions. Throughout, F.A.F. and RAF units were involved in constant and fierce fighting, always facing a numerically superior enemy. During May, Curtiss units remained at their bases since their principal activity was to act as defense against bombers from bases not directly menaced by the Wehrmacht. Only 1/4 briefly appeared in action over Belgium and Holland.

In the second round of the Battle of France, after the Allied North Armies had succeeded in reembarking at Dunkirk although losing all their materiel and heavy armament, weakened French divisions fought desperately along the Somme and Aisne Rivers. German pressure mounted and again their forces broke through and, in three weeks, the Wehrmacht had occupied Paris and was threatening to drive to the Mediterranean Coast. In the circumstances, France capitulated; the Armistice was dated from 23 June and firing ceased at Zero Hour on 25 June. French Air Force units had fought throughout the campaigns in spite of constant moves toward the south, going from one base to another, and always being threatened by enemy armored spearheads. They had lost the help of the RAF (British squadrons had moved back to England when their ground forces were overrun and their logistical support disappeared), and they had acquired a new enemy when Italy declared war. Retreating F.A.F. units destroyed unflyable planes and tried to fight with Others. On the day of the Armistice, half of the French fighter force was in North Africa, but as late as 24 June the last French fighter pilot was killed in action (by flak).

Movement (blitzkrieg) warfare had brought frequent changes in Groupements organization, and the changes were so frequent that they are beyond relating here. The Hawk 75 units were frequently in the thick of the fighting and often operated in direct support of Land Armies. They were often removed, after only some hours or days, from supporting one army and sent to other, more menaced points. In fact this was a compliment: "Best units to most critical points....!"



No 188 was used in 1939 for comparative tests with Spitfire which proved its fine handling ability. (Mutin)



Hawk No 2 at Reims in August 1939 was plane of Sgt Gisclon, 11/5, with small wing roundels. (Cdt Gisclon)



Winter conditions in 1939-40. No 151 was plane of Cne Accart, 1/5, 1st Escadrille leader. (Col Brian Coll.)



Lt Marin la Meslee and Lt Rey destroyed this Dornier Do 17P on 11 January 1940. (Photo - Col Brian Coll.)



Curtiss Hawk 75s, No 99 in foreground, in flight during the Spring of 1940. (Photo - Mr. Mutin Collection)



This Hawk A-2 from the 2nd Escadrille of GC 1/5 crashed after action on 18 May 1940. (Photo - Langlade Coll.)



At rest in June 1940 is this Hawk from GC 11/5, 1st Escadrille "Lafayette". (Photo - Mr. Mutin Collection)



Shadowed roundels appear on No 224, Lt Brian's 1/5 Hawk after crossing Mediterranean in June 1940. (Col Brian)

Curtiss operations ended before 18 June, but by this date they had destroyed an astonishing number of enemy aircraft. The Grand Total for the F.A.F. was 935 enemy aircraft destroyed (1), and its total fighter strength had been 28 squadrons and 6 autonomous "Escadrilles" (multi-seaters). Curtiss Hawks, flown by pilots from 5 Groupes, had destroyed 311 enemy aircraft, and one of the Groupes (111/2) had flown on only 11 operational days. The four original Hawk Groupes had placed themselves in first, second, third and fifth positions among the top-scoring French Air Force units. In order, they were:

- 1/5 - 111 victories credited; 9 pilots killed; Cdt Mutin.
- 11/4 - 71 victories credited; 8 pilots killed (including the unit and 2 Escadrille commanders); Cdt Borne (16 June 1940), later Cdt Rozanoff.
- 11/5 - 70 victories credited; 2 pilots killed, Cdt Hugues.
- 1/4 - 42 victories credited; 8 pilots killed (including unit commander); Cdt Hertaud (11 May 1940), later Cdt de Saint-Albin.
- 111/2 - 17 victories credited; 2 pilots killed, Cdt Geille

GC 1/5 alone placed five of its 1st Escadrille pilots among the 11 official French aces, 1939-40. They were:

Lt Marin la Meslee	20 victories	(15 sure 5 probable)	[2]
Cne Accent	15 victories	(12 sure 3 probable)	
Cne Vasatko (Cz.)	15 victories	(12 sure 3 probable)	
S/Lt Perina (Cz.)	13 victories	(11 sure 2 probable)	
S/C Morel	12 victories	(10 sure 2 probable)	

At dawn on 10 May 1940 German bombers, with long range fighter escort, attacked many French Air Force bases (and other bases of the British Expeditionary Force). Often, since this time, these neutralizing attacks have been described, particularly in U.S. articles,

as being like a "massive annihilation" (a small-scale Pearl Harbor). In fact, the net results of this German effort from 10 May to 25 June cost the Armee de l'Air only 240 of its planes in six weeks! And the figure of 240 also includes planes that were only damaged but destroyed by their French crews when they had to retreat before completing repair work. (3)

In one action in defense of its base at Suippes, 1/5 was scrambled to intercept 20 Do 17s and succeeded in shooting down seven, plus three of the escorting Bf 110s. Ground defenses destroyed one Dornier. The base, being relatively well camouflaged, suffered little damage but there were heavy casualties among the neighboring civilian population. Two days later 1/5 was in another heavy action. Five of its Hawks surprised a Stuka formation which was harassing columns of French motorized cavalry in the Ardennes Forest and shot down 16 Ju 87s. This action was one of the first proofs of the extreme vulnerability of the Ju87 to fighter attack, but at the time it would appear this fact was not recognized by Allied or German experts. During the first three days of the German offensive 1/5 destroyed no less than 37 enemy aircraft (22 on 12 May). Other Hawk 75 Groupes tried to build similar scores, and 11/4 shot down more than 30 enemy planes from 14 to 18 May.

Beyond their interception duties, the four Hawk 75 Groupes flew in direct support of Land Armies--1/4 with Seventh Army in Belgium-Holland (to Breda); 1/5 with Second Army in the Ardennes; while 11/4 and 11/5 covered the east of France or reinforced the Second and Third Armies with "loaned" units. After the Wehrmacht successfully broke the Ninth Army at Sedan, Curtiss "Escadrilles" were constantly flying over Second, Third and Sixth Armies, "pivot" divisions. Normal bases remained the same as prior to 10 May (Wez-Thisy, Suippes, Toul and Xaffevillers) but flights operated mainly from advanced secondary (satellite) bases.

During May fighting conditions were not good--crews



Pilots of GC 1/5, 1st Escadrille in June 1940, from left: Sgt Muselli (10 victories) S/C Vuillemin (13), Sgt Perina (13), Lt Marin la Meslee (20), Cne Accart (15) (slight face injury day before photo) and Lt Rouquette (14). (Brian)



Number one French ace in 1939-40 was Lt Marin la Meslee with 20 victories, seen in his Hawk. (E.C.A. CTAir5432)



Sergeant-Chef Morel of GC 1/5 who was killed on 18 May 1940 after 12 victories in 8 days. (E.C.A. CTAir7934)

were tired, German numerical superiority was increasing, orders were transmitted slowly leaving insufficient time to prepare for action, and early warning was totally insufficient. Logistic support, on the other hand, was not too bad. Damaged plane repair work, new plane delivery organizations and vital supply deliveries (fuel, meats, ammunition) were functioning properly.

The most skilled pilots added victories to victories and began winning fame. These included Lt Marin la Meslee, Capitaine Accart and others, alas forgotten. The greatest name was that of Marin la Meslee. This fine pilot, Escadrille commander of 1/5 sharp shooter and excellent formation leader, was 1940's top-scoring French ace with his 20 victories. Two other pilots deserve more than passing mention.

Sergeant-Chef Morel, of 1/5, was killed on 18 May 1940 when attacking a Heinkel He 111 bomber formation at close range. He died during his parachute descent and it was sometimes said that he was hit by a French rifle bullet (the 1940 French Infantry considered any parachutist in the sky to be an "enemy paratrooper"). Actually, such a happening has never been confirmed, and S/C Morel was probably mortally wounded by enemy defensive fire passing through his unarmored windshield. Ten of his victories were scored between 10 and 18 May.

Lieutenant Houze, of 11/5, was not only a fine pilot but also a remarkable formation leader (he was leader of the nine French fighters during the famous 6 November 1939 combat). After 5 official victories he was in the act of shooting down a Messerschmitt 110 (6 June 1940) when his own aircraft was set on fire. He bailed out and landed safely in "no man's land". A small motorized rearguard French unit rescued him, but he would not accept being sent to the rear and requested a rifle so that he might fight with the infantry. This he did, and two hours later he was killed in action.

After the disaster of Dunkirk, the French High Command organized a new defensive front, and it was supported by a complete base redeployment of F.A.F. units. Fighter units, including three of the Hawk Groupes, occupied airfields along the Seine River Valley and in the Paris region. Only 11/5 remained at its winter base (Toul) and that was not for long. From 10 June, when the Germans again pierced French defenses, all units moved constantly evacuating one base after another before the threat of the enemy's panzers.

Curtiss Hawk pilots continued to build up their scores as the F.A.F. tried to stop, or at least slow German columns by sending all available bombers and assault planes against them. Curtiss formations protected these attacking units and also carried out interceptions of numerous Luftwaffe bomber formations and Stuka units. But gallantry could not overcome the

handicap of a Supply system that was progressively destroyed during the retreat. Lack of spares and constant road travel of ground crews prevented repair of most damaged airframes so that in a very short time units could not operate their normal establishment of aircraft. Weather also interfered, but it hampered air-supported German forces equally.

A number of Morane 406s were frequently used to carry out cannon attacks on German panzer columns, but Hawks were never sent on such costly ground attack missions, probably because of their light armament. One ground Strafing mission by Hawks did occur on 3 June when several 11/5 planes surprised and destroyed a number of Do 17s on an airfield at Bezzy-an-Bac.

By the middle of June both the tactical and logistical situations were critical as the F.A.F. worked on without direct RAF help and with the Regia Aeronautica in the war in the south. Under such conditions the performance weaknesses of the Curtiss Hawks were resented more than ever. (The planes were so desperately needed.) No advantage could be gained from the very small number of Hawk 75A-4s then delivered to the squadrons—their Cyclone engines acquired a very bad reputation. These planes suffered frequent mishaps and pilots thought the new engine did not compare in quality with the Pratt & Whitney R-1830. Such a bad reputation appears curious, however, as various sub-types of the Wright-engined Curtiss fighters served other Allied air forces, notably the RAF, without trouble. But for the F.A.F. in France or North Africa troubles occurred each time the planes were pushed to their performance limits. Engine seizure, rod failures and so on were common results at maximum RPM, and rarely did an R-1820 give more than 10 hours of useful life, the average being six to seven hours.

From 7 June a fifth unit began to operate with Curtiss fighters after a short training period. This was GC 111/2 which had previously flown Morane-Saulnier MS 406s and suffered losses, notably during ground attack actions. This Groupe did not use Hawks for a long period, but it did make good use of them. During only one day, 13 June, its pilots shot down 8 enemy aircraft.

After 10 June the total number of missions flown by the French Air Force decreased steadily, Curtiss units remained active and added a new type of operation—visual reconnaissance to help local commands that were often without normal photo reconnaissance services. In one such action, to localize advanced enemy elements, the commanding officer of 11/4, Cdt Borne, was killed by flak on 16 June. Soon after this, Hawk 75 units crossed the Mediterranean with GC 1/4 and 111/2 moving on 18 June, 11/4 on 19 June, and 1/5 and 11/5 on 20 June.

During the Battle of France the most often encountered enemy types were: Do 17s and 215s on recon flights,

Do 17 and He 111 bombers, Ju 87 Stukas, Hs 126 observation planes, and Bf 109 fighters. The last German plane to be destroyed was an Hs 126. As in most air forces there were recognition errors leading to claims over such types as the He 113 and Hs 124 while actually Bf 109s and Do 17s were encountered,

AFTER JUNE 1940 and TORCH

When the Armistice took effect, 25 June, all five Curtiss units were based in North Africa, initially the Armistice Convention prohibited the use of French warplanes, and Hawk 75s were disarmed and emptied. Such orders were reinforced when many pilots showed a desire to escape, with their planes, and resume fighting on the side of the RAF.

Disarmament measures were slowly accepted and when the British Navy suddenly attacked French warships moored at Mers-el-Kebir (3 July 1940) aerial defense of the base was quickly assumed by Curtiss fighters of 1/5 and 11/5. Their cover seriously limited danger from aerial mines and torpedoes. "Enemy" naval aircraft were often repelled and four Blackburn Skuas were destroyed, on 3 and 6 July, by planes of the low altitude cover (those of 11/5). In fact, only two Skua fighter-bombers were officially credited to pilots, the others being probables (including one that stalled, spun and hit the sea after attempting to follow a Hawk taking deliberate evasive action).

This disastrous affair had two important consequences. First, few pilots tried to escape after it, and most no longer hesitated to fire their guns at British targets. Massive escapes had been projected (crews escaping with their planes) for 7 to 10 July, but the Mers-el-Kebir attack provoked the pilots' dislike and such projects were definitely cancelled--later there were pilots still

trying to escape individually, but they were relatively few. [4] Second consequence was that members of the German and Italian Armistice Commission recognized this new anti-British sentiment and no longer totally prohibited French military aircraft from operating. Only the numbers of units and crews were reduced. In fact, reductions had begun before the Mers-el-Kebir attack. Reserve Service pilots (officers and N.C.O.'s) had been demobilized and GC 11/4 and 111/2 were disbanded.

The remaining Curtiss Hawk units were based in Morocco (1/5 at Rabat and 11/5 at Casablanca) and in Senegal (1/4 at Dakar). The latter was reinforced during the winter of 1940-41 by 11/5 which twice ferried its Hawks across the Sahara Desert without any trouble beyond minor navigational problems. During the next two years there was relative peace, but some bursts were fired occasionally at British planes breaking Vichy neutrality by flying over French-controlled territory. In such an action, an RAF Vickers Wellington was shot down by a 1/5 pilot.

With November 1942 the U. S. and British Allied forces launched an invasion of North Africa, code named TORCH. With the invasion French forces fought from November 8th to 11th before joining with the "invasion" forces to face the common enemy--the German-Italian Axis. The two Curtiss-equipped Groupes (1/5 and 11/5) were in the U. S. landing sector, and they encountered only U.S. Navy planes. These carrier-based planes initially attempted to destroy French aircraft on their bases, and they were successful, notably putting out of action many of the F.A.F. bombers.

Many French units suffered heavy losses even before they could attempt to take off. F.A.F. DB-7s at Casablanca and Navy Martin 167s at Port Lyautey were destroyed during or just after bomb loading. Actually a projected attack against U. S. naval units at sea, to be



Hawk. 75 A-9, with Wright R 1820 engine, captured by the Germans and bearing No 50, probably from the A-9 series.



Line-up of GC 11/5 2nd Escadrille planes in 1941 with high line and very light undersurfaces. (Mutin Coll.)



Lt Boudier's No 202, 11/5 2nd Esc, at Oran, 6 July 1940. Same day this plane caused Skua to spin in. (Gisclon)



No 267, 1/5 2nd Esc, formerly a 11/4 aircraft as shown by retention of "Petit Poucet" insignia. (Langlade)



Cne Marin la Meslee's personal Haw). No 217 flying over Rabat, Morocco in the spring of 1941. (Langlade Coll)



Line up of 1/5 1st Escadrille Hawks at Rabat base on 15 March 1941 . Aircraft 5 is No 307. (Col Brian Coll.)



Hawk 75 A-3 No 224 on 29 October 1941 in Vichy markings. This is same plane as at bottom of page 16. (Col Brian)



The last Wright-engined fighter, A-4 No 4, of 11/5 with pilot, Lt Ruchoux in June-July 1942. (Cdt Gisclon)



GC 1/5, 2nd Esc Hawk crashed after 8 November 1942 combat with U. S. Navy planes. Pilot, Lt Pluveau. (Brian)



Hawk 75 A-2 No 176 shown at Meknes "Ecole de Chasse" in North Africa during 1943 or 1944. (E.T.A, Air R 284)



Three Hawks, including A-1 No 64 in foreground, takeoff for operational training mission, '43-44. (Air R 285)



A post war Hawk, A-1 No 51, without armament at Cazaux in France during October 1945. (Photo - Mr. Hutin Coll)

carried out on 10 November, was cancelled due to lack of bombers. Contrary to heavy bomber losses, only a part of the Moroccan-based fighter force was destroyed. From dawn of 8 November, Hawks of the Rabat-based 1/5 and Casablanca-based 11/5 and Dewoitine D 520s of the Navy were very active. The 2nd Escadrille of 11/5 was, at this time, just reequipping with 0 520s, but its planes were not operational due to cannon shortages and its pilots fought with Hawks (the only D 520 losses of this unit being accidental).

Planes of 1/5 gave escort to French bombers attacking the U. S. beachhead at Fedala. The pilots do not appear to have adopted offensive tactics and concentrated on protecting friendly formations by making a screen between them and intercepting Grumman Wildcats. After long service the Hawks were no match for the Wildcats and when jumped they proved vulnerable to .50 caliber machine gun fire. Four were shot down and one crashed (2 pilots being killed), and one Wildcat was destroyed. There was apparently some lack of enthusiasm to fire at American targets, but the second Moroccan Curtiss-equipped unit was involved in far more severe dogfights and pilots had "to kill or be killed".

GC 11/5 Hawks were put in an alert position as the approach of the U. S. fleet had been observed. They then scrambled to protect Casablanca's installations from the bombing of Douglas SBD's and the strafing of F4F Wildcats. The first pilots to take off discovered the nationality of their adversaries only when they saw the star in circle insignia on their planes. They were greatly outnumbered, and the first five Curtiss fighters to get into the air were shot down and their pilots killed (including the commanding officer of the Groupe, Cdt Tricaud, and one Escadrille leader). The air battles lasted for some hours and cost 11/5 six pilots killed and ten planes shot down. U. S. losses were a minimum of seven Wildcats [5] and a floatplane, probably a Curtiss SOC. Few of the Groupe's Hawks were able to fight when the fratricidal aerial combat ended.

The tragedy of this day was also ironic. Total losses for GC 11/5 in the complete 1939-40 campaign had been but two pilots. On 8 November 1942 U. S. Navy pilots killed five (a sixth was accidental) during a few hours. Cdt Tricaud was killed after surviving three bail-outs during the campaigns in France.

The day marked the end of French Hawk 75s in operational service. Surviving planes were relegated to training duties and used in North African school bases (mainly at Meknes' "Ecole de Chasse") during 1943-45. There were still some flyable Hawks in France from 1945 to 1947. Although the aircraft were retired, the squadrons continued on.

On the Casablanca base, after the U. S. Landings, the Lafayette insignia attracted considerable attention from the Americans there. Colonel Willis, a WW I pilot with the Lafayette Escadrille who was said to have personally originated the Indian Head insignia, was among them. The interest aroused by the insignia was the reason for the early reequipping of 11/5 with modern aircraft, again Curtiss fighters. The unit became the Groupe Lafayette and quickly resumed operations against the Axis powers flying P-40Fs. GC 1/5 was reequipped with P-39 Airacobras during 1943, as was GC 1/4 after an interim period with Dewoitine D 520s. By the end of WW II all three units were operating Republic P-47s.

CURTISS HAWK 75 EVALUATION

For years the Curtiss Hawk 75 remained famous, at least in France, and its high reputation seems to have been earned in three ways:

a) War propaganda action. Even before September 1939 the nimble Curtiss product was claimed to be one of the best fighters in the world. It was praised as highly as the Spitfire, was said to be far better than the Messerschmitt, and so on. Even today there are some vestiges remaining of these comments.

b) "First Love". For many Hawk pilots this plane was their first really modern fighter. Never before had they flown a plane with such refinements as retractable undercarriage, sliding canopy, flaps and variable speed propeller. As the Hawk 75 was undoubtedly a good plane pilots retained excellent memories of their "first modern fighter". Does one easily forget his first love object, first girl, first training aircraft or first Jet?

c) Extremely fine victory/loss ratio. As already mentioned, Hawk scores were the best in the F.A.F. in pilot classification, unit classification and in types of plane classification. And the numbers operated did not detract from the type's reputation. Facing a much stronger enemy air force there were less than 300 machines of which less than 200 were flown in combat, shooting down more than 300 enemy aircraft.

Today, it is difficult to consider the first two reasons for the Hawk's fame, but the third remains and necessitates a close study. Were Hawk 75 qualities sufficiently important to alone justify the type's superiority? Or were there other contributing factors such as tactics or piloting skill? Perhaps the best way to arrive at an answer to these questions is to separate the various points and study each independently, starting with the several categories of Hawk 75 qualities.

PERFORMANCE - If we except numerous contacts with enemy bombers and recon planes, the main adversary of the Hawk was the Messerschmitt Bf 109E, and it is easy to compare these two fighters. The Hawk 75 had fine handling characteristics which gave its pilots marked superiority in level maneuverability. All French pilots had full confidence in their ability to out-maneuver 109s by always "turning inside". Of course, this ability did not give it complete superiority in a dogfight as shown later by the Japanese Zero, and it was only valid in a horizontal plane. Enemy pilots quickly learned to evade a Hawk's attack by vertical maneuvers since their machines combined better rate of climb with a better dive acceleration.

It is curious to note how long-lived some legends can be, such as the one stating the Curtiss dive superiority. Certainly this airplane, with its superb response to the controls, handled well, if not outstandingly, up to its speed limit, but in combat it was not the faster diving machine. The Messerschmitt's aerodynamic qualities, superior power and higher level speed enabled better acceleration. As soon as a diving maneuver began the German machine gained the advantage. In many cases, also, the direct injection DB 601 engine favored vertical maneuver, for never in a sudden dive would negative "G" affect the running of the engine.

With diving superiority, plus better rate of climb, a higher ceiling and faster level speed German pilots had full liberty to dictate the terms of a battle with a Hawk. They could attack when they desired and break away without serious risk..

The few A-4s delivered were only marginally superior to the older Hawks. French pilots became progressively more anxious to receive the new Curtiss P-40 fighters which were said to possess vastly improved performance, thanks to their Allison inline engines. However, they would not receive this type for two and a half years, and during 1939-40 they constantly regretted their Hawk 75's inferior performance. Not only was it a handicap in fighter versus fighter combat, but it often permitted fast German bomber types (Do 215s and Ju 88s) to escape.

ARMAMENT - Hawk armament comprised 4 or 6 Browning, F.N.-built machine guns (two in the engine cowlings, two or four in the wings). Excellent as these weapons were, their hitting power was noticeably insufficient. The French had favored the 20 mm cannon weapon since the early 1930s and had never intended to adopt intermediate caliber weapons such as .50 caliber and 13.2 mm machine guns. This policy negated any immediate remedy to the armament weakness of the Hawk 75. The possible replacement of 7.5 mm machine guns by .50 caliber U. S.-made



Equipped with the full six gun armament Hawk A-3 No 224 was with 1/5 1st Esc, 25 October 1940. (Col Brian Coll)



Hawk 75 A-2 or -3 at Meknes in 1943 or 1944 carried armament of only four machine guns. (E.T.A. Terre 1604)

Brownings was seriously considered, but it never materialized. The only remedy accomplished was the addition of two more wing guns to the A-2 type and subsequent models. During the severe winter of 1939-40 these guns suffered some freezing problems which were inherent to high altitude interception missions.

In contrast, German planes carried remarkable guns (they rarely froze) and all first-line 1940 fighters were cannon-armed with either two or three Oerlikon MG FF weapons. These gave their pilots the possibility of firing shorter and more devastating bursts at longer range. German bomber crews manned only single, hand-operated machine guns, but they were accurate and fast-firing MG 15s that caused Curtiss pilots some trouble. The Hawk 75 did not possess an armored windshield to protect the head of the pilot, and with low-power armament the Hawk pilots were obliged to remain in firing position for a long time to destroy an enemy aircraft. (In one Escadrille of 11/5 7 pilots had to bail out during 1939-40 fights—5 of these were shot down by He 111 gunners.)

The lack of an armored windshield was most important for not only could pilots easily suffer face injuries but there was probably a psychological affect forcing premature breaks during combat. In contrast to this lack of protection on the Hawks, numerous French pilots reported contact with "armored" and "invulnerable" enemy bombers. It is well known today that the Do 17s and He 111s they met were quite vulnerable and protected only by light armor, but even that was sufficient when the interceptors were Hawk 75s with a limited number of light machine guns.

Armament deficiencies in the 1939-40 winter are exemplified by one story. A section of three Hawks attacked a single high-flying Do 17P (or 215B) but their wing guns froze. Pilots then used only their nose guns, firing all their ammunition, but achieved no apparent results. During the Battle of France, all six guns usually operated, but generally several series of bursts with each registering strikes, was required to achieve a victory. Many Hawk pilots, previously having flown Morane 406s and Dewoitine 501s and 510s with 20 mm cannon, felt that their "all light guns" armament was a setback, and it was.

In one way, however, the light armament of the Hawk was offset by the rugged construction of its airframe and the sturdiness of its engine. Many pilots returned to base despite heavy enemy punishment, and even today the survivors readily recognize their debt to the ruggedness of the Hawks. During the 1940 retreat, many damaged airframes were destroyed because of the fast-advancing enemy panzers, but if the front had been static, many of these machines, after saving the lives of their pilots, would have been repaired and used again.

ENGINES - Pratt & Whitney engines were highly praised by French pilots and engineers. Used in the Hawk, as

well as 167 and DB-7, the R-1830 engines acquired such a reputation for dependability that they remained in use for twenty years. The Hawk 75 engine was said to "run like a clock", and during the retreat, few machines were destroyed because of engine troubles.

In contrast, there was the extreme unreliability of the Wright R-1820 engines of the Hawk A-4s. However, it must be noted that before these troubles manifested themselves pilots highly praised the better performance in speed and range permitted by the use of this engine. During the retreat to Algeria, several A-4s crossed the Mediterranean at cruising power without trouble. The A-4s were often re-engined with R-1830s of which there were stocks in North Africa, and the A-4s delivered in 1943 (from the West Indies) were similarly converted to A-3 standard, even before being flown.

The exact reason for the fragility of the R-1820 engine is unknown and will probably remain so forever. During 1939-40, however, there were sabotage actions, and the engines were possibly damaged before delivery to units. Deliberate damage of French war industry products was frequently caused, not by Nazi agents, but by Communist fanatics (Russia was then the ally of Hitler), and several workers were executed for such actions, the best known case occurring in the Farman factory. Another possibility is that the engines were poorly stored.

COMPARISONS - When compared to other 1940 F.A.F. fighters the Hawk 75 was: more maneuverable than the Bloch 151 -152, faster than the Bloch types or Morane MS 406, stronger than the Morane or the Dewoitine D 520, and inferior in armament to all these types. Following is a comparison of the Hawk to its main adversary, the Bf 109E-3, and the other famous French fighter of 1940, the Dewoitine D 520. [6]

	Hawk 75 A-3	Bf 109E-3	D 520 S
Weight	5170 lbs	5740 lbs	6130 lbs
Engine	R 1830 S1C3G	DB 601 Aa	12Y-45
Combat power	1050 hp	1100 hp	910 hp
Max. speed	311 mph	354 mph	330 mph
at	10,000 ft	19,700 ft	19,700 ft.
S. L. Climb	2340 ft/min	3100 ft/min	3400 Ft/min
Serv. Ceiling	33,700 ft	36,000 ft	36,000 ft
Armament	6 X 7.5 mm	2 x 20 mm 2 x 7.92 mm or 3 x 20 mm	1 x 20 mm 4 X 7.5 mm
Fire Power	2.90 lb/sec	6.25 lb/sec	4 lb/sec

TACTICS - For any mission, be it ground attack or escort or interception and pursuit, the basic French formation was the 9 plane Escadrille (called in the air, "patrouille triple") made up of three sections ("patrouille les legeres") of three planes each. This basic

formation was inherited from WW I and was in general use between the two wars. It was rendered obsolete by the Luftwaffe's adoption of the light and maneuverable two-plane team principle.

Actually, the use of the three-plane element was a handicap, but it was not overly severe for two reasons:

a) Curtiss fighters specialized in bomber destruction as their relatively inferior performance eliminated them from any French attempts to gain local air superiority by fighter versus fighter action. Attacks on bombers or recon planes could be made without serious disadvantage by the heavier formation element. Later, during the war, very large numbers of elements had to be used for attacking bomber formations.

b) During dogfights French pilots seem to have frequently adopted the two-plane principle, intentionally or not, is unknown. Actually, the abrupt end of the war seems to have just precluded the F.A.F. making this tactical change which was made by the Royal Air Force during the Battle of Britain.

Attacks on bomber formations were not an elaborate thing. Successively the three-plane sections made firing passes and tried, first, to eliminate the dangerous dorsal gunner and, later, to knock out the engines of the enemy bomber or to set it on fire. With only a slight speed margin, and the necessity of firing long bursts, the Hawks were kept in the bombers' defensive firing range for long seconds. To destroy an enemy bomber some luck was necessary, plus sharpshooting. Of course, laterally-positioned and isolated planes were attacked first.

Things became more complicated when fighter escort was present for the bombers, and during the Battle of France this was the general rule. Host Luftwaffe missions were directed against targets less than 200 miles from the front and could be made under constant Messerschmitt cover. To protect themselves from enemy fighters the three sections of an Escadrille flew at different altitudes. The higher section was thus able, in theory, to counterattack any enemy plane attempting to get in firing position behind the lower sections. The more numerous 109s, however, rarely left the high cover unattacked, and generally attacked it first. This top cover, never high enough to be above enemy staffs, gained such unenviable nicknames as, "Patrouille du Bon Dieu" ("God Patrol"), and pilots considered themselves "uncomfortable targets".

Perhaps they were targets, but they were not sitting targets. When attacked, a Curtiss pilot's normal reaction was: "Avoid vertical maneuver, use level turning superiority to keep the 109 pilot from firing accurately...but not too much, to maintain the enemy's hope (of a victory) and give an opportunity to other friends to shoot him down!" Such tactics required highly-skilled men, well-trained in team operations and with extreme self-control. In the event, only overly willful German pilots were caught in these traps. Sufficient experience and severe discipline in the Luftwaffe's ranks would have virtually zeroed the dogfight successes of Hawk pilots. And German pilots would have probably shot down many Curtiss fighters by adopting some maneuver to take advantage of their superior ceiling, fire-power and rate of climb. A "dive, bounce, climb" tactic gave devastating results among slower French fighter's when first used on 31 March 1940-destroying seven Morane MS 406 fighters. At that time French Air Force commanders feared the general adoption of such a maneuver by enemy forces, and they noted there was not a satisfactory solution to counter the tactic when their pilots flew MS 406s, Hawk 75s or Bloch 151s.

Initially the Messerschmitt Bf 110 was respected by French pilots as a result of its propaganda fame. This respect quickly disappeared, however, as it was recognized that this heavy twin-engine fighter combined the worst characteristics of German bomber and fighter design.

HUMAN FACTOR - In assessing the human factor it is necessary to remember how young the Luftwaffe was at the

beginning of WW II. It was but five years since it had been created following the Nazi rise to power. On the other hand, the French Armée de l'Air was an old command (even though it had only obtained autonomy during the mid-thirties), and its crews had notably superior flying time and experience. As Curtiss-equipped units were among the elite of the F.A.F., their average pilot, who had successively been trained on Nieuport 62s in 1932-33, on Dewoitine D 500s from 1934 to 1939, and then on Curtiss Hawks, was undoubtedly superior to the average German pilot. It is also true Hawk units included few young and newly-trained pilots.

Two examples of the age and experience of French pilots show: The commanding officer of 11/5, Cdt Hugues, was a 12 victory World War I ace. From 1918 to 1940 he had continuous fighter pilot training in reserve units (similar to the British Auxiliary Air Force or the U. S. Air National Guard). In GC 1/5 there were only two very young (just "winged") pilots, one for each Escadrille.

From the beginning of 1940, a number of Czech pilots reinforced Curtiss-equipped units. All were highly trained, ex-Czech Air Force fighter pilots and they formed fine teams with their French colleagues. They hated Germans and continuously proved this fact, their survivors later fighting with RAF Fighter Command. One of these Czechs was Sgt (later S/Lt) Perina of GC 1/5 who had been selected by the Czech Air Force to fly in the 1937 Zurich International Military Competition. He was known as one of the best Czech sharpshooters even before destroying Luftwaffe planes over France,

All F.A.F. pilots possessed a highly-developed "esprit de corps", had superb confidence in their individual skill, and were highly trained in combat tactics. After the way these men proved their mettle in facing the superior Bf 109s, it would be difficult to be contemptuous of their gallantry. This is especially so when it is remembered that discipline was never famous as a typical French quality, but that surviving pilots feel that a "severe flight discipline" was one of their most important attributes.

During the early months of 1939, French war pilots thought their opponents were often either young pilots in late operational training stages, or pilots who were severely limited in action by orders. During 1940 operations such inferiority only partially disappeared. The lone superiority of their adversaries came from the real fighting experience gained in Spain, but a relatively few German pilots had received such "life training."

Apparently, no Spanish Civil War French volunteer pilot could communicate his fighting experience to the F.A.F. There were "spare" volunteers but no "official" F.A.F. units in Spain, such as the complete squadrons operated there by the Italians, Germans and Russians. The French received only the advice of observers or "so-called" experts, and that "test conflict" does not appear to have led to any French tactical or material modifications before the beginning of WW II. Later projects or specifications, however, did include such "gadgets" as dorsal pilot armor, first developed in Spain.

HAWK 75 CAMOUFLAGE AND MARKINGS

CAMOUFLAGE - The first Hawk 75 A-1s delivered in 1939 were left in natural metal finish. During the summer of 1939, May to June, the threat of war led to an order to camouflage all F.A.F. aircraft, and Curtiss fighters received standard French camouflage colors. Medium grey, medium brown and forest (dark) green were applied on upper and vertical surfaces. Sprayed patches were not positioned to a deliberate scheme, although in some cases the same delivery batch of planes could have received similar color distributions, and the junctions of the different colors were irregular. Undersurfaces were generally painted sky-blue or, rarely, light grey. The horizontal division line was irregular and varied

H75 ESCADRILLES INSIGNAS

Below : GC I/4 Insignas



Above : GC II/4 Insignas

Below : GC I/5 Insignas



Above : GC II/5 Insignas

Right : GC III/2 Insignas



JMC 65

considerably from one fighter to another. The rear fuselage sides, under the tailplane, were sometimes included as camouflaged surfaces and sometimes they were not.

From the end of 1940, Hawks frequently required repainting, and the renewed camouflage appeared with neater separation lines between colors. Chosen colors differed from place to place or from one unit to another. West African-based Hawks received new three-tone paint combinations of sand, brown and green, but Moroccan-based planes progressively received two tone schemes adopted for Vichy North African-based aircraft of grey and brown. In some cases a grey and green combination may have been used. There were, at this time, frequent similarities in the distribution of paint patches, at least within the same Groups.

After the November 1942 allied landings, camouflages were again renewed (to mask Vichy markings) and grey and green combinations seem to have been the most used, if not the only combination used.

NATIONAL MARKINGS - At the beginning of WW II the standard French tricolor roundels (blue, white and red from the inside out) were painted on both sides of the wing without any outline, and directly over the camouflage finish. Initially, in the middle of 1939, the upper wing roundels were extremely small having a diameter of less than a foot. The rudder was also tricolor painted, with the blue foremost. In mid-1939 the tricolor covered only part of the rudder, but from the end of 1939 on, it covered the entire rudder.

During the spring of 1940, all French military aircraft received fuselage side roundels. The position of these varied from one type of plane to another, but they were generally placed in the space between the pilot's rear-view transparent panels, wing joints and radio set compartment, partially covering the left side door of this compartment. In June 1940 the white part of the roundels on wings and fuselage were often rendered less conspicuous by some shading or mottling with grey or black which gave the white a dirty appearance.

After the Armistis, and the British attack at Mers-el-Kebir, it was necessary to make "neutral" French warplanes easier to identify and new markings were added:

1) A long white horizontal band was painted along each side of the fuselage, merging with the white outline added to the fuselage roundels. The length and width of the bands varied. Sometimes they began just at the rear of the engine cowl and ended at the leading edge of the rudder. All French military planes received such bands by July 1940.

2) During 1941 red and yellow stripes were painted horizontally on the engine cowls, fins and tailplanes of all military aircraft. Probably there were some planes that were not so painted, but these stripes were the most noticeable "Vichy" markings for first line aircraft. Where identification numbers or unit insignias were carried by an aircraft, they were applied (or re-applied) over the yellow and red stripes. After the general adoption of these stripes (often called "slave livery") the Vichy Command intended to eliminate fuselage roundels and bands, and this was begun in the early months of 1942. The changes were only partially accomplished by the time of the Allied North African landings when 11/5 probably had the old style markings, but 1/5 planes no longer had fuselage national colors.

3) All civilian and most (theoretically, all) military planes received thin, tricolor stripes painted obliquely on both sides of the wings. These, however, were probably not painted on all Hawks.

After France's reentry of the war on the Allied side, all Vichy period markings were removed. Simple 1940 type national markings reappeared, and the roundels were then generally surrounded by a thin yellow outline in RAF style. This policy was officially adopted during 1943 but was not fully adhered to on all planes before 1945. Often Hawks had an outline roundel at one place but not at another. Post war Curtiss Hawks received a coat of aluminum paint, but they were never cleaned up

to their bare metal finishes.

UNIT INSIGNIAS - Ten Escadrilles used Hawk 75s and the author's drawings of the Escadrilles' ten insignias (Opposite) are based on official documents of the 1938-46 period. There were, however, frequent modifications during the life span of those insignias inherited from WW I units and, possibly, differences in the insignia existed from one plane to another. Actually the author could not find any document showing the insignia of the two Escadrilles of GC 111/2 as painted on a Hawk fighter and cannot guarantee the authenticity of their insignias. The insignias were:

GC 1/4, 1st Escadrille (WW I Spa 95): Black and yellow flag with black and white swallow. Frequently this flag was more sophisticated with wind-made waves. The drawing shows the most common shape.

GC 1/4, 2nd Escadrille (WW I Spa 153): An Egyptian Stylized gypact, red and silver, with magic ring. This insignia was rarely modified throughout its existence.

GC 11/4, 1st Escadrille (Spa 160): A red devil flying a broom. Also, rarely modified.

GC 11/4, 2nd Escadrille (Spa 155): "Petit Poucet", Messenger. Officially it was always presented in black and white, but on Hawks it was either brown or yellow.

GC 1/5, 1st Escadrille (Spa 67): Black and white flying stork on brown and red pennant. The insignia has never varied from WW I thru 1965. Another unit (1/2) had the same stork without pennant--Guynemer.

GC 1/5, 2nd Escadrille (Spa 75): Gold eagle. This insignia varied since the original form (golden chest insignia) was difficult to reproduce. Prior to WW II it was often painted inside a white oval.

GC 11/5, 1st Escadrille ("Lafayette"): Indian Head. This insignia was sometimes painted with a closed mouth, notably during the 1940-42 period. The number of feathers also varied. The lines of the swastika were sometimes reversed for evident political reasons. (It is interesting to note that the 1939-40 war cry of this unit was the Indian phrase, "Hug, Hug, . ." [ugh, ugh] and a tribute to their Commanding Officer, Cdt Hugues the WW I ace.)

GC 11/5, 2nd Escadrille (Spa 167): Black and white flying stork. This was the WW I Fonck unit insignia and it never varied.

GC 111/2, 1st Escadrille (Spa 83): Black chimera (mythical animal) on red circle, it was varied considerably during the years and the version shown is the most probable form.

GC 111/2, 2nd Escadrille (Spa 100) : Red, black and white swallow flying inside an azure blue circle. Evidence is that only the circle varied over the years.



The drawing above shows the five standard positions where insignias, and individual numbers, were placed on 1939-42 Hawks.

No 1 - At least two Escadrille insignias, those of 1/4 2nd and 11/4 2nd, were placed here. During the Vichy period they could be easily integrated with the forward end of the white fuselage band.

No 2 - This location was used for the stork of 1/5 1st after adoption of the fuselage roundel and for the pennant of 1/4 1st.

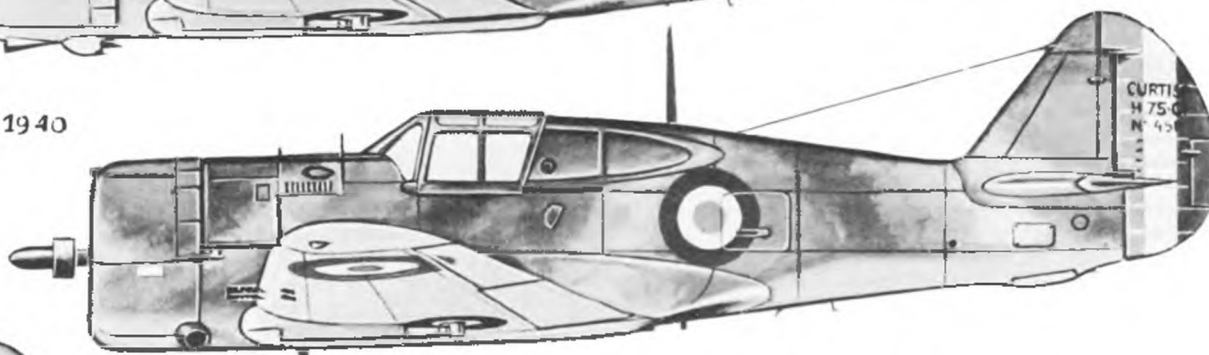
No 3 - This location was only used prior to the adoption, in March 1940, of the fuselage roundel. It was the initial location for the insignias of 1/5 1st

CAMOUFLAGE AND MARKINGS

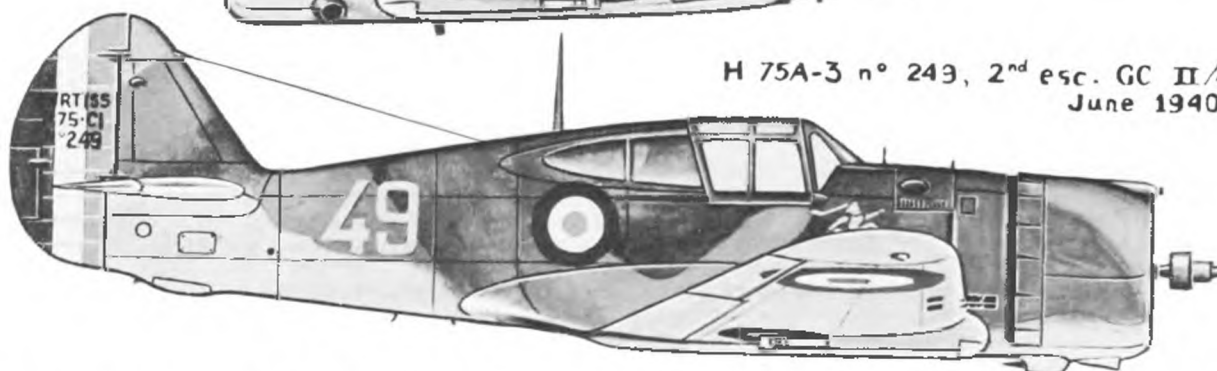
H 75A-3 n° 217, 1st esc. GC I/5
June 1940



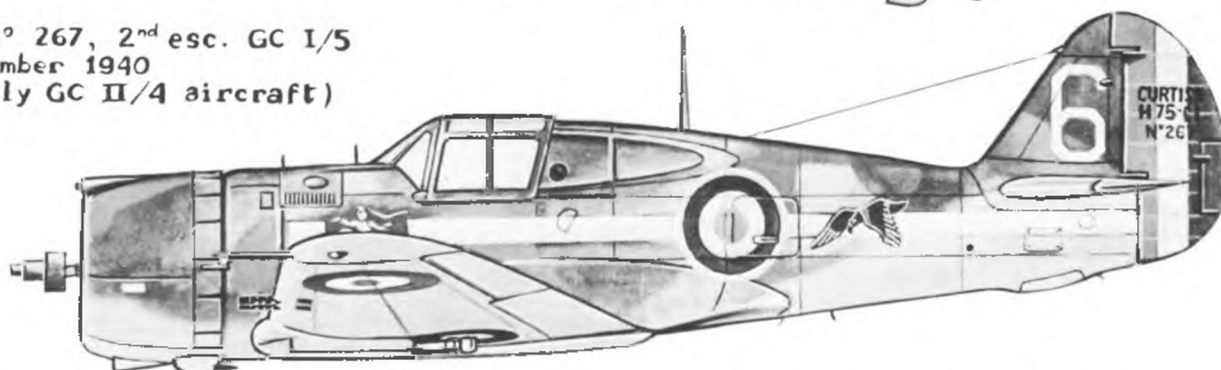
H 75A-4
June 1940



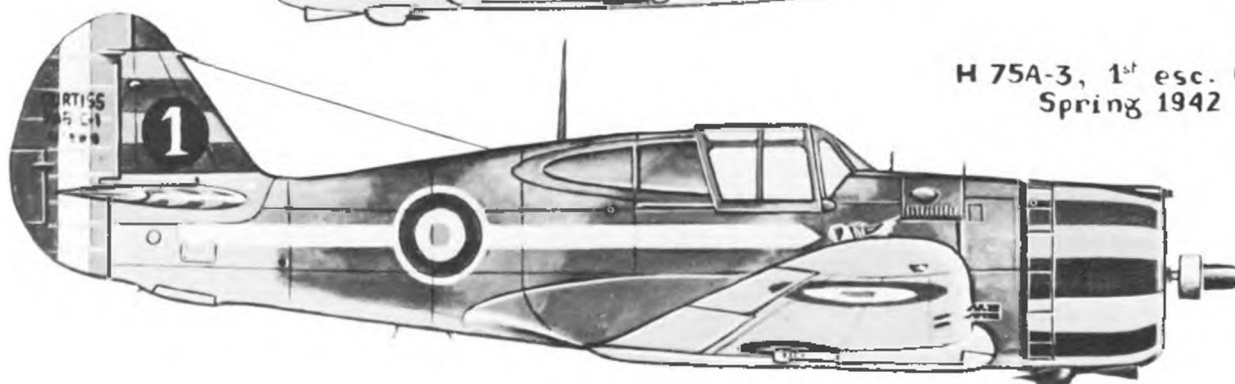
H 75A-3 n° 249, 2nd esc. GC II/4
June 1940



H 75A-3 n° 267, 2nd esc. GC I/5
December 1940
(Previously GC II/4 aircraft)

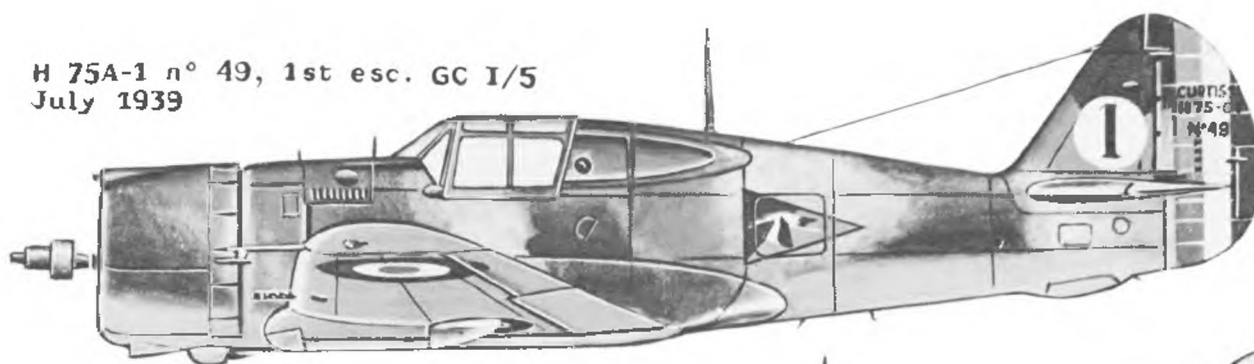


H 75A-3, 1st esc. GC I/4
Spring 1942

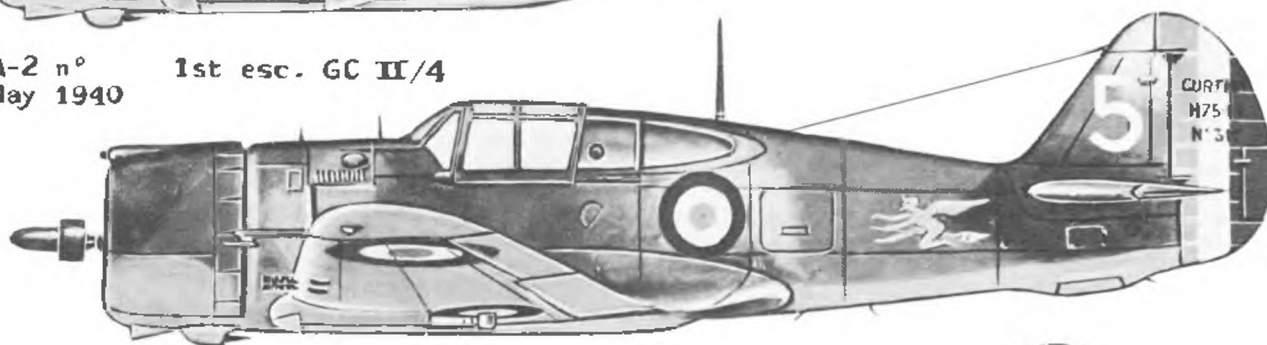


JMC 65

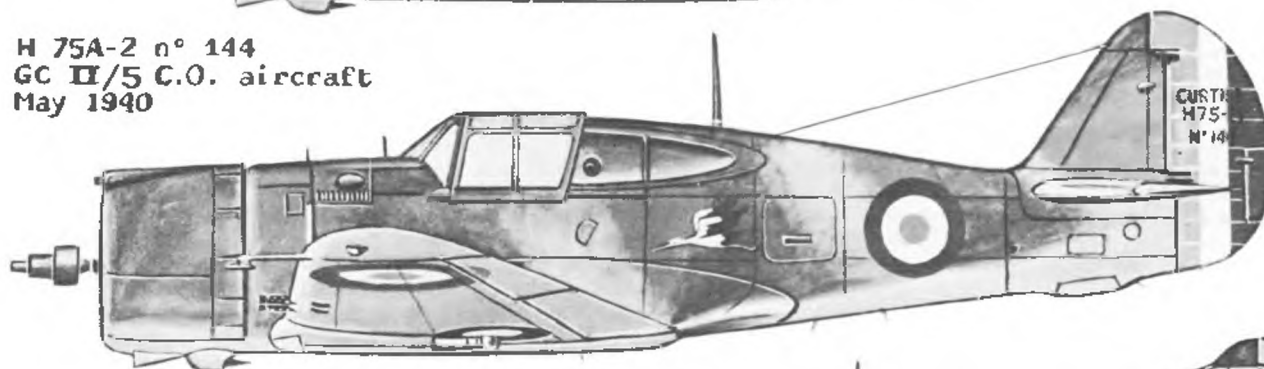
H 75A-1 n° 49, 1st esc. GC I/5
July 1939



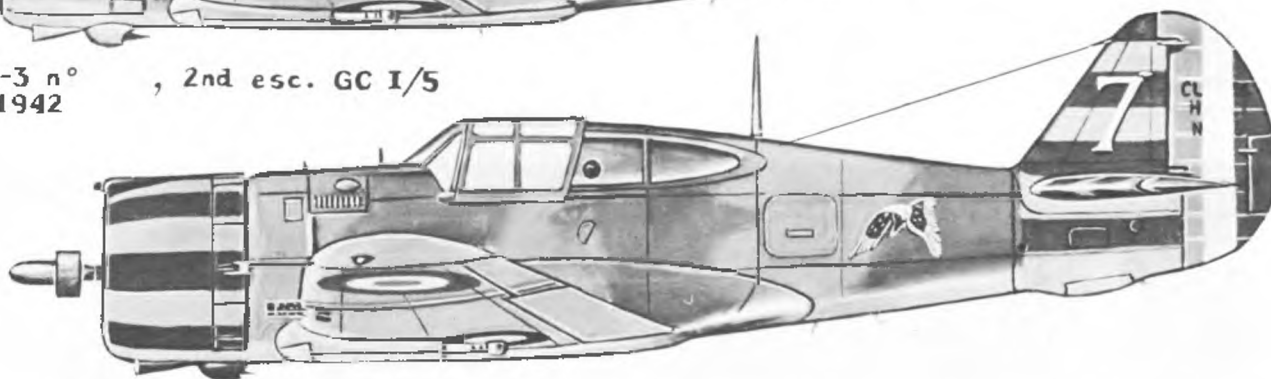
H 75A-2 n° 1st esc. GC II/4
May 1940



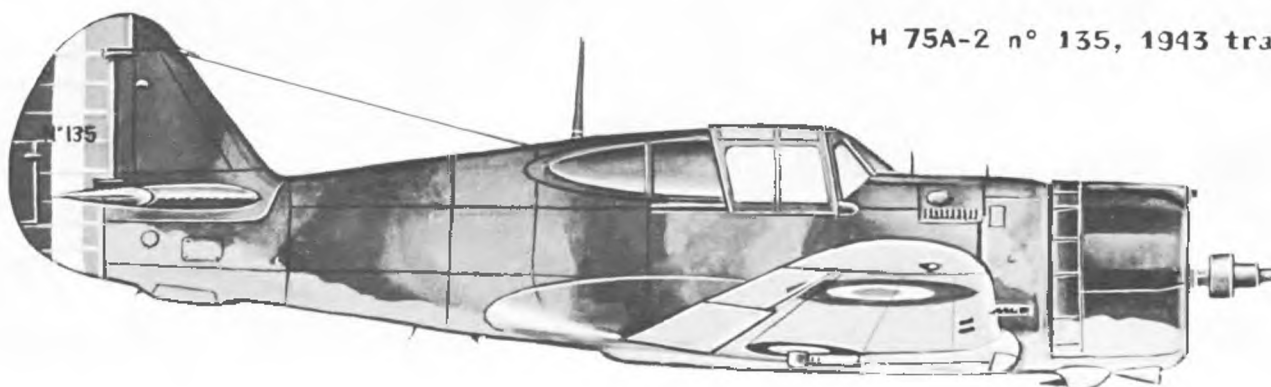
H 75A-2 n° 144
GC II/5 C.O. aircraft
May 1940



H 75A-3 n° , 2nd esc. GC I/5
Nov. 1942



H 75A-2 n° 135, 1943 trainer



and 11/5 1st. After the 1942 deletion of fuselage national markings, it was again in use for some months by 1/5 2nd and probably other units. This location was the traditional one for fighter unit insignias between the years of 1916 and 1938.

No 4 - Several insignias were placed here prior to 1941, namely those of 1/5 2nd and 11/5 2nd, and it became the location for the Lafayette Indian Head (11/5 1st) when the fuselage roundel was adopted in March 1940.

No 5 - The only insignia placed here was the stork emblem of 11/5 2nd during the late Vichy period. Curiously, this location was the most often used by other French fighters and bombers.

One special fact should be noted about the placement of the various insignia--different locations were systematically chosen for each Escadrille of a Groupe to help in their identification. Thus, during the last months of 1939, the insignias of 11/5 planes were at locations No 3 and No 4, and during the summer of 1940 the insignias of 1/5 planes were at locations No 2 and No 4.

Some Escadrilles adopted colors to further aid identification. In GC 11/5, the 1st Escadrille (Lafayette) had oblique green bands painted on the rear fuselage of its Hawk 75 A-1s. Other Escadrille planes were recognized by red-painted propeller spinners and outside wheel discs. During the heavy fighting in the summer of 1940, the frequent changes of aircraft prohibited this system from being steadily maintained.

The Commanding Officers of GC 1/5 and 11/5 tried to make their own planes easily identifiable by the use of abnormal insignia locations. Cdt Murtin, of 1/5, had the two Escadrille insignias of his Groupe painted inside a shield on the fin (position No 5 which was otherwise unused by GC 1/5) of his Hawk, No 321. Later some planes had both Escadrille insignias painted on their fuselage sides, that of the 1st Escadrille above the white band and the other below. Cdt Hugues, 11/5, had only the 2nd Escadrille's stork on his aircraft No 144, but it was painted forward of the radio compartment door, ahead of position No 3.

There were other cases of two different insignias being on the same plane. After the disbanding of GC 11/4 in 1940, active pilots of this unit were transferred to other Groupes. Several of them obtained permission to add the 11/4 insignia they had used on their new planes as a personal insignia, supplementing the insignia of

their new unit. So it is not astonishing to discover photos of planes with pre-July 1940 insignia and post-October 1940 white bands. The same thing happened with other pilots from disbanded units.

INDIVIDUAL PLANE MARKINGS - All Hawk 75s received production numbers that were stencilled on the rudder:

Hawk 75 A-1	Nos 1 to 100
Hawk 75 A-2	Nos 101 to 200
Hawk 75 A-3	Nos 201 to ---
Hawk 75 A-4	Nos 1 to -

The use of the same number range for the A-1s and A-4s was quite unusual. In a normal French system the Wright-powered machines would have been allotted batch numbers from 401 to 500.

French pilots were rarely allowed to paint personal insignia on their planes (exception being multiple Escadrille insignias as mentioned previously), and rarely did a Curtiss fly with individual aircraft markings other than a number. The numbers were painted either on the fins or on the sides of the rear fuselage. Several machines at training bases, in the winter of 1939-40, displayed unorthodox insignias such as one of an "old bearded man".

During June 1940 one Groupe at least, 11/4, flew with only two digits of the plane's production number being retained as aircraft numbers. Hawks No 249 and 267 were this unit's 2nd Escadrille "49" and "67". Units located numbers at different positions to aid Escadrille identification. At least one Groupe, 1/5, used the same range of numbers (1 to 9) similarly located on the fins but painted in a different style for each Escadrille to make identification of the planes of the two units easier. The 1st Escadrille used "Russian style" numbers in orange circles, and the 2nd Escadrille used "squared" numbers painted directly over camouflage or fin stripes. The same GC 1/5 used numbers related more to the pilot's ranks or duties than to the order of teams. As an example, in the 1st Escadrille, Nos 1, 2 and 3 were those of the leader's planes (respectively Cne Accart, Lt Marin la Meslee and S/Lt Brian) and higher numbers were those of the wingmen's planes. There was no official regulation and all other Groupes appear to have numbered their planes in the logical order for three Hawk sections--1-2-3, 4-5-6, 7-8-9. GC 11/4 followed this system before adopting the use of production numbers.

During 1942, GC 11/5 used numbers from 1 to 12 for the 1st Escadrille and from 14 to 25 for the 2nd Esca-



Cdt Murtin's personal plane, Hawk 75 A-3 No 321 of GC 1/5 with fin insignia of the Groupe's two Escadrilles. Photo was taken on 12 August 1940. (Photo - Col Brian Collection)



Striking "Vichy" markings on aircraft "9",

number on fin and under cowl, of GC 1/4 in West Africa, 1942.

(CTAir72451)



No 267 showing two unit insignias, former below cockpit and present on rear fuselage. Spring 1941. (Langlade)



No 249, 11/5 2nd Esc lead plane of Lt Huvet, 1941. Probably shot down 8 Nov '42 when Lt Huvet was killed. (Buge)

drille. The Groupe Commander, Cdt Tricaud, used the intermediate number "13" and Escadrille leaders flew planes "1" (Lt Villaceque) and "14" (Lt Huvet). Sometimes the fin number was repeated on the wings.

From 1943 on. Hawk trainers used in North Africa do not appear to have used numbers, but several Hawks that Survived W II had numbers on their fins when seen in France.

Special markings to indicate numbers of missions flown or numbers of enemy aircraft destroyed were not used in the F.A.F. before 1943. No accumulation of bars, bombs or swastikas was ever painted on French Hawk 75s.

DESCRIPTIONS FOR DRAWING PLATES - Side Views Page

1st Side View - No 217 was plane of Lt Marin la Meslee with three-tone camouflage, grey patches on national markings, and white "2" on orange circle.

2nd Side View - Probably a plane of the C.E.M.A. test center with three-tone camouflage.

3rd Side View - No 249 had a three-tone camouflage finish and probably light blue "49" aircraft number.

4th Side View - No 267 with three-tone camouflage, modified patches covering former "67" fuselage number.

Two insignias show former and present unit; white "6". 5th Side View - West Africa based Hawk with sand-brown and grey camouflage, red and yellow "Vichy" markings, white "1" on black circle.

Side Views Page 27:

1st Side View - No 49 was aircraft of Cne Accart, 1/5 1st Escadrille leader. Three-tone camouflage, black "1" on white circle which was later replaced by white "1" on orange circle.

2nd Side View - Three-tone camouflage.

3rd Side View - No 144 was plane of Cdt Hugues and was severely damaged during the fighting in May 1940. Three-tone camouflage.

4th Side View - Aircraft of Lt Plubeau, severely damaged during November 1942 fighting, with two-tone camouflage

of grey and brown. White "7" on red and yellow stripes. 5th Side View - No 135 with two-tone camouflage over-painted but not completely covering "Vichy" markings. Five-view Drawing on Back Cover: No 35 was part of GC 11/5 1st Escadrille "Lafayette" and was combat-operated in late 1939. Camouflage was standard French three-tone scheme of medium brown, dark green and medium grey with light blue undersurfaces. This camouflage had been hastily applied during the last weeks of peace in August 1939 and a crude matte material had been used which notably reduced performance. Ground crews of the units sand-papered these crude finishes to obtain a finer surface, partly destroying the matte effect of the camouflage but restoring performance. Diagonal fuselage band is green, wing roundels are very small and the rudder stripes do not cover all of rudder. Stenciled legend on rudder is: CURTISS H 75 C-1 No 35. Small characters below were to give weight information but figures have not been stencilled in on this machine.

FOOTNOTES: [1] The author gives total number of enemy aircraft destroyed, adding the official sure and probable victories together. In fact, French regulations were extremely severe for a pilot to be credited with a sure victory. They were the same as used during WW I, prescribing that the wreckage of the enemy plane be found or that its fall be verified by some ground observer. Under these conditions most of the victories obtained over German territory remained in the probable category. During the Battle of France the German advance often frustrated French pilots in attempts to verify sure victories.

The total victories of the F.A.F. used for this article is 935. There were slightly different numbers published by various official sources. Sometimes the number 927 was used as official. The author, after long hesitation and close examination of most famous Croupes' diaries, thinks the total number 935 is close to the number of actual victories (remembering there was a third category, "possible"). He also thinks that similar rules would have made most U. S. 8th Air Force victories probables.

As an example of victory classification, there is the famous 6 November 1939 dogfight in which 9 Hawks met 27 Bf 109s over the Maginot and Siegfried Lines. French pilots claimed 8 enemy fighters surely destroyed and 2 probables. Official propaganda and newspapers announced "nine victories" (perhaps from the false logic that nine pilots equals nine victories). However, crews were credited with only 9 sure and 9 probable victories, in that half of the German planes were shot down on the other side of the Front, too far away for ground observers to verify their destruction.

[2] During the 1944-45 campaign Cdt Marin la Meslee was the commanding officer of GC 1/5. His Groupe was then flying Republic P-97DS, and this remarkable pilot was killed by flak during a ground attack mission in Alsace on 9 February 1945 before having an opportunity to add to his 1939-40 victory score. Like Guynemer in WW I he did not obtain the highest score of victories, but like Guynemer, he became the representative War Ace Hero. As for Guynemer, his "post mortem" mention is read, each year, in front of F.A.F. troops.

Several other names given here were later well-known. Cdt Hurlin became the French Air Attache in the United States after WW II. Cne Accart wrote well-known war history books and became a most important French Fighter Command chief. Cdt Rosanoff was to become the most famous test pilot in post-WW II French aviation.

CD During the first offensive day of the Battle of France, 10 May, some twenty F.A.F. bases, plus additional RAF bases, were simultaneously attacked. During this day the only French losses were 13 Morane MS 906s of GC 111/2 while some 26 Luftwaffe bombers or escort fighters were shot down in these actions. This can be compared in effectiveness with the enormous affect on Land Armies of railway bombing in northern France and Belgium.

Stuka attacks not only led to the breaking up of the front, but later prohibited the use of reserve units to create a new front line at the rear.

[4] Today some pilots think the attack on the French Fleet resulted in at least 150 or 200 well-trained F.A.F. pilots not going over to the hard-pressed RAF Fighter Command of 1940.

[5] Even today, it is impossible to obtain official figures. The French Command was never anxious to give the story of these tragic and unnecessary fights, for political reasons. Few books were published on the subject. Wreckage of some 6 or 7 Wildcats was identified, and some unofficial U. S. sources of 1942 place the total number of U. S. losses over Morocco during November operations at 19. Whatever the number, more than half can be credited to GC 11/5.

[6] Figures in the comparison listing are from: W. Green and H. Nowarra books (Hawk 75, Bf 109); 1940 F.A.F. official handbook (D 520S); Nowarra (Bf 109 armament); and French official notices (French armament). The author thinks, as do many people, that the destructive power of armament is best indicated by projectile's weight/time. Of course, this is never fully representative since the weight of bullets varied--between armor-piercing, HE and incendiary ammunition--and since the rate of fire could vary--different sources show the FN-made Browning firing at from 1000 to 1300 rounds per minute. The main disadvantage of the lbs/second ratio is that it doesn't reflect such factors as penetration power and firing range which are directly related to such factors as muzzle velocity.

SHORT BIBLIOGRAPHY: Gal Hebrard: VINGT CINQ ANNEES d'AVIATION MILITAIRE. Albin-Michel Edition, 1997. Gal Hebrard: LES FORCES AERIENNES FRANCAISE DE 1939 A 1945. Berger-Levrault Edition, 1949. Lt Col Salesse: L'AVIATION DE CHASSE FRANCAISE DE 1939-1940. Berger-Levrault Edition, 1948. Cne Accart: ON S'EST BATTU DANS LE CIEL. Arthaud Edition, 1942. R. Tessier: CARNETS DE PATROUILLES. Baudiniere Edition, 1942. W. Green: WARPLANES OF THE SECOND WORLD WAR - FIGHTERS, VOL. 9. MacDonald Edition, 1961. H. Menjaud: UN GROUPE DE CHASSE AU COMBAT. Arthaud Edition, 1943. Cdt Gisclon: LE CINQUIEME QUART d'HUERRE. France-Empire Edition, 1955.

ACKNOWLEDGMENTS: The author wishes to thank all of those who have given him important help by furnishing data, dates, facts and photos. Among them are MM. Brian, Boudier, Muselli, Gal Fabre, Cdt Gisclon (all scored victories when flying Hawk 75s), Gal de Pins, Mr. Boubel, Buge, Langlade, Mutin, French Military Photo Service (Etablissement Cinema des Armees) and the Historical Section of the French Air Force (Service Historique de l'Armee de l'Air).

EDITOR'S NOTE: This article on the French Hawk. 75s is one of the outstanding examples of the work being done by A.A.H.S. Members around the world. It stands as not only an excellent work on the foreign service of an aircraft designed and built in the United States but also as an important study of the French Air Force in World War II. The latter is a subject rarely covered in English-language publications, and the JOURNAL is very proud to be able to lift the veil somewhat more with the presentation of this article. The author is fast becoming recognized as the leading authority on French WW II aviation through his painstaking research and careful presentation of the facts developed. Equally impressive is the large number of highly interesting photos he has been able to bring to light. More are coming forth all the time, and it is hoped that in a future JOURNAL a presentation of additional photos on Hawk 75s and Martin 167s (see Vol 10 No 1) can be made.