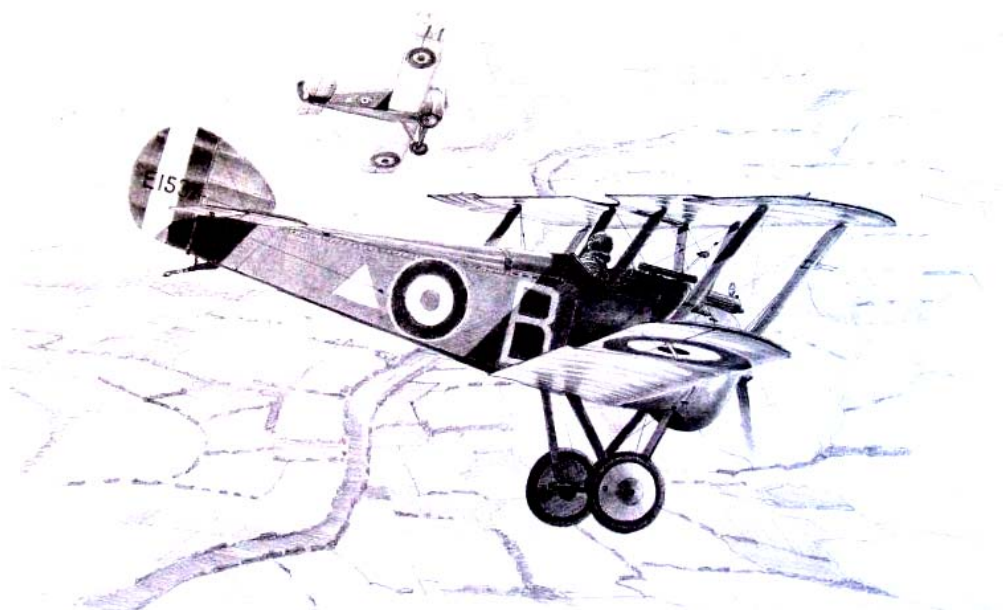


Flying and Air Fighting in the  
**SOPWITH CAMEL**  
Over Flanders' Fields

A Guide for New Pilots

by

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Quick Rating to Fly: Difficult +

Introduction

The purpose of this guide is to give chaps new to the Camel a hint of how best to fly and air fight the machine against the Hun. This guide will cover the general characteristics of the machine; her strengths and weaknesses; things to watch out for taking off and landing and how to manoeuvre and use the Camel and her famous 'humped' twin Vickers in air and ground combat. Now, this author does not claim to be the definitive expert on the Camel (and all pilots have a slightly different viewpoint on any machine in Over Flanders' Fields in any case) so hopefully some other fellows can add stuff, qualify what's laid out here or, if needs be, shout it down as just plain wrong. The Camel's flight model seems more than normally affected by the rig you run OFF on, so experiences will vary.

By the way, everything written below assumes that your crate is still exactly as she came out of the Sopwith Works. That is to say, your rigger and fitter haven't worked any wonders in that magical workshop of theirs to soften the Camel's behaviour or make your crate stronger or your guns more powerful or any of that sort of palaver.

They can do all that sort of thing course. In fact, it's rumoured they can even influence the weather... but this author personally prefers not to depend on them, stout fellows though they be.

### General Characteristics

In a nutshell... she's one tricky bitch. She's not called the 'Widowmaker' for nothing! Fail to pay attention and stall on take off, she'll drop you on your head from 100' up - not an action conducive to longevity... treat her with respect.

The Camel's a rotary engine machine and most her weight is in the first seven feet of the machine. Those of you who've flown Avros or Pups and think you know rotaries - think again. The Camel is NOT docile. Nor will she forgive mistakes. With her there are two critical things:

- 1) Like any rotary, she's not as fast as the modern inline scouts like the Hun's Albatros, Pfalz and Fokker DVIII's, nor our own SE5a;
- 2) Lots of Torque - the force that makes the machine want to turn in the opposite direction to the engine revolution.

This means:

- 1) You shouldn't start a fight you cannot get away from so watch out for enemy reinforcements especially if you're already in combat;
- 2) The Camel is primarily a turn-fighter, not a dive and zoom fighter. Mind you, by default she's rigged tail heavy, so she's pretty good at looping and quick upward changes of direction, which poses its own problems.

Tail heavy rigging, weight up front and loads of torque means you're flying a gyroscope! The 'Widowmaker' is a sensitive creature and requires constant attention, especially at low altitudes.

The Camel turns lightning fast to starboard and much slower to port - many pilots NEVER turn to port in a dogfight, but pull her all the way round to starboard instead, claiming it's in fact quicker. With rudder neutral the Camel will drop her nose in a starboard turn and raise it in a port turn - that's the torque for you - shouldn't be a problem if you know what to expect. In fact, she's NOT the 'hands off' sort of girl at all. Heh, I'm sure we all wish we knew more like her back in Blighty! Her tail-heaviness requires you to keep the stick forward for level flight. This is tiring on long jobs so you can have your crew trim her level and maybe your fitter can put a button or lever on your stick to 'auto-trim' the machine. However, this does sap the old girl's enthusiasm a bit and takes off her edge in combat, so make your decision wisely.

As far as visibility from the cockpit is concerned the Camel is not as good as the Pup and far from as good as the Sopwith Tripe. This is a bit of a concern for a turn-fighter, but because the Camel turns so well, you can afford to lean back and watch your target over the trailing edge of the top planes and you've a handy cut-out in them to keep an eye on your opponent as you close in, but you'll need to be prepared to move around in the cockpit a bit to maintain the best view.

### Pre-flight and Take-off

So, when you're sat in the cockpit on the field for your first flight in the Camel, you will need to bear all the above in mind before you yell 'Contact'. Be prepared. The port planes will dip and any swinging to starboard will dig the port lower planes in. Use your ailerons and rudder to compensate and keep compensating as you pick up speed. The Camel's tail heaviness and double strength dihedral on the lower planes will get her off the ground double quick, but that's the time to watch your climb angle, because if you lose too much speed, she'll stall flip backwards to starboard and YOU WILL NOT RECOVER. Many a new chap's 'Gone West' in exactly that circumstance.

### Normal Flight

I strongly suggest taking the Camel up for several test flights before you embark on a combat patrol. Depending on the discussions you've had with your fitter and rigger and what your fitter has done in the workshop, you will have more or less work to do to keep the machine on a steady climb. If you don't 'auto-trim' then you'll learn through practice how much elevator, rudder and aileron you need. In any case, depending on how you're navigating, you may need to move the machine around a little to get a glimpse of the ground below, so practise, practise and practise. As far as climbing is concerned, once you've a bit of sky beneath you the Camel can climb quite aggressively, around 25-30 degrees full throttle, quite safely. That's over a 1000 ft. per minute and you will feel when she's 'getting a wobble on' and needing to be eased off. At 15,000, take your hands off the controls and see what she does, that will show you her innate tendencies that you have to compensate for... and tame. By the way, being as you can climb quickly you do need to watch your fuel mixture, unless your fitter has sorted that out for you too.

### Combat (Air)

Engaging the enemy successfully in the Camel, is, as with any machine, a question of using your advantages and not exposing your weaknesses. Firstly though, the most dangerous enemy of all is the one you don't see, so look ALL about you, and keep looking. If you spot anything at all, use your binoculars and zoom into that part of the sky. If you have the advantage of height - get some more. Then use it! Dive on their tails with the sun behind you and if you're any kind of a pilot they'll not shake you off before you've got a few rounds in, then zoom, starboard turn and repeat until the Hun starts turning. If you haven't the advantage... don't

attack... though sometimes you won't have the choice. So, learn to work with the rest of your Flight, decide what signals to use for 'Stay with me', 'I need help', 'Attack', 'Break Off' etc. Remember, in a right-hander, the Camel can out-turn any Hun scout including the Fokker Triplane, so quickly turning in behind a Pfalz, Albatross or DVII after a head-on pass, with your wingman close on your rear quarter, should put you and your wingman at an advantage. Both the Albatross and the Pfalz (especially the latter) can beat the Camel in dive and zoom tactics though, so unless you're sure Johnny Hun's all alone, DON'T play his game and follow him down, instead stay aloft and wait for him to come back up and snap round onto his tail once more. The same applies to the Fokker DVII, which has the choice of climbing straightaway and doesn't need to dive first, but again, keep him in view and wait for him to come down - or up. If your Hun doesn't want come back to your level and play but stooges off home, instead, well... that's one claimed 'driven off' isn't it?

One problem in air shooting you MUST overcome in the Camel is keeping the nose steady and on target or on deflection. Her tail-heaviness can easily force you to miss, especially if you relax your pressure on the stick as you pull the lever. Some pilots like to keep the nose slightly below target so that the Camel's tail-heaviness plays to advantage in precisely that way. However, this can pose a problem in a tight turn-fight where you need to pull lead but avoid falling out of the turn, e.g. when dogfighting the Triplane, so avoid banking too steeply if you want to try that approach - no more than 50 degrees, use your rudder to pull the Hun under your guns.

Ah, now... the Fokker Triplane. This devil caused a lot of anguish when she first appeared. For a start a few chaps mistook her for the Sopwith Tripe and found out their mistake too late. She is indeed a formidable opponent in good hands. But, the main reason for the fear of the Triplane was the fact that both the brothers Richthofen got their hands on one. The Red Baron is deadly in his and should you meet him I can only wish you luck - you'll need it. However, the Camel can beat a Triplane flown by an average to good Hun pilot. But you need to act quickly. The Triplane suffers from the same rotary issues as you do but with wing failure issues as well, so you can probably outrun it if you're in trouble. The Tripehound can turn well but still not as fast to starboard as the Camel and it also loses manoeuvrability rapidly if damaged. So, get on a Triplane's high or low rear quarter as soon as you can, pull some lead and use the Camel's huge gun sight to put a few rounds into your foe on a deflection shot. Your nose will probably drop so let it, pick up the speed, gain back a bit of height and repeat... always to starboard. But... DON'T EVER LOSE SIGHT OF A TRIPLANE. Unlike with any other enemy machine, if the Hun goes to ground in a Triplane I'd recommend you follow, because those devils climb like monkeys and he could be on your tail before you know it... and then YOU probably won't shake HIM off.

Attacking two-seaters with the Camel is standard practice i.e. behind and below, in the observer's blind spot. Your hardest task again will be keeping the Camel steady enough to get a few three second bursts in without your nose lifting... unless of course you've had your ever-eager rigger and fitter address that.

#### Combat (Ground)

Attacking ground targets poses similar problems to attacking two-seaters in respect of keeping the nose steady, because the elevators become extremely sensitive in a dive as soon as you reach 130/140 mph. The Camel's natural tail-heaviness (unadulterated) makes her a good ground-strafting and dive-bombing aircraft, because as soon as you take your hand off the stick she'll go up... which in low level recovery is DEFINITELY the correct direction! Be extra careful of ground fire when zooming though, because your speed will drop rapidly unless you push her nose down to an acceptable angle, and you don't want to present an almost stationary target to any Jerry emma-gees.

#### Landing

Landing the Camel is the reverse of take-off, although landing backwards is to be avoided! This is to say that in a powered landing you need to beware of torque and you should aim to touch down on three points as near as possible. Rudder effect diminishes dramatically and with the torque you could easily ground-loop or worse if you let her bounce with the throttle out. Personally, this author prefers to line up accurately on the field from some distance away, cut the engine and glide her in. The Camel glides beautifully - and a surprisingly long way - in a very slight nose-up attitude. Torque is not a problem with the engine off and, as long as you are very delicate with the ailerons and rudder (hence the need to line up) she'll settle in to a perfect three-pointer with no trouble at all. Experience will teach you where and at what height to cut the engine to avoid overshooting, or under-shooting, though the latter is least likely.

## ADDENDUM

Since first writing this guide your author has had the privilege of additional advice from one of our most expert exponents of the Sopwith Camel - Louvert of the RAF. His advice is given here as an addendum under the heading of 'Advanced Tactics' because they require absolute familiarity with your machine's capabilities to execute to advantage... and may be disadvantageous to you if poorly executed.

### Advanced Tactics

Now, contrary to the common advice, there are in fact situations where going to port works well. For instance, when finding a slightly less agile scout coming up on your tail - an Albatros DV for example - you can pull a steep climbing turn to port, pushing right up to the point of the infamous spin, and just before the beast tips into it push the stick all the way forward as you kick full port rudder. You will slip off on the port wing first and her nose will fall; as this happens ease the rudder back to just barely portside of centre, roll counter-clockwise and pull back on the stick as you become right side up with the world again. If you have your timing off pat you will likely find yourself at your foe's six o' clock.

Also, the Camel is so agile at low speed that you can easily roll out at the top of a loop with no fear of stalling or wallowing about, and with very little loss of speed, (assuming you've practiced with your kite and know its limits). This is another first-rate combat tactic as it can put you well above a Hun who follows you into the loop and does not roll out at the apex.

And here's one final fun little trick the capricious OFF Camel has - that you can try the next time you have one of those equally tricky DRIs in close pursuit. At full speed go into a starboard turn and as you do so, pull back on the stick about 2/3rds and give hard rudder to starboard. If you have it right you will snap into a clockwise spin with your nose angled towards the dirt. As fast as you can, centre the rudder and push forward on the stick and you should snap back out of the spin with more speed than you entered it. Immediately pull back on the stick and go zooming up and over a very confused enemy.

### Statistics

150 hp Bentley B.R.1

Empty Weight: 9311b (422 kg)

Loaded Weight: 1,471 lb (667 kg)

Max Speed:

121 mph (195 km/h) @ 6,500 feet (1981m);

117.5 mph (189 km/h) @ 10,000 feet (3352m);

111.5 mph (179 km/h) @ 15,000 feet (4572m).

Climb:

5 minutes 05 seconds to 6,500 feet (1981m)

8 minutes 50 seconds to 10,000 feet (3048m)

16 minutes 30 seconds to 15,000 feet (4572m)

Ceiling: 22,000 feet (6705m)

Endurance: 2 hours 30 minutes

Armament: Two fixed .303 Vickers mg

No's Built:

5,490; of which 1,325 were built in 1917 and 4,165 in 1918. Of the 4,188 machines distributed to the RFC/RAF, 2,116 went to Squadrons with the B.E.F. in France.

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