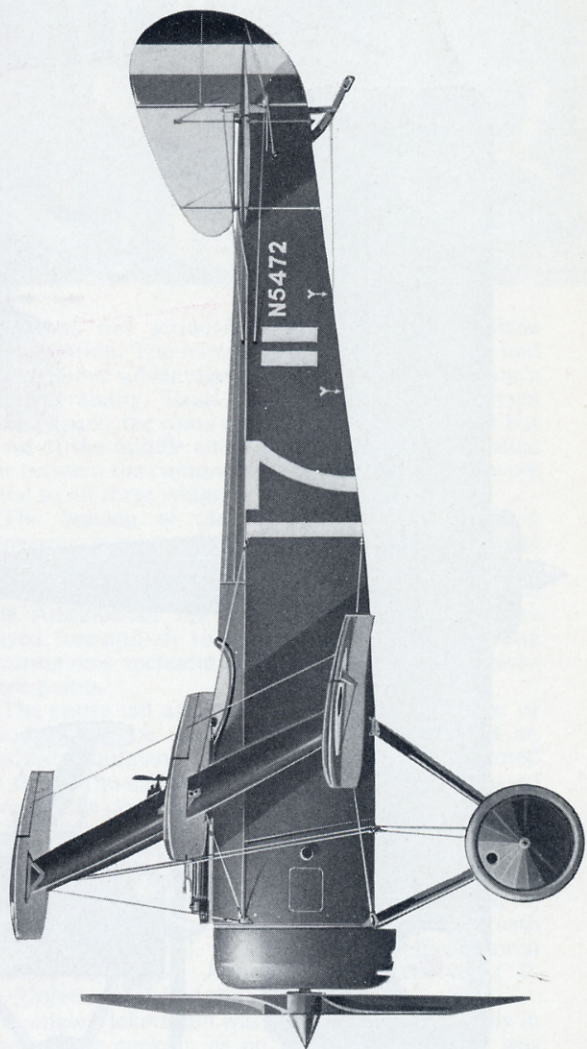
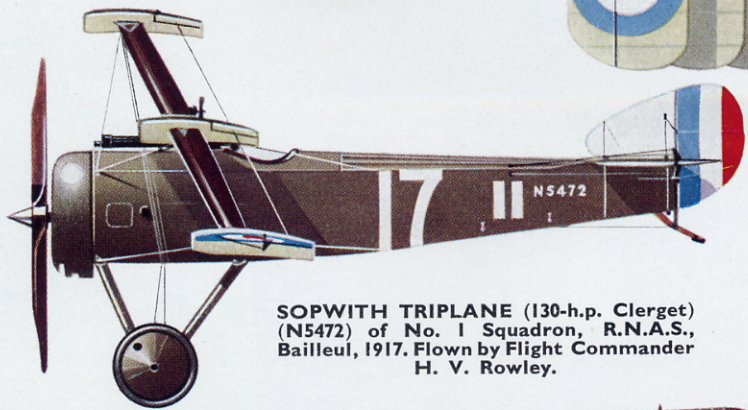
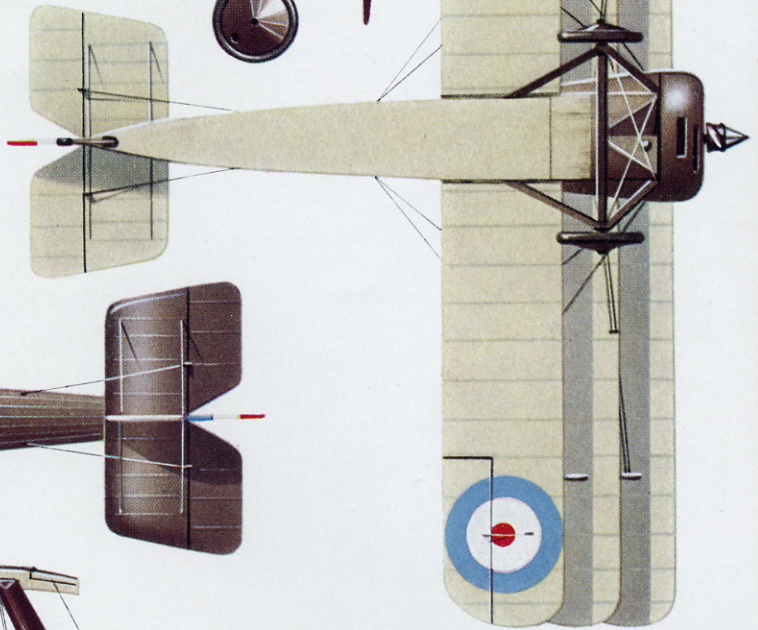
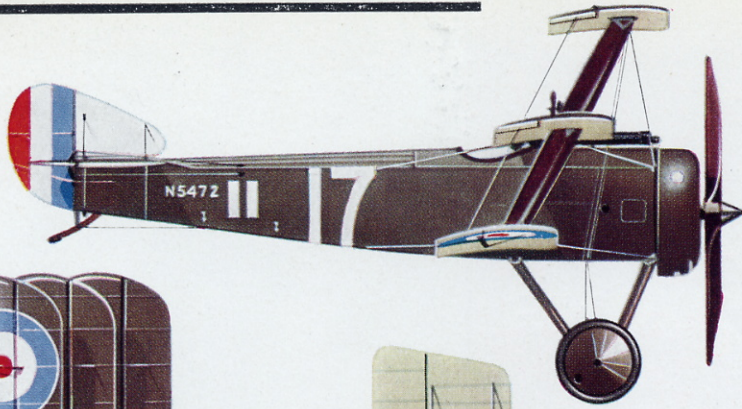
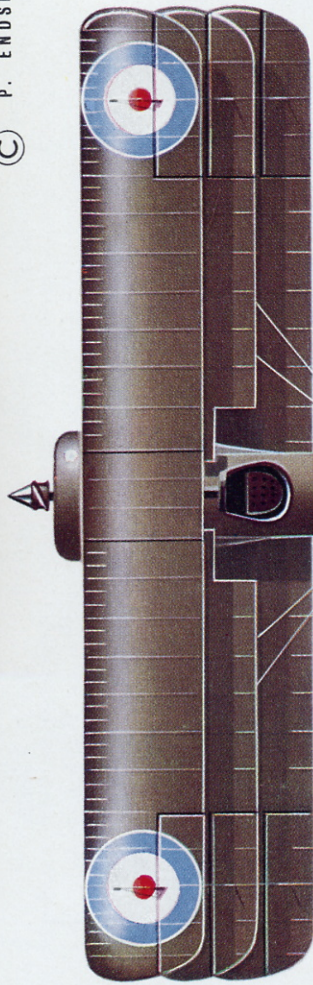


**PROFILE
PUBLICATIONS**

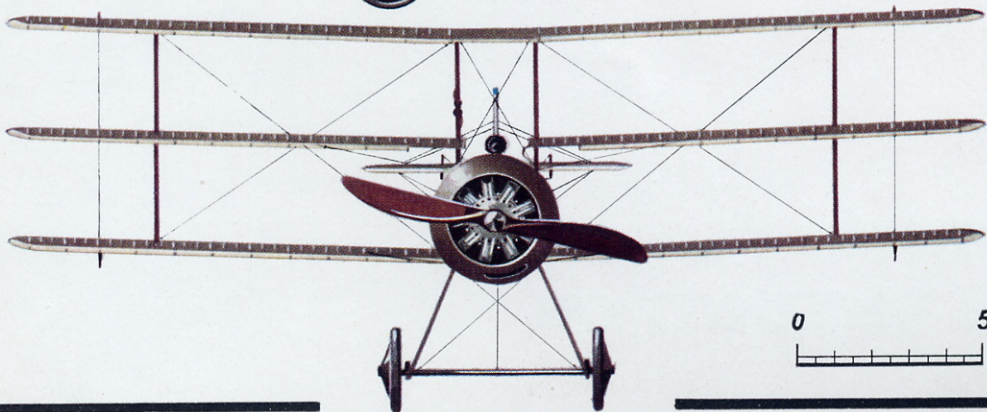
The
Sopwith
Triplane

**NUMBER 73
TWO SHILLINGS**

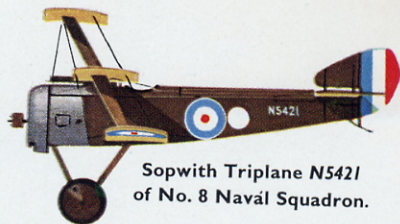
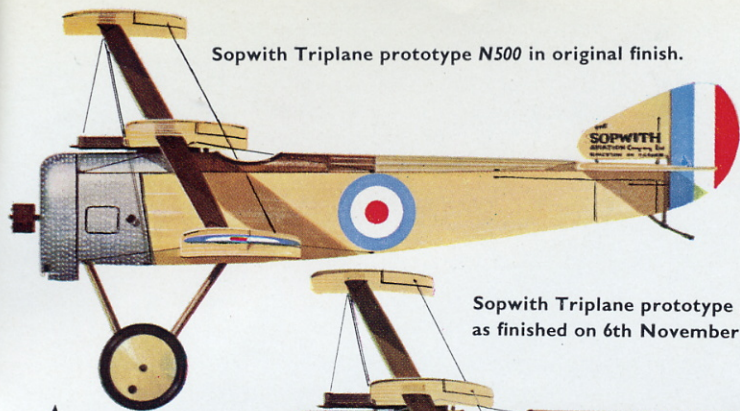




SOPWITH TRIPLANE (130-h.p. Clerget) (N5472) of No. 1 Squadron, R.N.A.S., Bailleul, 1917. Flown by Flight Commander H. V. Rowley.

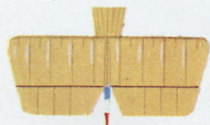
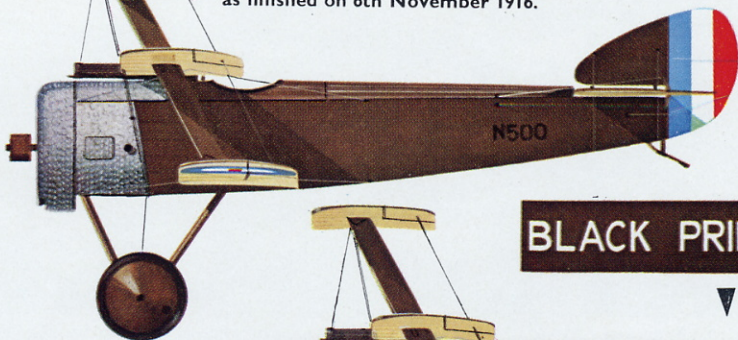


Sopwith Triplane prototype N500 in original finish.



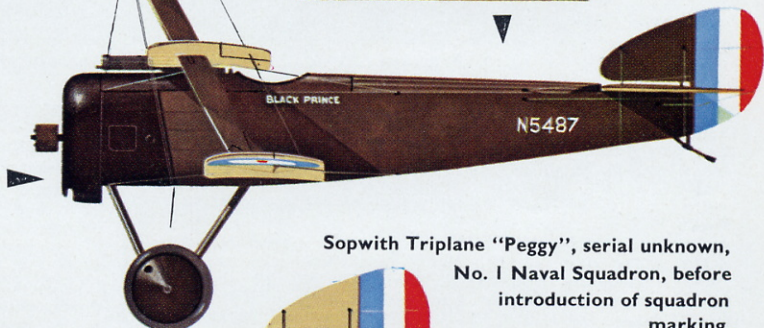
Sopwith Triplane N5421 of No. 8 Naval Squadron.

Sopwith Triplane prototype N500, as finished on 6th November 1916.

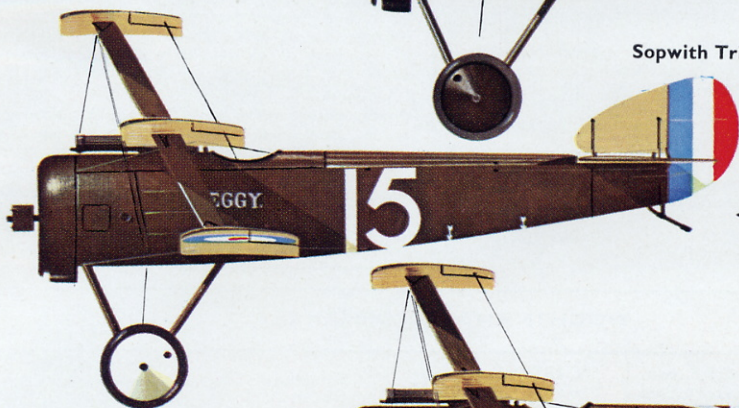


BLACK PRINCE

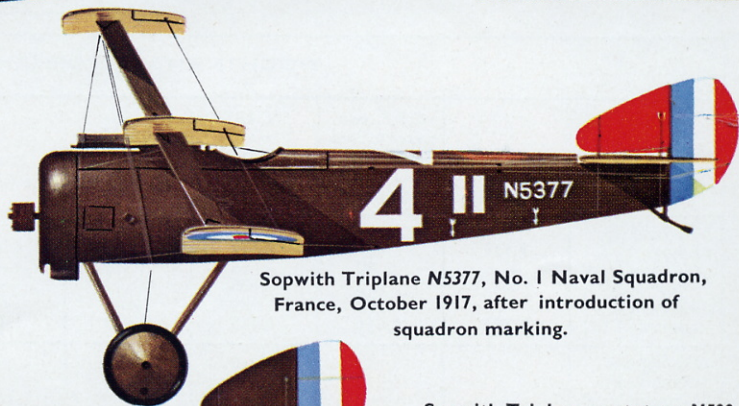
Sopwith Triplane N5487 "Black Prince" in scheme believed to have been employed when flown by Sub-Lt. Alexander of the "Black Flight", No. 10 Naval Squadron.



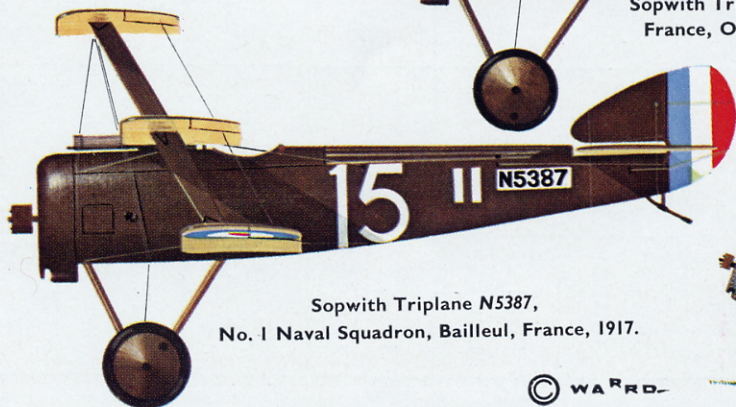
Sopwith Triplane "Peggy", serial unknown, No. 1 Naval Squadron, before introduction of squadron marking.



PEGGY.



Sopwith Triplane N5377, No. 1 Naval Squadron, France, October 1917, after introduction of squadron marking.



Sopwith Triplane N5387, No. 1 Naval Squadron, Baillleul, France, 1917.

Sopwith Triplane prototype N500 as it appeared when fuselage roundel was carried.



This well-known photograph depicts the triplanes of No. 1 Naval Squadron at Bailleul about June 1917.

The Sopwith Triplane

by J. M. Bruce



In the Sopwith Pup Herbert Smith designed one of the world's great aeroplanes. Not only was it a redoubtable fighter in its day but it was aesthetically appealing and in its flying qualities probably unsurpassed by any aircraft built since that time. The Pup was wholly conventional, yet its successor was, aerodynamically, a startling new conception of a fighting aircraft.

The new single-seat fighter that was passed by the Sopwith experimental department on 28th May 1916 was a triplane. It was contemporary with the three-seat Sopwith LRTTr triplane, and it is possible that the three-seater's wing configuration may have partly inspired Smith to fit triplane wings to an aircraft that was otherwise very similar to the Pup. The single-seat triplane proved to be as graceful and manoeuvrable as the three-seater was elephantine and ponderous.

Despite its wing arrangement the Sopwith triplane was a remarkably simple aircraft. Its fuselage was structurally similar to that of the Pup but differed in several details. A bold feature was the use of single, broad-chord interplane struts that were continuous from the top wing to the bottom. The centre-section struts were similar and, being attached to the top and bottom longerons of the fuselage, served as spacers in the side frames. At their mid-points, just above the upper longerons, they carried the attachment fixtures for the centre wings. The fuselage was designed to accommodate the 110-h.p. Clerget 9Z rotary engine.

The wings were of precisely the same span as those of the Pup and only 21 sq. ft. less in area. With the middle wing level with the pilot's eyes and the chord of each mainplane no more than 3 ft. 3 in., the pilot's

view was not seriously impaired by the triplane configuration. The narrow chord and short span had aerodynamic advantages that enhanced the triplane's manoeuvrability. Each wing had two spars fifteen inches apart; the spars of the top wing were solid but those of the middle and bottom wings were spindled out between the compression members. Ailerons were fitted to all three wings.

The bracing of the mainplanes looked almost dangerous in its simplicity. The top and bottom wings were braced as a biplane structure, with one close-set pair of flying wires and a single landing wire on each side. Additionally, the middle and bottom wings were stayed fore-and-aft to the fuselage longerons. Long securing pins anchored all three wings to their attachment points.

The entire tail assembly was identical with that of the Pup but the triplane had the refinement of an adjustable tailplane; its actuating wheel was mounted on the starboard centre-section strut where it passed through the cockpit.

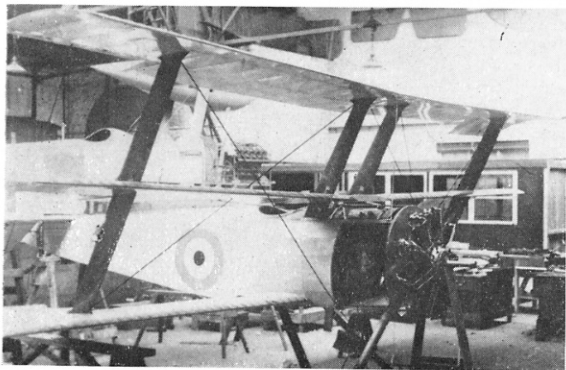
Test flying of the prototype was done by Harry Hawker at Brooklands. Such was his confidence in this radical new fighter that he looped it three minutes after its first take-off. At that time the triplane had no armament and the top centre section was covered with transparent material. It then bore no official serial number but under Admiralty Contract No. C.P. 117520/16 it acquired the identity *N500*.

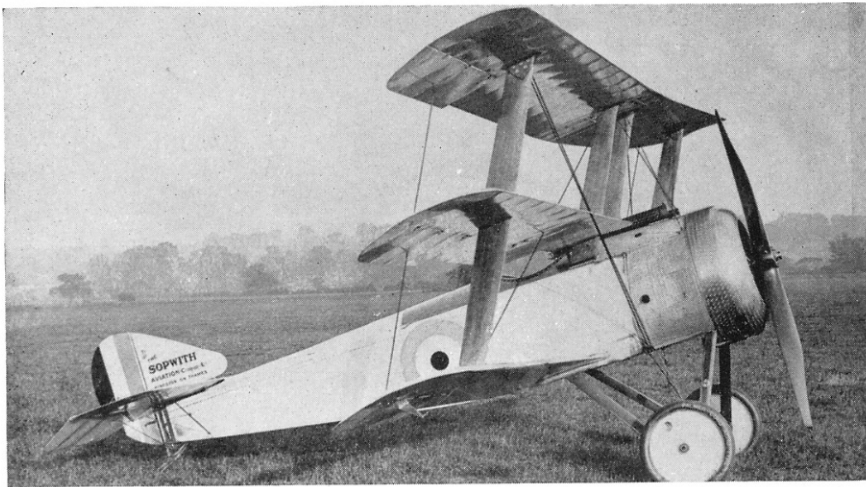
A single Vickers gun was soon mounted centrally in front of the cockpit, as on the Pup, and *N500* was delivered to the R.N.A.S. The triplane reached France in mid-June 1916. It was sent to Furnes, the base of "A" Squadron, R.N.A.S., and was in action fifteen minutes after its arrival there, having been sent up to intercept an enemy aircraft.

The sensation created by the Pup was repeated by the triplane. Its manoeuvrability was exemplary and its rate of climb was, for mid-1916, phenomenal. At a time when unconventional aircraft were regarded with suspicion by Service pilots the triplane won instant approval from the pilots of "A" Squadron. This compliment to its qualities must have been unique.

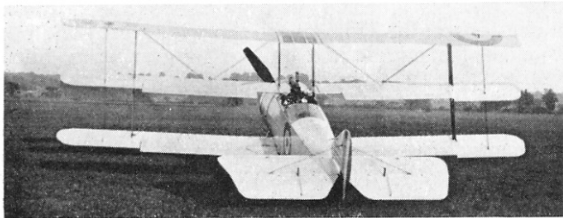
Even the Admiralty and War Office had no doubts, for the type was ordered in quantity for both the R.N.A.S. and R.F.C. Contracts were awarded to the Sopwith company, Clayton & Shuttleworth Ltd., and Oakley & Co. Ltd. The serial numbers *A9000-A9099* and *A9813-A9978* were allocated for triplanes,

The first prototype under construction in the Sopwith works. In the background is the big three-seat triplane, the LRTTr.





Above and below: *The first prototype shortly after its completion, when its Vickers gun had been installed.*



apparently for the R.F.C.; the former batch was ordered from Sopwith, the latter from Clayton & Shuttleworth. For the R.N.A.S. *N5420-N5494* were ordered from Sopwith, *N5350-N5389* from Clayton & Shuttleworth, and *N5910-N5934* from Oakley.

A second Sopwith-built prototype, *N504*, was flying by 26th August 1916. This aircraft was powered by a 130-h.p. Clerget 9B engine, which re-emphasised the extraordinary climbing performance of the triplane, for it maintained a rate of climb of 1,000 ft./min. right up to 13,000 ft. It seems likely that *N504* was the triplane that climbed to a height of 22,000 ft. in September 1916. By the twenty-second of that month it was at Eastchurch. On that date it was flown by Squadron Commander Harry Busteed, who recorded that he had reached a speed of 116 m.p.h. at ground level. Busteed flew *N504* from Eastchurch to Dunquerque on 14th November 1916.

September 1916 saw the appearance on the Western Front of the Albatros D I, closely followed by the Albatros D II. These new German fighters were soon recognised as highly effective weapons that posed a serious threat to Allied air supremacy. Major-General H. M. Trenchard immediately foresaw that the German air service would become progressively more aggressive; on 29th September he gave the War Office advance notice of his intention to send, via Sir Douglas Haig, a request for substantial increases in the numbers of fighting squadrons attached to each army.

On the following day Haig wrote:

"I have the honour to request that the immediate attention of the Army Council may be given to the urgent necessity for a very early increase in the numbers and efficiency of the fighting aeroplanes at my disposal. Throughout the last three months the Royal Flying Corps in France has maintained such a measure of superiority over the enemy in the air that it has been

enabled to render services of incalculable value. The result is that the enemy has made extraordinary efforts to increase the number, and develop the speed and power, of his fighting machines. He has unfortunately succeeded in doing so and it is necessary to realise clearly, and at once, that we shall undoubtedly lose our superiority in the air if I am not provided at an early date with improved means of retaining it. Within the last few days the enemy has brought into action on the Somme front a considerable number of fighting aeroplanes which are faster, handier, and capable of attaining a greater height than

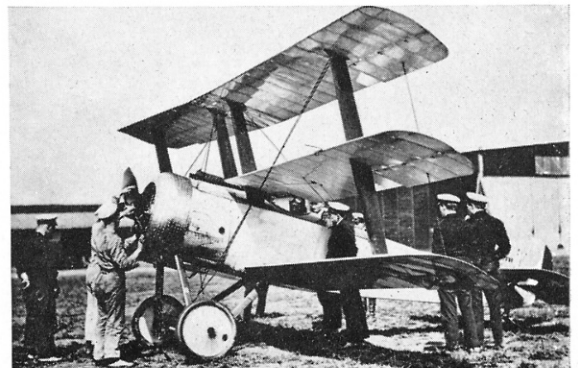
any at my disposal with the exception of one squadron of single-seater 'Nieuports', one of 'F.E. Rolls-Royce', and one of 'Sopwiths', the last mentioned being inferior to the enemy's new machines in some respects though superior in others. All other fighting machines at my disposal are decidedly inferior. The result of the advent of the enemy's improved machines has been a marked increase in the casualties suffered by the Royal Flying Corps, and though I do not anticipate losing our present predominance in the air for the next three or four months, the situation after that threatens to be very serious unless adequate steps to deal with it are taken at once. I have directed the G.O.C. Royal Flying Corps in France to put forward a statement of our estimated requirements."

Haig's letter arrived at a time when relations between the Air Board and the Admiralty were strained following the Admiralty's request for Treasury permission to purchase independently aircraft and aero-engines to the value of about £3,000,000. At that time the Air Board was responsible for organising and co-ordinating the supply of material and preventing competition between the Admiralty and the War Office, and the Board's displeasure, not merely at the Admiralty's request but at the Treasury's consent thereto, was understandable.

The Air Board did not discuss Haig's letter until 11th December 1916, but Trenchard attended the meeting to press forcefully for the strengthening of the R.F.C. He asked for the attachment to the R.F.C. of four fully-equipped R.N.A.S. squadrons and, as a means of providing two D.H.4, two Bristol Fighter

N500 at R.N.A.S. Station Chingford, 1916.

(Photo: Major R. E. Nicoll)



and one Spad squadrons, the transfer from the Admiralty of 100 Rolls-Royce and 50 Hispano-Suiza engines.

Like the Sopwith triplane the Spad VII had been ordered for both the R.N.A.S. and the R.F.C. The Admiralty offered, instead of 50 Hispano-Suiza engines, 60 complete Spads; but this was superseded in February 1917 by an agreement that provided for the R.F.C. to take over all 120 Spads then on order for the R.N.A.S. in exchange for all Sopwith triplanes ordered for the R.F.C.

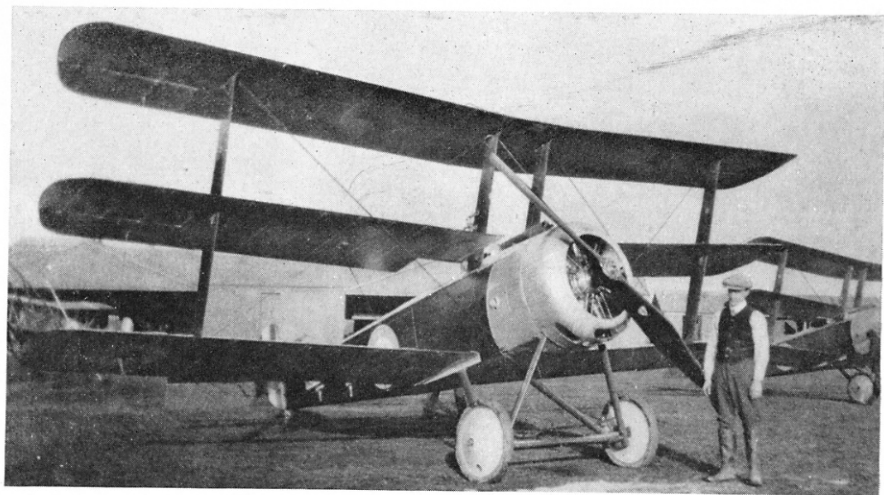
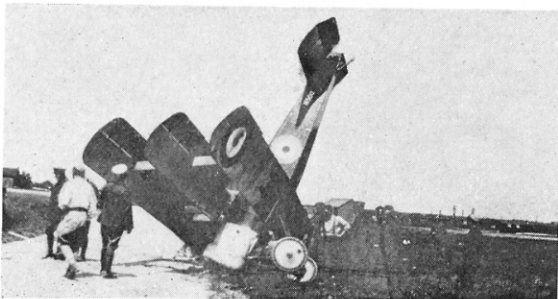
Thus it was that the Sopwith triplane was used operationally only by the R.N.A.S. What has never been adequately explained is why the contracts for triplanes were so drastically reduced. Possibly by the time the R.N.A.S./R.F.C. agreement was reached the more conventional and better-armed F.1 Camel was regarded as more promising than the triplane and available production facilities were devoted to the Camel at the expense of the triplane. Only twenty more triplanes (N6290-N6309) were built by Sopwith; Clayton & Shuttleworth supplied only a further six, which had twin Vickers guns and were numbered N533-N538. It is uncertain whether these were the odd six from the 166 ordered from the firm for the R.F.C. or an experimental batch ordered by the Admiralty direct.

Deliveries of production triplanes had begun late in 1916. The first Sopwith-built production aircraft, N5420, was sent to Clayton & Shuttleworth, who in turn delivered their own first triplane, N5350, on 2nd December 1916.

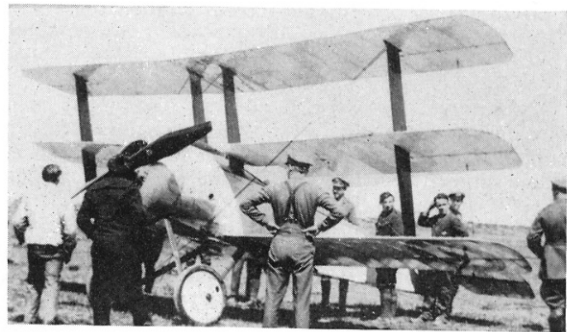
The fourth Sopwith-built machine, N5423, was fitted with wings of 3 ft. 6 in. chord; these increased the wing area to 257 sq. ft. This triplane was at Eastchurch on 11th December 1916, and its official trials were conducted during that month. The broader wings made no appreciable difference to the aircraft's performance, consequently the original surfaces of 3 ft. 3 in. chord were retained as standard on all other triplanes.

At least one was fitted with a 110-h.p. Le Rhône engine. On test this aircraft proved to have a slightly

N500 after a mishap at Dunkerque. On at least one other occasion this triplane ended up in a similar position but was rather more extensively damaged.



A new triplane, fresh from the factory. (Photo: K. M. Molson)



N500 shortly after its arrival at St. Pol.

(Photo: E. F. Cheesman)

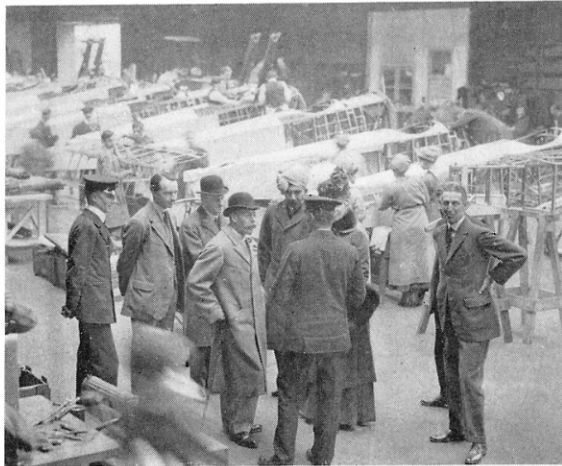
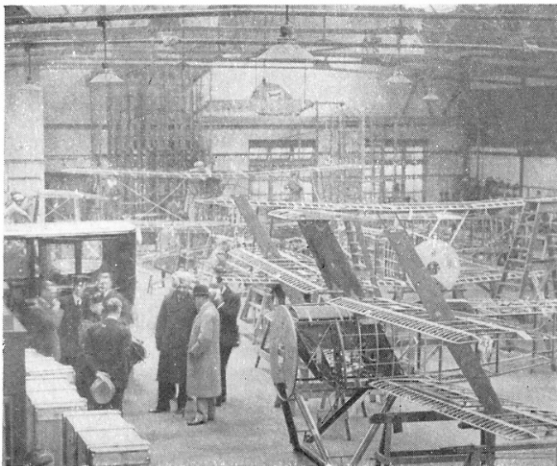
better climbing performance than the Clerget-powered triplane but, in general, overall performance with the Le Rhône was not significantly different and the engine was not adopted as a standard power unit. Most of the triplanes that saw operational use had the 130-h.p. Clerget 9B.

On the Western Front the Sopwith triplane was flown by R.N.A.S. Squadrons Nos. 1, 8, 9, 10, 11 and 12. By mid-February 1917 Naval squadrons Nos. 1 and 8 had been fully equipped with triplanes; both were attached to the R.F.C., No. 1 on 15th February, No. 8 on 28th March. No. 10 (Naval) Squadron, another triplane unit, was attached to the R.F.C. in mid-May 1917.

The triplane had not been in service long when a modification was introduced. In February 1917 an order was issued to the effect that a new, smaller tailplane and elevators were to be fitted, and all units were to replace the original Pup-type surfaces with the new components as they became available. The revised tail surfaces were shorter in span by 2 ft. 1 in. and had a total area of 23.6 sq. ft. This modification improved the triplane's control response considerably and enabled the aircraft to be dived vertically with greater ease.

The Design Flight of the R.N.A.S. station Eastchurch tested N5440 fitted with the new tailplane and elevators (the aircraft was at Eastchurch as early as 31st January 1917) and reported:

"The decrease in horizontal tail area has resulted in making the machine much more handy. The fore-and-aft



A royal visit to the Sopwith works. King George V and Queen Mary inspecting triplanes and Pups, being built side by side. Second from the left in the group is Mr. (now Sir) Thomas Sopwith.

stability is not so good but there is sufficient control to get the machine out of any position possible whilst fighting. In effect it is considered that the alteration has improved the machine from a war point of view."

Operational squadrons do not seem to have hastened to fit the new tailplanes, possibly because supplies may have taken some time to reach France. Some aircraft still had the original surfaces in June 1917.

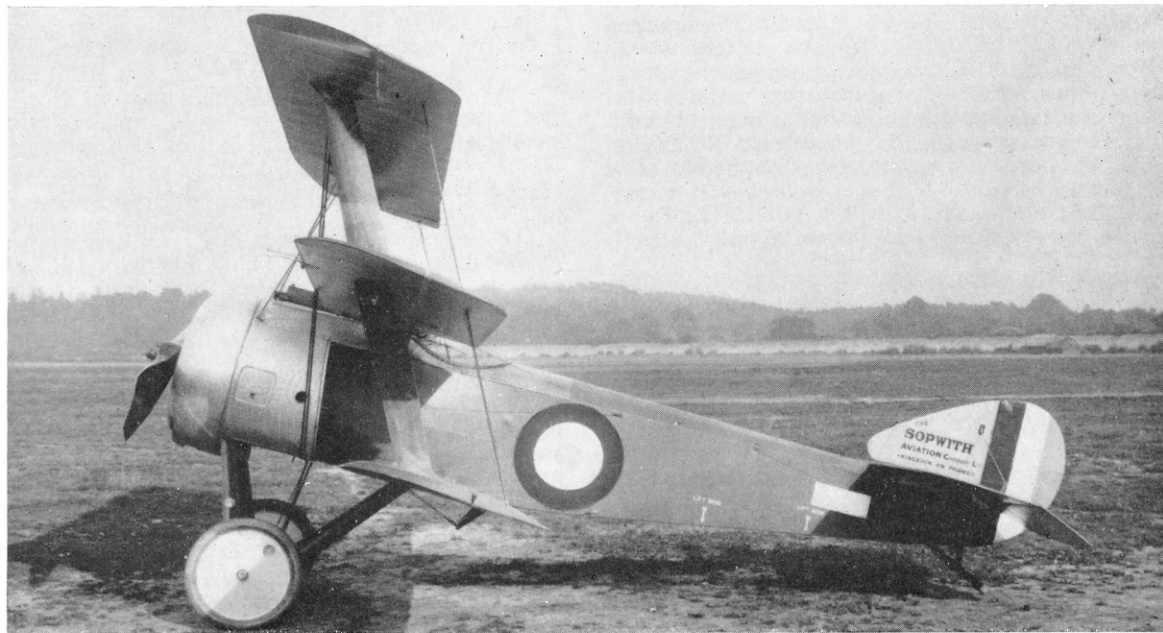
On its wider introduction to the R.N.A.S. the triplane became the subject of rumours about its structural strength, doubtless inspired by the economical interplane bracing. The rumours had no foundation in fact (though clearly the risk of both flying wires being severed by a bullet or shell splinter was obvious), and the aircraft had delightful flying qualities that won the admiration of the men who flew it. It was fully aerobatic and, during its brief opera-

tional career, it proved to be a formidable fighter in the hands of pilots like Flt. Comdr. R. S. Dallas, Flt. Lt. R. A. Little and Flt. Lt. Raymond Collishaw.

On the evening of 7th April 1917 Little attacked, single-handed, a formation of eleven enemy fighters. Although he did not shoot down any of the enemy on that occasion Little outclassed and outmanoeuvred them. Two weeks later Dallas and Flt. Sub-Lt. T. G. Culling attacked a mixed formation of fourteen two-seaters and single-seat fighters and, in a running fight that lasted forty-five minutes, shot down three German aircraft, broke up the formation, and finally drove the remainder back behind the enemy lines.

On 1st April 1917 Flt. Sub-Lt. Raymond Collishaw joined No. 10 Squadron R.N.A.S. He had already won several combat victories with No. 3 Squadron R.N.A.S., and opened his score with No. 10 on 1st May, when he shot down an enemy aircraft that

It has been suggested that the reversed round colours and rudder stripes on this triplane appear to be so because panchromatic film had been used by the photographer. It seems more likely, however, that the colours were in fact reversed and that this aircraft was one of the four that were sent to the French Government. (Photo: Imperial War Museum Q67487)



crashed near Cortemarck. Two weeks later Naval Ten was attached to the R.F.C. On 1st June 1917 Collishaw shot down an Albatros single-seater in flames; this was the first of his sixteen victories (eleven destroyed, five out of control) in that month; all were won on a Sopwith triplane.

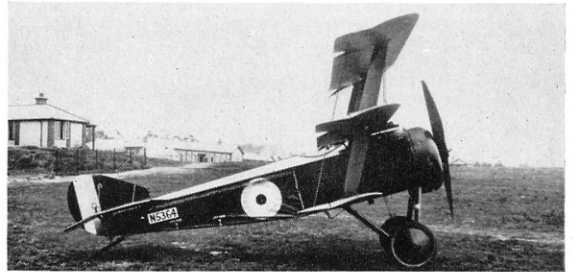
With Collishaw in Naval Ten were several brother Canadians: Flt. Sub-Lts. W. M. Alexander, G. E. Nash, E. V. Reid and J. E. Sharman. During June 1917 they flew triplanes named *Black Maria* (N5492, Collishaw), *Black Prince* (N5487, Alexander), *Black Roger* (probably N5483, Reid), *Black Sheep* (probably N5376, Nash) and *Black Death* (probably N6307, Sharman). This quintet came to be known as the Black Flight; the engine cowlings, metal fuselage panels and wheel covers of their triplanes were painted black. The Black Flight's existence was short and it is doubtful whether all five members actually flew together on more than a few occasions. Reid and Sharman joined "B" Flight (the Black Flight) of Naval Ten on 4th June; Nash was brought down and taken prisoner on 25th June; Sharman was transferred to "C" Flight on 30th June but flew with Collishaw on at least two later dates before his death on 22nd July; Reid was killed on 28th July. The Germans subsequently claimed to have brought down Collishaw's N5492 in July 1917; its unnamed pilot on that occasion was killed.

Nevertheless, these five gallant Canadians between them shot down many enemy aircraft in the summer of 1917 and provided ample proof of the Sopwith triplane's qualities as a fighting aircraft.

The triplane itself was one of the very few aircraft of its time that were withdrawn without being out-classed. Its two main disadvantages seemed to be that even minor damage necessitated a disproportionate amount of repair work, and that it was more difficult to rig than a biplane. The second reason is difficult to accept, in view of the triplane's simple structure, but the former seems to be corroborated by the remarkable number of triplanes that saw service with several squadrons. This suggests that frequent visits to Aeroplane Repair Depots were required, with subsequent re-allocation to different units. A further reason for the triplane's withdrawal must have been the difficulty



Photographed in France, this triplane also had reversed colours in its roundels and rudder stripes. As it is surrounded entirely by French personnel it seems possible that it is here seen in French service. (Photo: Jean Noël)

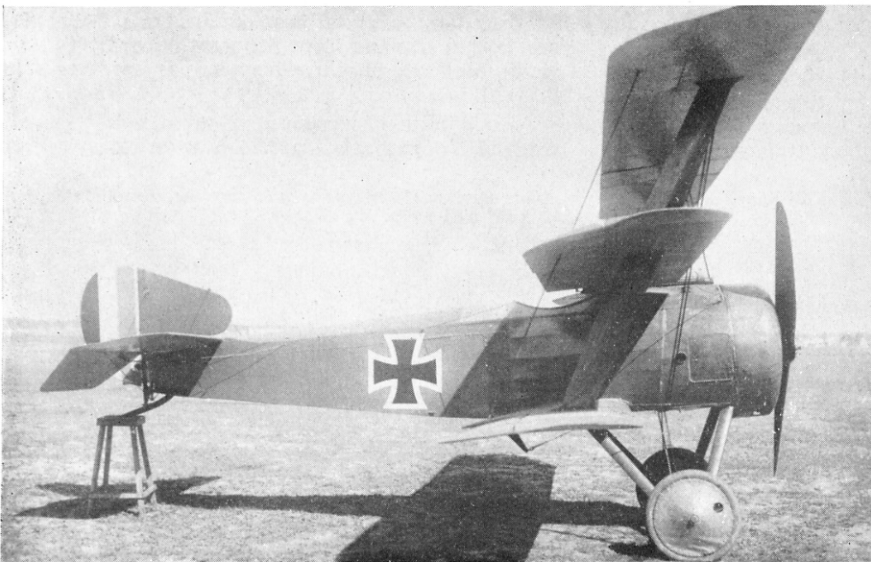


N5364 photographed at Farnborough. This triplane is known to have been there on 15th May 1917, and this photograph was probably made at about that time.

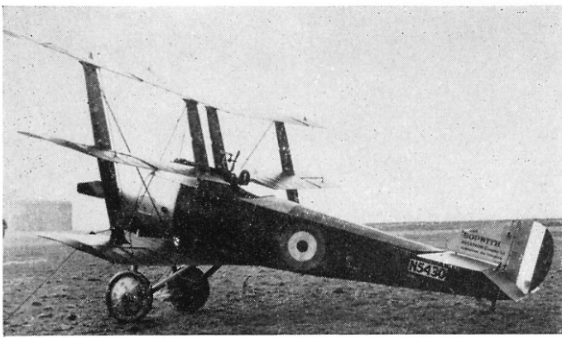
of maintaining the squadrons from the small number of completed aircraft.

During its brief operational career the Sopwith triplane made a deep impression on the enemy. Its extraordinary rate of climb and great manoeuvrability made it an elusive opponent and it was more than a match for the Albatros D III and D V. In April 1917 Manfred von Richthofen reported that the Sopwith triplane was the best Allied fighter at that time, and his opinion was echoed by General von Hoepfner, the *Kogenluft*, in an unusually candid interview reported in neutral newspapers in May 1917.

Several Sopwith triplanes were captured and tested at Adlershof, the first in June and July 1917; it had the early, large tailplane; a later captured specimen had the later tailplane. These aircraft must have provided ample proof that there was nothing structurally remarkable about the triplane, yet the *Flugzeugmeisterei* remained sufficiently impressed to send a



A captured triplane in German markings, apparently at Adlershof. The fin and airscrew were not standard components; the latter was almost certainly German. This aircraft was tested by the Germans in June and July 1917 and still had the original large tailplane.



N5430, the triplane that was transferred to the R.F.C., photographed at Orfordness. It was fitted with an Aldis optical sight. (Photo: "Aeromodeller")

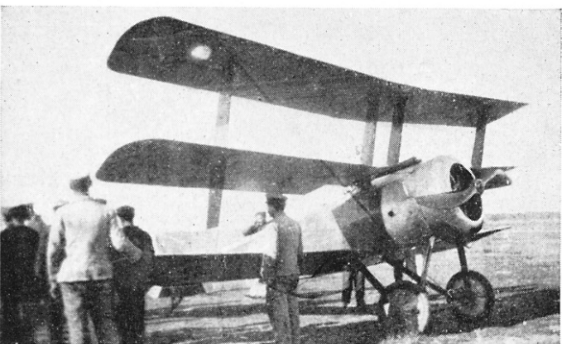


Apparently one of the six triplanes built by Clayton and Shuttleworth with twin Vickers guns. (Photo: Imperial War Museum Q60483)

circular to all German manufacturers inviting them to examine the Sopwith at Adlershof; at the same time the *IdFlieg* encouraged them to design triplane fighters. Further discussion of the German developments is given in *Profile No. 55, The Fokker Dr.I*. Much as the functional Platz-designed Fok. Dr.I differed from the graceful Sopwith, one thing is certain: the Fokker would never have existed if its Sopwith predecessor had not convinced German fighter pilots and the German authorities that the triplane configuration contained in itself assurance of success for a fighter aircraft.

Replacement of the Sopwith triplane by the Camel began in the summer of 1917. Naval Eight and Naval Nine began to re-equip in July, Naval Ten at the end of August, when three of its triplanes were transferred to Naval One to bring that squadron's strength up to its full establishment of eighteen aircraft. Naval

N5431, the solitary triplane of No. 2 Wing, R.N.A.S., at Salonika, March 1917.



One's attachment to the R.F.C. ended on 2nd November 1917. The squadron continued to fly its triplanes for a few weeks; one of the last successful combats with the elegant Sopwith occurred on 12th November, when Flt. Lt. S. M. Kinkead and Flt. Sub-Lt. J. H. Forman attacked and destroyed an enemy fighter near Dixmude.

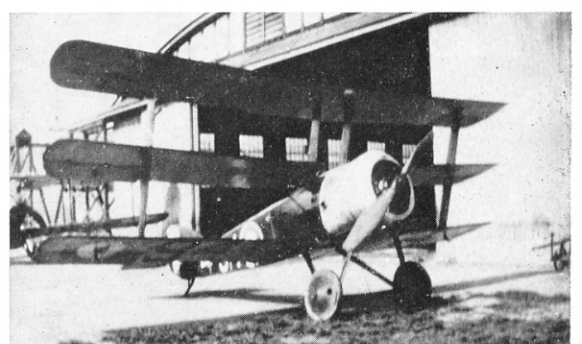
Of the contractors for the triplane, Oakley & Co. Ltd., had no previous experience of aircraft construction, and this is doubtless why they did not start to deliver until the autumn of 1917. As the replacement of the triplane was then well advanced the Oakley contract was terminated when only three aircraft had been completed. The third and last, N5912, was delivered on 19th October 1917 and is the only surviving Sopwith triplane of war-time construction, though it lost several of its original components during W.W.II. It was flown at the 1936 R.A.F. Display at Hendon, where its climbing performance, undiminished by the years, came as a revelation to many who saw it.

It was intended that the Oakley-built triplanes should have twin Vickers' guns like N533-N538, and it is perhaps a pity that some of the Oakley triplanes did not reach the front. It seems that the only two-gun triplanes to see operational use were N533, which was with Naval Ten in July and August 1917, and N534, which was on the strength of Naval One for a time. N535 was flown at R.N.A.S. Manston.

In British service only one triplane, N5431, saw service outside France. This aircraft was sent to No. 2 Wing, R.N.A.S., at Mudros in the Aegean, presumably for operational evaluation in that theatre of war, for it was at Mudros as early as March 1917. In that month "E" Squadron, R.N.A.S., was formed. It was to provide the R.N.A.S. component of a joint R.F.C./R.N.A.S. fighting squadron at Hadzi Junas created to oppose *Kampfgeschwader 1*, a German bombing unit that had arrived at Hudova in February 1917. The equipment of "E" Squadron consisted of four Sopwith 1½-Strutters and N5431, which was flown by Flt. Lt. J. W. Alcock (later pilot of the Vickers Vimy that made the first non-stop transatlantic flight). Unfortunately the triplane crashed badly at Salonika on 26th March 1917 and was therefore never used by "E" Squadron. The remains were taken back to Mudros and the aircraft was rebuilt. On 30th September 1917 a triplane from Mudros, flown by Flt. Lt. H. T. Mellings, shot down an enemy seaplane. The Sopwith was almost certainly the rebuilt N5431.

Alcock himself employed a number of Sopwith triplane components, possibly from the original

A late survivor of the type was this triplane, marked "94", seen at Redcar during winter 1918-19. (Photo: Frank Yeoman)





Another two-gun triplane, this aircraft had a Lewis gun in addition to its standard single Vickers.

N5431, in a unique single-seat fighter that he built at Mudros. This aircraft embodied Pup and Camel parts also, and Alcock called his creation the Sopwith Mouse; it was also known as the Alcock A.1. Alcock was taken prisoner before his aircraft was completed; it was not flown until mid-October 1917.

Four Sopwith triplanes, N5384, N5385, N5386 and N5388, were transferred to the French Government, N5385 and N5388 having the 110-h.p. Clerget. Four triplanes lent to France and subsequently returned to the R.N.A.S. by the French authorities had the serial numbers N524 and N541-N543. It is uncertain whether there was any connection between these two groups of four aircraft, but it is possible that N5384-N5386 may have been renumbered N541-N543 on their return from French service. The Germans claimed to have brought down N5388 in September 1917; and N524 was used by No. 11 Squadron, R.N.A.S., at Hondshoote, where it was flown by Flt. Sub-Lt. A. R. Brown who, some six months later, played a leading part in the combat in which Manfred von Richthofen died.

On 4th May 1917, triplane N5486 was dispatched from the R.N.A.S. White City depot to Russia. It saw service with the Imperial Russian Air Service and, in the winter of 1917-18, was still in service and was fitted with skis. Its fate is unknown.

An example of the type, N5458, was sent to the U.S.A., where it was exhibited in December 1917.

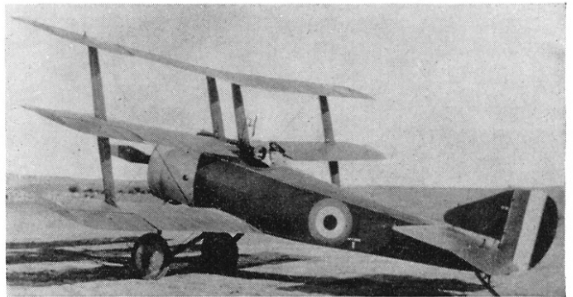
This veteran had seen service with R.N.A.S. Squadrons Nos. 8 and 10; in the latter unit it had been flown by Flt. Sub-Lt. D. F. Fitzgibbon, a member of "B" Flight.

After withdrawal of the triplane from operational use it continued in service for a time for training and experimental purposes. On 7th February 1918 N5453, N5462 and N5468 were still on the strength of "C" Flight of No. 12 Squadron, R.N.A.S., at Dunkerque and were reported to be serviceable. As late as 1st October 1918 N5430 visited Farnborough from Orfordness. This triplane had been transferred to the R.F.C. and was apparently at the armament experimental unit at Orfordness for some time.

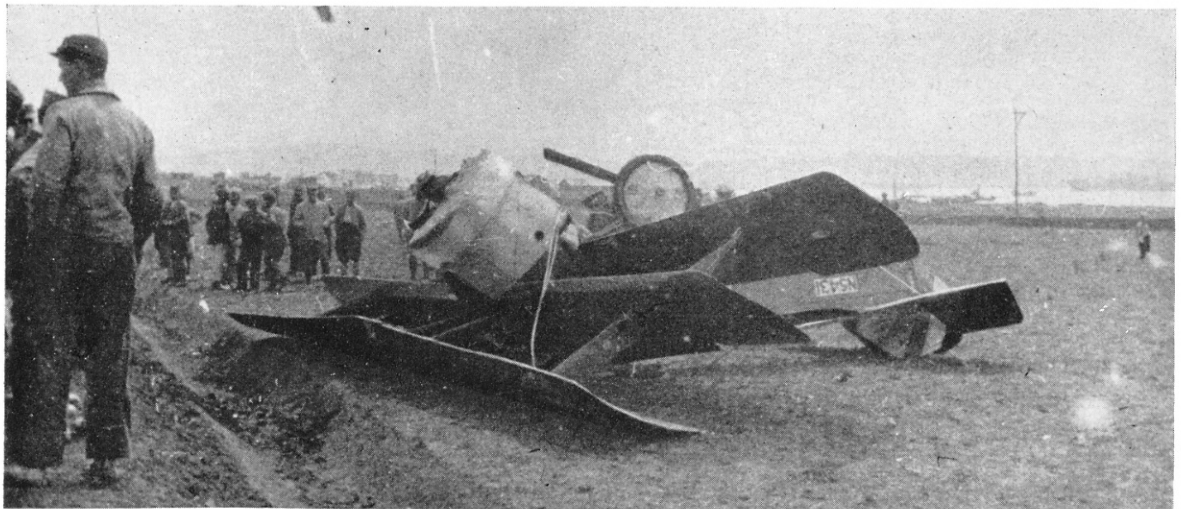
The first triplane, N500, had a long career, for it survived until 17th December 1917, when it was written off at Dunkerque after what the R.N.A.S. was pleased to regard as fair wear and tear. It had survived several crashes and little of its original structure can have remained.

A belated modification of the triplane was called for in 1918 by R.A.F. Technical Order M.108 (42622/18), which required a compression strut to be fitted spanwise between the centre-section struts just above the gun. This was intended to prevent deformation of the centre-section struts which would, in certain conditions, bend inwards during aerobatics. The modification was probably a measure of the enthusiasm with which the triplane was flown at training units.

Before the Clerget-powered triplane had entered service, the Sopwith company had built two proto-



The wreckage of N5431 beside the ditch that was evidently its undoing, 26th March 1917. Above: The rebuilt N5431 at Mudros.



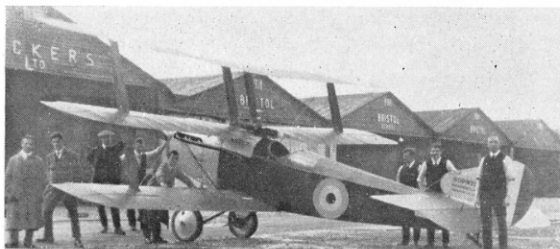


N5486, with ski undercarriage, which served with the Imperial Russian Air Service in 1917-18.

types of another fighting triplane powered by the Hispano-Suiza engine. These were numbered N509 and N510, the former having a 150-h.p. Hispano-Suiza, the latter a 200-h.p. geared engine. The Hispano-Suiza triplane seemed to owe more to the Sopwith 1½-Strutter than to the Pup and was heavier-looking and less attractive than the Clerget-powered aircraft. The same system of plank-type interplane struts and bracing was used, but the wings were of 4 ft. 3 in. chord.

In December 1916 N510 was destroyed in a crash at Eastchurch, apparently as a result of tail flutter. N509 was also there at that time and also seemed to suffer from tail flutter: Harry Busteed flew it on 21st November 1916 on a "tail vibration test" and again for the same reason on 23rd November and 2nd January 1917. The Hispano-Suiza triplane was not developed, but N509 survived until 29th October 1917, when it was written off at Manston after fair

N509, the 150-h.p. Hispano-Suiza triplane.



N509 with some Sopwith employees at Brooklands.

wear and tear. The Sopwith Hispano-Suiza triplanes provide an interesting comparison with the Fokker V.6 (see Profile No. 55).

At the time of writing (December 1965) a new Sopwith triplane is nearing completion in the workshop of Carl Swanson at Sycamore, Illinois, U.S.A. This authentic aircraft is destined for the Canadian War Museum.

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PRODUCTION

At least 147 and possibly 150 Clerget triplanes were built under war-time contracts. Only two Hispano-Suiza triplanes were built by the Sopwith company with the serial numbers N509 and N510.

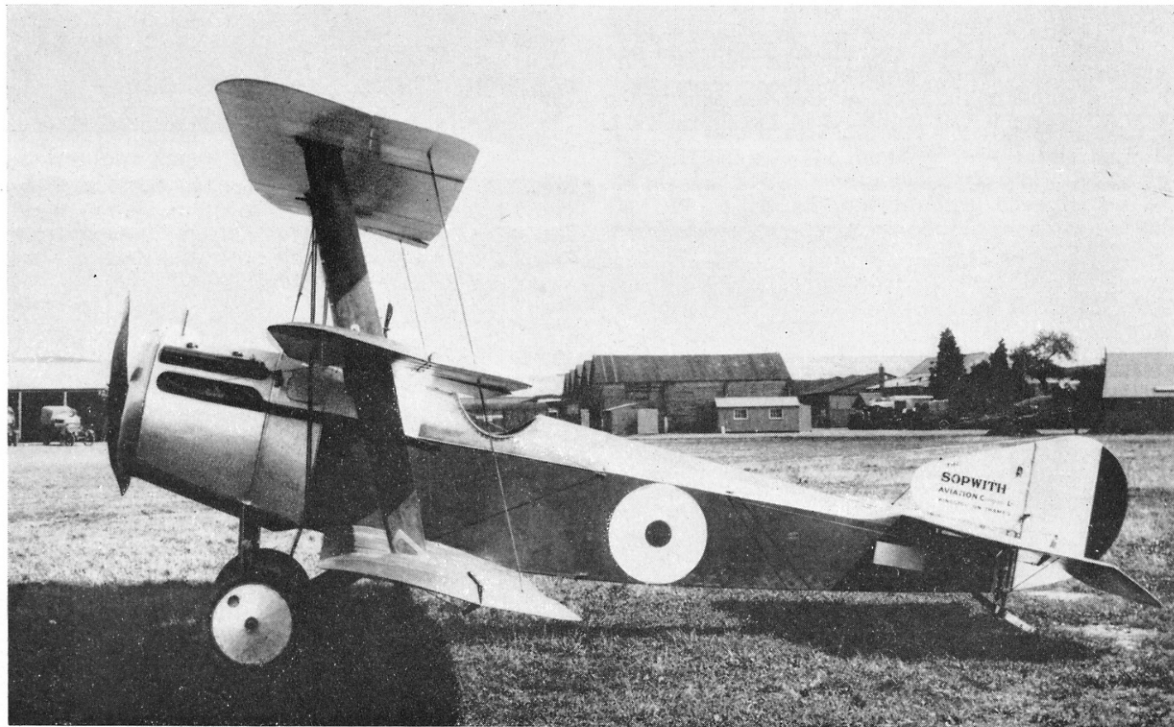
Sopwith Aviation Co. Ltd., Canbury Park Road, Kingston-on-Thames: N500, N504, N524, N5420-N5494, N6290-N6309.

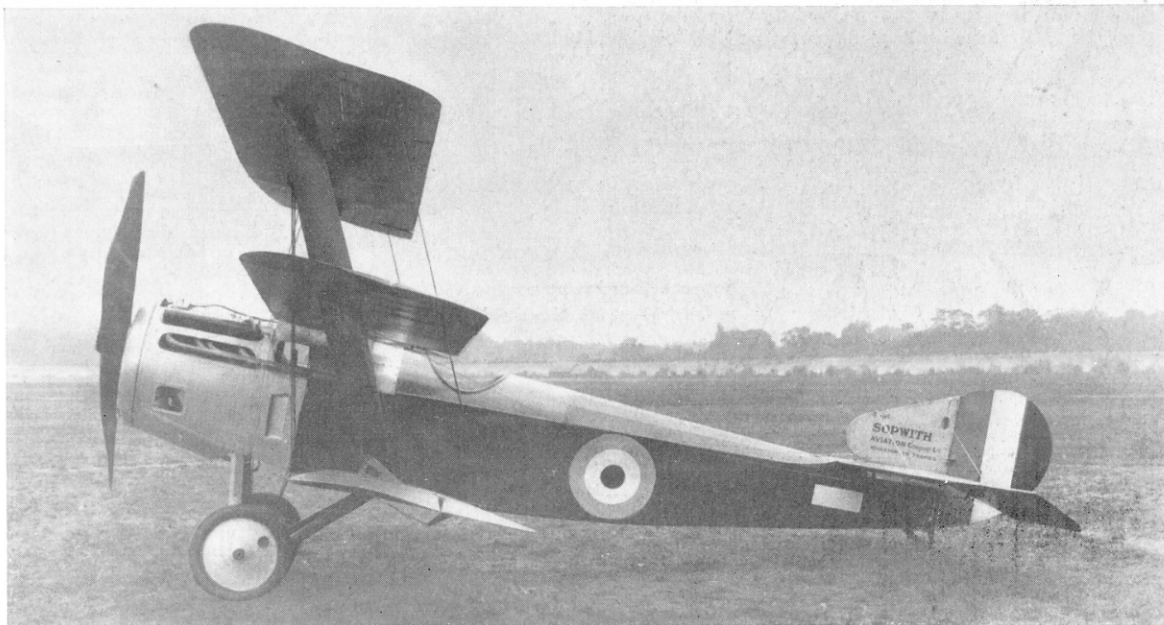
Clayton & Shuttleworth Ltd., Lincoln: N533-N538, N5350-N5389. Oakley & Co. Ltd., Ilford: N5910-N5934 (N5913-N5934 were not completed).

The serial numbers N541-N543 were allotted to Sopwith triplanes that were lent to the French Government and subsequently returned to the R.N.A.S.

Service Use: Western Front—R.N.A.S. Squadrons Nos. 1, 8, 9, 10,

(Photo: Imperial War Museum Q67508)





N510, the second (200-h.p.) Hispano-Suiza triplane, also photographed at Brooklands.

11 and 12. Aegean—No. 2 Wing, R.N.A.S., Mudros; "E" Squadron, R.N.A.S.

Examples of triplanes used by R.N.A.S. squadrons:

No. 1 Sqn.—N534, N5364, N5373, N5428, N5451, N5473, N6300, N6308.

No. 8 Sqn.—N5434, N5442, N5449, N5460, N5469, N6290, N6295, N6301.

No. 9 Sqn.—N5374, N5378, N5459 (previously with No. 1), N5462 (later with No. 12), N5475 (previously with No. 1), N5484 (previously with No. 1, later with No. 12), N5489, N5490 (previously with Nos. 1 and 10).

No. 10 Sqn.—N533, N5354, N5366, N5381, N5429, N5478, N6302, N6306.

No. 11 Sqn.—N500, N524, N5351.

No. 12 Sqn.—N5361, N5453 (previously with No. 1), N5462 (previously with No. 9), N5468 (previously with No. 8), N5484 (previously with Nos. 1 and 9).

No. 2 Wing, R.N.A.S., Mudros—N5431.

SPECIFICATION

Power: 110-h.p. Clerget 9Z, 130-h.p. Clerget 9B, 110-h.p. Le Rhône 9J.

Dimensions: Span 26 ft. 6 in.; length 18 ft. 10 in.; height 10 ft. 6 in.; chord (standard) 3 ft. 3 in.; gap (each) 3 ft.; stagger (total) 3 ft.; dihedral 2 deg. 30 min.; incidence 2 deg.; span of tail originally 10 ft. 1 in., later 8 ft.; wheel track 5 ft. 6 in.; airscrew diameter (Lang) 8 ft. 11.9 in., (A.D.555) 8 ft. 6 in.

Areas: Wings (standard) 231 sq. ft.; ailerons each 5.66 sq. ft., total 34 sq. ft.; tailplane originally 23 sq. ft., later 14 sq. ft.; elevators originally 11.8 sq. ft., later 9.6 sq. ft.; fin 3.5 sq. ft.; rudder 4.5 sq. ft.

Armament: One fixed 0.303-in. Vickers machine gun with Scarff-Dibovski interrupter mechanism and 500 rounds. Six triplanes built by Clayton & Shuttleworth and those ordered from Oakley & Co. had two Vickers guns.

WEIGHTS AND PERFORMANCE

Aircraft	N504	C.F.S. test report, Dec. 1916 (130-h.p. triplane)	N5423 with wings of 3 ft. 6 in. chord	N5440 with small tailplane	Triplane with 110-h.p. Le Rhône	N5350		
						with A.D.555 airscrew	with Lang 1½-Strutter airscrew	with Lang 7922 airscrew
Weights (lb.):								
Empty ...	1,135	1,101	993	1,168	1,095	1,178	1,178	1,178
Military load	—	80	58	58	—	—	—	—
Pilot ...	—	180	180	—	—	—	—	—
Fuel and oil	—	180	184	—	—	—	—	—
Loaded ...	1,502	1,541	1,415	1,538	1,451	1,548	1,548	1,548
Max. speed (m.p.h.) at:								
Ground level	—	—	—	—	121	—	—	—
1,000 ft. ...	—	—	—	115	—	—	—	—
3,000 ft. ...	122	—	—	114	—	—	—	—
6,500 ft. ...	119	113	116	114	111.5	—	—	—
10,000 ft. ...	119	107.5	114	117	108.5	100.5	99	104.5
15,000 ft. ...	—	98	105	—	—	—	—	—
Climb to:	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.
6,000 ft. ...	— —	5 50	5 40	4 54	— —	6 8	5 25	5 58
6,500 ft. ...	— —	— —	6 20	— —	5 16	— —	— —	— —
10,000 ft. ...	9 25	11 50	10 36	10 12	9 20	12 28	11 0	12 27
13,000 ft. ...	13 0	22 20	15 0	15 42	— —	18 35	17 0	19 22
15,000 ft. ...	— —	— —	19 0	— —	— —	— —	24 0	— —