

Operator's Handbook

# SOPWITH PUP

Take a tour of the aircraft that brought the fight to the Germans and helped end the terror of the Fokker Scourge

WORDS JACK GRIFFITHS

The Pup was one of Sopwith's most iconic designs



'Pup' was initially a nickname due to the fighter's small size, but it stuck and later took over from the official 'Scout' title

**"IT WAS A FIXED-GUN, SINGLE-SEAT FIGHTER AND ENTERED SERVICE IN 1916 TO TAKE THE WAR IN THE SKIES OF FRANCE BACK TO THE GERMANS"**



Above: A Pup taking off from the battle cruiser HMS Repulse in the pre-aircraft carrier era

## SOPWITH PUP (N6452)

**ROLE:** SINGLE-SEAT FIGHTING SCOUT  
**YEARS IN SERVICE:** 1916-17  
**LENGTH:** 5.9M (19FT 3.75IN)  
**WINGSPAN:** 8.1M (26FT 6IN)  
**MAXIMUM SPEED:** 179.4KM/H (111.5MPH)  
**MAXIMUM ALTITUDE:** 5,334M (17,500FT)  
**ENGINE:** 59.65KW (80HP) LE RHONE ROTARY ENGINE  
**ARMAMENT:** VICKERS .303 MACHINE GUN, LEWIS MACHINE GUN (ON SOME MODELS), LE PRIEUR ROCKETS

The precursor to the Sopwith Camel and the SE5, the Pup was one of the Royal Flying Corps' (RFC) finest aircraft in the middle stages of World War I. It was not an original design, and its shape stems from its bigger brother the Sopwith 1½ Strutter, but it was instantly effective. The plane was a fixed-gun single-seat fighter and entered service in 1916 to take the war in the skies of France back to the Germans.

1,770 Pups were built in total, and were used extensively on the Western Front as aviation became an important part of warfare for the first time. The plane fast became a favourite among pilots due to its responsive controls and manoeuvrability, but was phased out in late 1917 as German fighters such as the Albatross D.III began to outclass it.

In the latter stages of the war the Pup was handed a new responsibility: protecting

Britain from the threat of Zeppelin raids. Fitted with more-powerful engines, they helped shield the skies from the German Empire's bombing attacks under Operation Türkenkreuz. After the war, Pups acted as training craft for pilots in the newly created RAF. Today they remain an iconic aircraft, and a fond reminder of the nascent period of military aviation. Very few aircraft are remembered with such nostalgia.



The aircraft's wheels were often accompanied by skid undercarriages to aid landing



The cockpit, although basic looking, was more than enough to be effective on the Western Front

## COCKPIT

The aircraft's original design was supposedly sketched out in chalk on a Kingston shop floor by test pilot Harry Hawker. Nevertheless, the Pup possessed flying qualities above many of its contemporaries. The control was smooth and the .303 Vickers machine gun was attached to an interrupter gear, so that it could be fired forward through the plane's propeller.

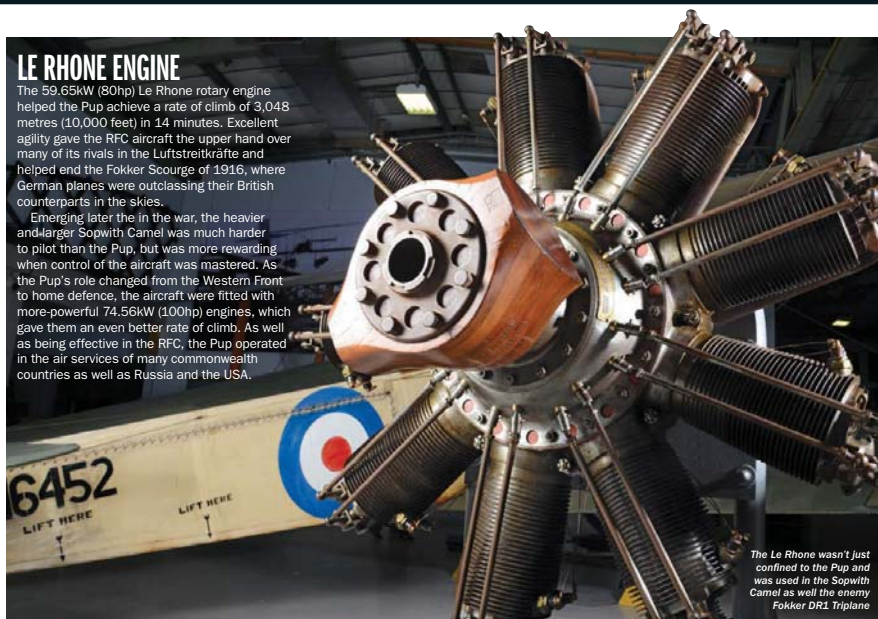
Overheating was a common problem found with Vickers guns, but holes were cut into the water jacket so air could cool the weapon faster. The simple design of the Pup, in its role as a fighter scout, became the template that later Sopwith variations would follow. In the early days of military aviation, new and upgraded prototypes were rolling off the production line at a rapid rate. As such, it wasn't long until the Pup was superseded by more-improved models that were poised to take to the skies over France.

**"IN THE EARLY DAYS OF MILITARY AVIATION, NEW AND UPGRADED PROTOTYPES WERE ROLLING OFF THE PRODUCTION LINE AT A RAPID RATE"**

## LE RHONE ENGINE

The 59.65kW (80hp) Le Rhone rotary engine helped the Pup achieve a rate of climb of 3,043 metres (10,000 feet) in 14 minutes. Excellent agility gave the RFC aircraft the upper hand over many of its rivals in the Luftstreitkräfte and helped end the Fokker Scourge of 1916, where German planes were outclassing their British counterparts in the skies.

Emerging later in the war, the heavier and larger Sopwith Camel was much harder to pilot than the Pup, but was more rewarding when control of the aircraft was mastered. As the Pup's role changed from the Western Front to home defence, the aircraft were fitted with more-powerful 74.56kW (100hp) engines, which gave them an even better rate of climb. As well as being effective in the RFC, the Pup operated in the air services of many commonwealth countries as well as Russia and the USA.



The Le Rhone wasn't just confined to the Pup and was used in the Sopwith Camel as well the enemy Fokker DR1 Triplane

## THE PRE-AIRCRAFT CARRIER AGE

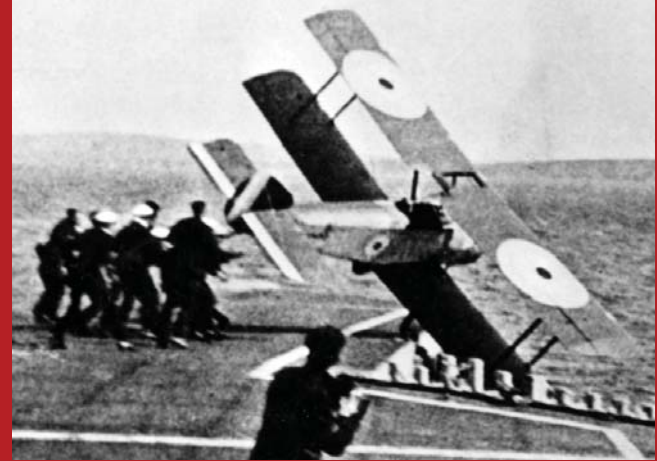
**HOW THE PUP BECAME THE FIRST PLANE TO LAND ON A MOVING SHIP**

As well as proving itself on the Western Front, the Sopwith Pup shot to fame with its excellent ability to land. Fitted with skid undercarriages, the fighter was designed to catch the traps set up on the decks of ships. On 2 August 1917, it became the first aircraft to achieve the feat when Lieutenant Commander Edwin Dunning successfully landed on the flying deck of battle cruiser HMS Furious.

Dunning was successful in landing at sea once again on 7 August, but he was not to be so lucky on his third attempt. As he approached the Furious, the engine choked and the lieutenant commander tried to pull out. However, it was too late, and the heavy landing burst a tyre as an updraft threw the plane overboard. Dunning was thrown about in the cockpit and knocked unconscious. He drowned in the sinking aircraft.

*Right: Dunning's untimely death was shocking, but he had shown that landings could be made at sea, changing the face of aviation*

**"FITTED WITH SKID UNDERCARRIAGES, THE FIGHTER WAS DESIGNED TO CATCH THE TRAPS SET UP ON THE DECKS OF SHIPS"**



## DESIGN

To aid visibility, a portion of the top wing's centre section was cut out. Each wing had ailerons and raked tips to help the control and stability of the Pup. The top speed and rate of climb was aided significantly by the light yet tough structure of the aircraft.

When the Pup was reassigned to defensive duties, extra armament was included on top of the standard Vickers gun. Four Le Prieur rockets were attached to either wing and fired at the zeppelins that were appearing over London. Due to their inaccuracy, none of the rockets managed to bring down a zeppelin outright, but they did inflict damage and were effective in grounding enemy observation balloons. The rockets were replaced by incendiary bullets towards the end of the war.

*The Pup may look basic and a little flimsy, but it was tough and packed with the latest in aviation technology*

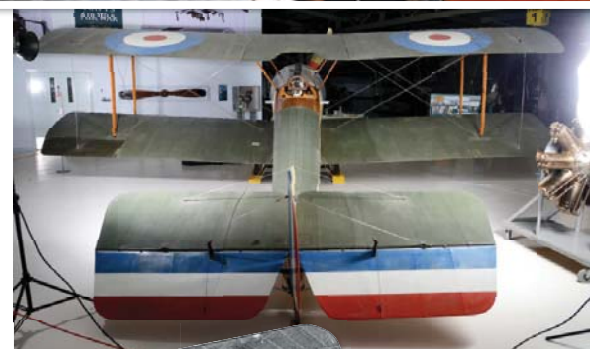
**"THE TOP SPEED AND RATE OF CLIMB WAS AIDED SIGNIFICANTLY BY THE LIGHT YET TOUGH STRUCTURE OF THE AIRCRAFT"**



*The Pup's whole engine casing rotated as only the crank remained stationary*



*Right: A single-seat fighter, the Pup had a wooden frame covered in canvas*



*An early incendiary weapon, Le Prieur rockets were used to bring down German observation balloons and zeppelin airships*



## A SOPWITH PUP PILOT

The uniform of an RFC pilot was based on comfort, protection and warmth. A thick leather overcoat and scarf were worn at all times to protect from the cold as well as chafing from the wind. Goggles and a flying helmet were a necessity in an open cockpit as all sorts of debris could fly into the pilot's face. Tough boots were also a must to withstand the wear and tear of piloting a Pup.

**"GOGGLES AND A FLYING HELMET WERE A NECESSITY IN AN OPEN COCKPIT"**



## THE SOPWITH ZOO THE DOMINATION OF THE SOPWITH AVIATION COMPANY IN BRITAIN'S WAR IN THE SKIES

Founded by Thomas Octave Mordaugh Sopwith, the aviation company started off small but soon grew into one of the chief designers of World War I aircraft. In just eight years the company employed 3,500 people in 14 acres of factories. 25 per cent of the British aircraft flown in World War I were Sopwith designs with 60 per cent of all single-seat aircraft being made by the company. After the war, Sopwith couldn't capitalise on its monopoly in the industry and failed to adjust to the lack of peacetime demand for fighter planes. By 1920, the company was no more.



*Above: An experimental design, the Sopwith Triplane was only built in small numbers but was nevertheless effective against the German Fokkers. Above, right: Equipped with two Vickers .303 machine guns and highly manoeuvrable, the Camel came into its own after coming into combat service in June 1917. Right: The Strutter was a pioneering design and was the first British fighter to include a synchronised machine gun on board*



*Images: Alamy, Mary Evans*