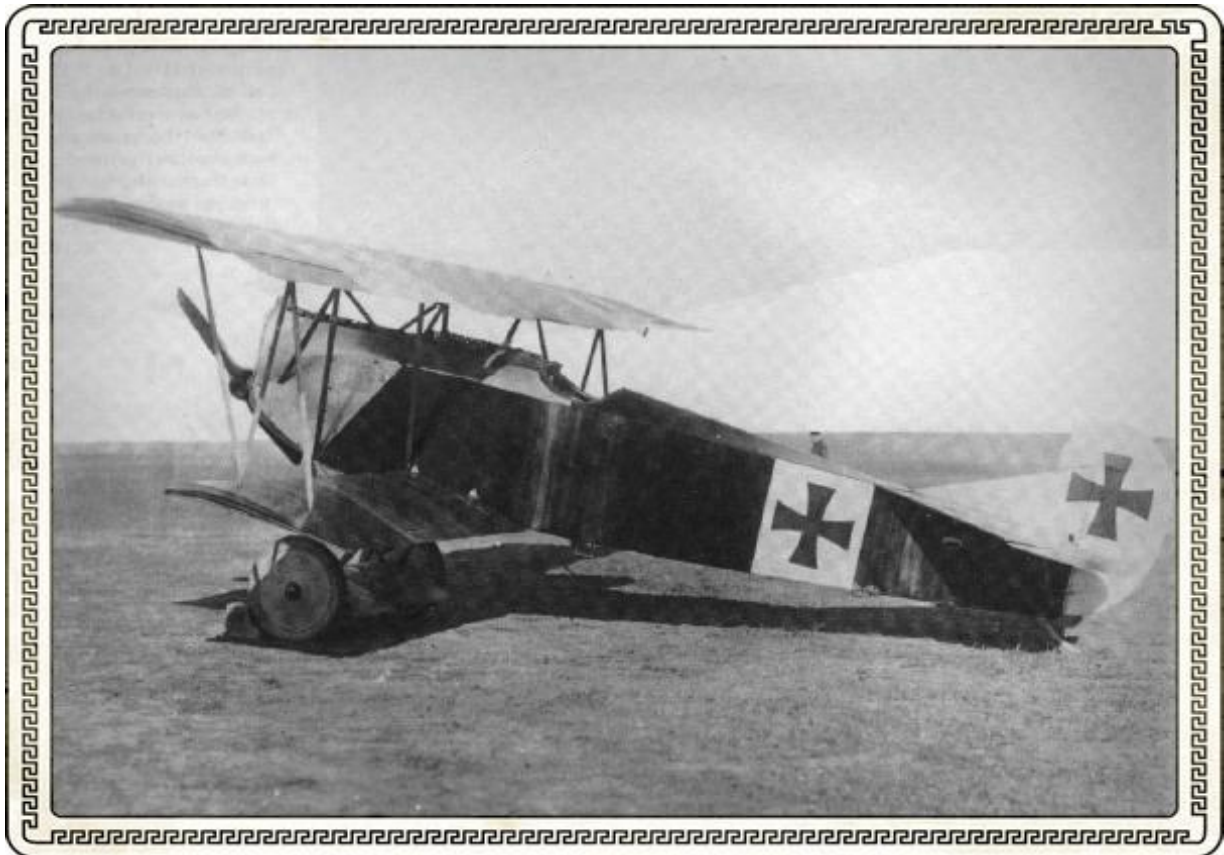




Eine technische und taktische Anweisung
für die
Fokker D.vii Reihe
Einsitzer Kampfflugzeug.

Herausgeben durch die Fokker Flugzeugwerke; erstellt auf Befehl der Deutschen Luftstreitkräfte
und der Obersten Heeresleitung und Seekriegsleitung



* Additional notes by Leutnant Geschosskopf

Dear fellow Flieger,

Before you read this guide... there are things of which you should be made aware that no mere guide to flying the machine itself could tell you

Our propagandists have claimed that our Fokker D.VII is the best single-seater fighter aircraft produced by either side so far in the war. While this claim has much merit, the truth is that the D.VII is pitted against Entente machines with equal or even superior performance in at least some areas and more significantly, these enemy machines exist in overwhelming numbers. As a result, as good as the Fokker D.VII undoubtedly is, you are likely to find yourself wishing it were a bit better.

Here, in this latter half of 1918, flying for the Kaiser is so dangerous that it is impossible to discuss the Fokker D.VII in isolation from its environment. Every second you spend at the controls is overshadowed by the countless threats all around you, so that you often feel like a cornered rat. This is no place for pilots new to the skies Over Flanders' Fields. Therefore, my notes assume that you, the reader, are a veteran and as such, flying the docile D.VII will be no problem at all for you, so I will skim over the flight characteristics and spend most of the time on situations and tactics. When aircraft performance is mentioned, it will mostly be in relative terms saying the D.VII is better or worse than its enemies in a certain area. But first, though, let us consider the unfriendly skies of 1918.

We knew the days of the lone wolf were finally over when Voss fell, but now even those long intervals of peaceful climbing and cruising prior to encountering one or two enemy flights are things of the past. Now, most enemy units fly at squadron strength and often multiple squadrons operate together. In contested sectors dogfights thus can easily involve one hundred planes and never end because new squadrons continually dive in at the top as their predecessors exit as flaming wreckage below. In such melees, keeping track is nearly impossible, let alone maintaining large-scale situational awareness.

If you fly within a few miles on either side of the trenches, you are almost certain to become involved in one of these huge combats on most sorties. Either you will join one already in progress or a seemingly small fight you initiate will grow quickly as others join in. As dangerous as this appears, it is often worse to stay well behind our lines because of the Entente's huge numerical superiority. Our relatively few (by comparison) squadrons mostly fly near the front lines, leaving large herds of Entente planes roaming at will over the German rear area. Thus, while a fight at the Front might involve one hundred planes where the Entente has a mere 3:2 to 2:1 numerical advantage, behind our lines a fight might involve only thirty planes but the Entente will usually have a 3:1 or 4:1 numerical advantage.

Two other aspects of the present situation also require mention. The first is the flak, which is more intense than earlier in the war, although fortunately no more accurate. The other factor is the enemy; they are more aggressive than ever. [Late 1918 is the home turf of the aggressive AI setting, unless you change it in Workshop]. Expect the enemy to be skilled and willing to fight to the death.

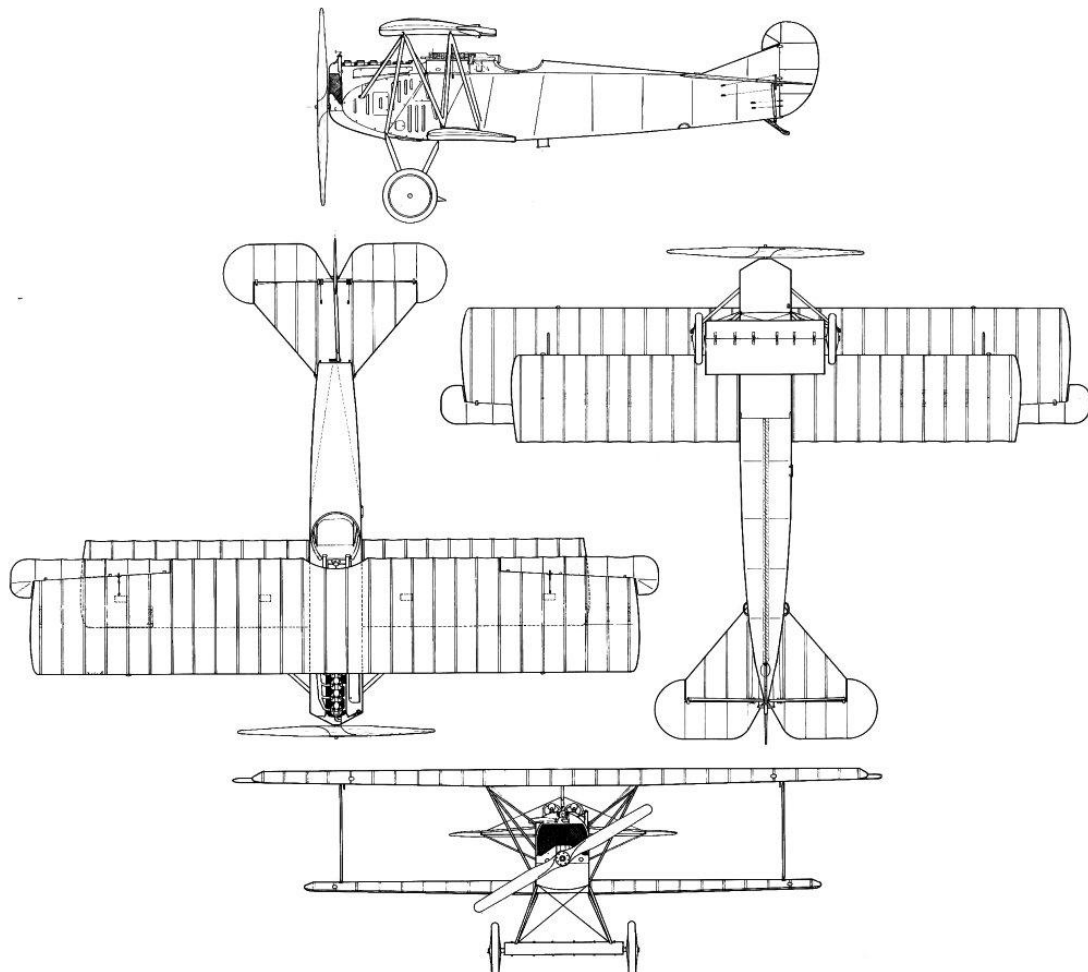
Good Luck!

Geschosskopf (Leutnant)

Technical Data

Type:	Fighter
First Introduced:	Late March or early April 1918
Engine(s):	Mercedes D-III 6 cylinder Liquid cooled inline, 160 hp BMW IIIa inline, 185 hp
Wing Span:	8.93 m (29 ft 3.5 in)
Length:	6.93 m (22 ft 11.5 in)
Height:	2.80 m (9 ft 2.5 in)
Empty Weight:	680 kg (1,540 lb)
Gross Weight:	850 kg (1,936 lb)
Max Speed:	190 km/h (118 mph) Mercedes 200 km/h (124 mph) BMW
Ceiling:	5,486 m (18,000 ft) Mercedes 6,400 (21,000 ft) BMW
Endurance:	1.5 hours
Crew:	1
Armament:	2 Spandau 7.92 mm machine guns
Type:	Fighter

* D.III early version: 160 PS (157.8 bhp); D.III final version: 175 PS (172.6 bhp)



General Characteristics

The Fokker D.VII is an extremely well-behaved machine with no vices. It is very stable so can be trimmed easily to fly hands-off. It takes off easily, lands gently, climbs nicely, and turns well in both directions. In fact, it is probably the easiest fighter to fly for an experienced pilot. The forward visibility is neither very good nor very bad, but the rearwards and upwards views are excellent. The Fokker D.VII is also very strong. It has no structural limits on its manoeuvres and can absorb a lot of damage with little ill effect. Its main weakness is its radiator, hits in which rapidly cut engine power.

** which you'll be using the most in these intense combats! - G*

Pre-flight and Take Off

Untrimmed, the D.VII will veer to the left on taking off but not enough to cause concern. For the look of things though one should apply a little pressure to the right rudder bar. The tail will come up at 110 km/h and the wheels come unstuck at 120 km/h. The D.VII can be pulled up into a 30 degree climb at this point but will wallow somewhat, requiring right rudder and aileron to correct. A 20-25 degree climb is much more comfortable.

Normal Flight

The Fokker D.VII comes in three variants: regular, DAW, and F. For most Jasta, the F is only available in the last few weeks of the war. As such, this guide will focus on the regular version with notes where the DAW and F versions differ enough to matter.

In general, below about 3,000 meters (10,000 feet), the regular version is faster on the level and in rate of climb than the DAW version but not enough to really notice. However, above that point, the DAW is superior and in fact has a ceiling several thousand meters higher. Even better, the DAW does not lose power in negative-G manoeuvres. This greatly enhances the utility of the D.VII's famous 'prop-hanging' ability (see below). The F has a significantly more powerful, high-compression engine. As such, its high-altitude performance is quite good and it is noticeably faster on the level and in a climb than the others. While the other D.VII versions are nice, this one is great and arguably deserves the title 'best fighter of the War so far'.

[Also note that for true realism, OBD recommends using a maximum of only 1,400 rpm below 600 meters (2,000 feet) in the F, to simulate having to reduce power to prevent engine damage from over-compressing dense, low-altitude air.]

The Prop-Hang

This is the most famous flight characteristic of the D.VII. As the name implies, it involves pulling up sharply and holding there until speed falls to nearly nothing, performing a near-vertical zoom. This can be done at any starting speed without fear of stalling in the process. While Entente planes can equal or exceed the height gained in such a move, the D.VII can hold this attitude much longer than they can and, when it finally mushes over, under complete control, it loses little of the altitude it gained, whereas the Entente machines lose most of it and often go into spins. As such, this is a useful way of grabbing some altitude in a hurry in the regular and F versions, during a brief lull in the fight when you are setting up for another pass. Do not do this in front of an enemy, though, because you are a sitting duck while hanging on your prop. In the DAW version, the prop-hang is much more effective as an actual combat manoeuvre. Due to its aerobatic carburettor, in the DAW you can push the nose back down rapidly without losing power, allowing you to come out of the manoeuvre with more altitude and about the same speed as you entered it, in a shorter time than in the other versions. This is especially effective if done prior to completely losing your airspeed, allowing you both to gain altitude and change direction very quickly while maintaining fighting speed throughout. This makes the manoeuvre excellent both offensively and defensively during the actual combat.

The Thick Wing

The D.VII's wing is so strong because it has a thick, high-lift section. This wing design is what allows this relatively heavy plane to turn so well and hang on its prop. However, this thickness comes at the cost of a fair amount of drag. As such, by the standards of the Entente fighters of late-1918, in level flight the regular and DAW versions are slow. As such, disengaging is normally only possible if the enemy decide to pick on somebody else or are too crippled to pursue you, because you are very unlikely to kill all of them, their numbers being so great. This brings us to the subject of fighting....

**The F is n fact mediocre,
and all versions are quite
slow in dives. - G*

Combat (Air)

General Notes

The regular and DAW versions of the Fokker D.VII are best described as 'jacks of all trades, masters of none'. The Entente fighters of the present period all can do at least one thing better than these D.VII versions. The earlier D.VIIs, however, can do at least one thing and sometimes several things better than any Entente fighter, and are close seconds even in the areas where they are inferior. The F version has fewer areas where it is inferior and more where it is superior to a given opponent. As a result, all versions of the D.VII are excellent all-around fighters, capable of being effective in both energy and turn contests, whereas most of their opponents are specialists. This is complicated, however, by the fact that the D.VII matches up differently against the various Entente fighters, and sometimes differently against the same enemy in different flight regimes. Thus, the D.VII pilot must be proficient in all styles of fighting, aware enough to see when the situation changes, and able to switch instantly from one style to another to match. *

Due to its phenomenal low-speed vertical abilities the D.VII has no hard deck regardless of fighting style. However, due to the prevalence of AAMGs, stay above 600 meters (2,000 feet) over enemy territory and when near friendly facilities. On the upper end of the spectrum, the regular version has a ceiling of about 5,000 meters (16,000 feet) but does not have survivable speed or manoeuvrability above about 4,000 meters (13,000 feet), which is very low by current standards. The DAW version is a bit better, fighting effectively up to about 4,500 meters (15,000 feet), but still on the weak side for its time. In the F, fly and fight as high as you desire.

[A note on survival: The skies of 1918 are hostile in the extreme, so you may wish to relax the harsher parameters until you are more familiar with your environment. Guidance for what may be considered 'realistic' settings may be found of the OFF General Discussion Forum in the [Survival In the Air Series - OFF- Pilot primers and Workshop Settings](#) thread]

Our Opposition

In the skies, the Fokker D.VII faces five main opponents: The SE5a (with an increasing number of them proving to have the Viper engine as time goes by); the SPAD XIII; the Camel (less common than the above); the Bristol Fighter, and the RE8. Depending on where you are, you might also meet a few SPAD VIIIs and Strutters in French colours, plus the odd antiquated Nieuport, all of which will be ignored in this guide. While your main job is to stop the RE8s, the swarms of fighters around them usually prevent this. Bristol Fighters usually will not attack you but are very dangerous when provoked due to the automatons manning their rear guns. The Camels, SPAD XIIIIs, and SE5as, however, are all out actively hunting you in numbers that are nearly impossible to avoid. Thus, encounters with them will be your usual fare, so you need to know how the D.VII stacks up against them.

***This, apart from the sheer degree of danger in today's skies, is what makes the D.VII a difficult ride. While the plane itself is easy, you must be a master of air fighting manoeuvres and able to wring all the performance out of it, to survive very long.*

Novices need not apply. - G

CAMEL

Level Speed: Somewhat slower than regular and OAW, significantly slower than F.

Dive Speed: Somewhat slower than all D.VIIs

Roll Rate: Significantly better than all D.VIIs.

High-speed Zoom Height: Significantly inferior to all D.VIIs.

Low-speed Zoom Height: Significantly inferior to all D.VIIs.

Sustained Turn: Significantly better than all D.VIIs to the right, noticeably better to the left.

Sustained Climb: Above 6000 feet, is a bit worse than regular and OAW, and noticeably worse than F. Below 6000 feet, is better than regular and OAW, about equal to F (at least above 2000 feet).

SE5A (HISPANO ENGINE)

Level Speed: Somewhat faster than regular and OAW, a bit slower than F.

Dive Speed: Significantly faster than all D.VII versions.

Roll Rate: A bit better than all D.VII versions

High-speed Zoom Height: About the same as regular and OAW, a bit worse than F.

Low-speed Zoom Height: A bit worse than all D.VIIs and lacks the prop-hang ability

Sustained Turn: A bit inferior to all D.VIIs.

Sustained Climb: About equal to regular and OAW, a bit worse than F.

SPAD XIII

Level Speed: At low altitudes, is a bit faster than regular and OAW, about the same as F. At high altitude, the SPAD is noticeably faster than all D.VIIs.

Dive Speed: Significantly faster than all D.VIIs.

Roll Rate: A bit worse than all D.VIIs.

High-speed Zoom Height: Significantly better than regular and OAW, a bit better than F.

Low-speed Zoom Height: Significantly inferior to all D.VIIs.

Sustained Turn: Somewhat surprisingly, is a bit better than all D.VIIs.

Sustained Climb: Above 6000 feet, slightly inferior to regular and OAW, noticeably inferior to F. Below 6000 feet, is about equal to regular and OAW, slightly inferior to F.

SE5A (VIPER ENGINE)

Level Speed: Rather faster than regular and OAW, about the same as F.

Dive Speed: Significantly faster than all D.VIIs.

Roll Rate: A bit better than all D.VII versions.

High-speed Zoom Height: A bit better than regular and OAW, about the same as F.

Low-speed Zoom Height: About equal to regular and OAW, a bit worse than F.

Sustained Turn: A bit inferior to all D.VIIs.

Sustained Climb: Rather better than regular and OAW, about the same as F.

Tactics vs. Specific Opponents

Camels are the only enemies that you should handle in a single fighting style. Always use vertical energy tactics on them, never turn with them. You should look forward to meeting Camels because not only are fights with them straight-forward, but you will also usually begin the fight above them and can disengage from them at will. Fights with Camels are largely mechanical if you know energy tactics. *

**sadly, camels are the least-common of your enemies, lost amid the vast swarms of SE5s and SPADs. - G*

If you fly in Flanders, the SE5a will be by far your most common opponent. The Hispano SE5a is roughly an equal match for the regular and OAW D.VII, while the Viper SE5a equates to the D.VIII. * Always assume it is a Viper to start with and focus on turn-fighting tactics, at which you can beat either type with some work. If you determine the enemy has an Hispano engine, then use a combination of vertical and horizontal moves, whichever seems best at the time. In general, however, both types of SE5a are close enough to all types of D.VII that the contest usually comes down to sheer pilot skill and marksmanship. Fights with SE5s are largely furious affairs of pure instinct and habit. Just remember that you cannot disengage unless the SE5s are unwilling or unable to chase you.

**unfortunately, the British will get Vipers long before we Germans get Fs, so odds are you will be fighting Vipers in a regular or OAW D.VII, which means you will be outclassed in the vertical. Apart from [using labels or] recognizing the nondescript British skins, there is no way to tell you are up against a Viper short of watching its vertical performance with dismay during a fight. - G*

The SPAD XIII is fairly common in the British sectors and is practically the only plane encountered in French and US sectors. * Against the SPAD, you must change your tactics depending on the SPAD's speed. When the SPAD is above about 90 knots, the SPAD is rather faster and has significantly better zoom performance than regular and OAW D.VIIs, and is somewhat better than the F. Below about 80 knots, however, all D.VIIs have significantly better zoom performance. Therefore, for the first part of the fight, after surviving the initial pounce from above, you must use turn-fighting tactics while trying to tempt the SPAD to lose its energy advantage. Once you see the SPAD stop zooming out of your reach and concentrate more on turning, you must switch to energy-tactics because the SPAD turns better than any type of D.VII at all speeds. Fortunately, the D.VII can do energy-tactics at even extremely low speeds and altitudes.

* *It is also your most dangerous opponent and makes you think longer and harder than the other enemies - G*

Dogfights

When you come across a pre-existing dogfight and are considering joining the fun, keep the following things in mind:

First, such dogfights typically resemble cones several miles across at ground level and with their points at about 10,000-12,000 feet. The number of aircraft per unit volume of airspace is usually highest near the ground and lowest at the top, although the distribution and the density gradient are not uniform, with pockets of greater or lesser density scattered throughout. Combats assume this shape as fresh squadrons arrive in ones and twos at high altitude and then lose altitude faster than they lose planes;

Second, many of the planes in the lower half of the cone are short on ammunition and have some damage, while the energy-fighters among them are becoming rather disadvantaged;

Third, the higher up you are, the more likely you are to be bounced by fresh enemies, even if you are on the side of the dogfight facing friendly territory;

Fourth, if you use the [Attack] order, your wingmen will disappear into the depths of the melee, never to be seen again.

Nevertheless, such combats are often the only encounters, or become so soon after your first brush with a seemingly isolated enemy squadron, so you need to know what to do in them. In general, the higher up you are, the more likely you will get confirmable kills because the enemy is not suffering prior damage and your wingmen are still close by. However, you are also very likely to be bounced by fresh enemies and forced down into the centre of the lower levels, from which it is hard to escape alive. It is thus best to come in from the flank in the lower 1/3 of the altitude spread and try to stay at or near the edge as you lose altitude fighting. [Either give no wingmen orders at all or use only the Help command.]

What makes the SPAD especially dangerous, is that the various SPADs in the enemy squadron do not all bleed their speed at the same rate. Thus, if you are turning while dodging a fast SPAD, another that has already bled down can be turning inside you onto your tail. Or if you are doing low-speed dive and zoom against a slow SPAD, one that is still fast can hit you as you hang on your prop. In general, therefore, fights with SPAD XIIIIs are mentally taxing and never relaxing until you are certain all of them are nice and slow - G

The problem with all the above advice of course, is that you rarely meet just one type of enemy plane, but a combination of all of them in the same huge melee (at least in British sectors). Thus, while you are diving and zooming against a Camel, you can be caught unawares by a Viper, for example. And even when all the enemies are the same type, there are almost always significantly more of them than there are of you. The best course, therefore, is to avoid locking up on a single enemy as you would earlier in the war, and do not totally commit to any particular style of fighting except in extremis. - G

Ground Combat

The D.VII carries no ordnance so can only strafe. ***

Landing

Landing the D.VII presents no problems to the pilot. It has an extremely low stall speed just floats right in. The main thing to watch is that it can float too long, resulting in a drop from too high when it finally stalls. Thus, you might find it necessary to force the plane down.

However, such routine landings are not as common as you would probably like. Often, you will have battle damage which complicates things, although the D.VII is tough enough that it takes a lot of damage to result in serious control problems.* The D.VII's best glide speed is about 60 knots, which produces a fairly steep descent angle, so you will not get far gliding. However, you do not want to be gliding along at 60 knots in 1918 any longer than necessary anyway, so the best thing to do is pick a spot within about a 45 degree cone under you and get down as quickly as possible. You can turn pretty hard while lining up, so do not be afraid to pick a spot over your shoulder if you think you have enough altitude.

*The same cannot be said for the engine, however, so you will certainly make many forced landings. - G

***These days, ground attack is practically suicidal given the huge numbers of AAMGs at all enemy installations. Fortunately, even if you are given an airfield attack mission, it is extremely unlikely that you will ever reach the target due to the number of enemy fighters you will encounter en route. Thus, feel free to ignore ground attack.

Balloon-busting usually does not work well, either. Due to the large number of enemies about, it is practically impossible to reach the target. If you do get there, you will almost certainly lack surprise due to other friendly planes passing by, so the balloon will probably be fairly low by the time you get in range, and its own AAMGs will probably destroy it before you can. Needless to say, you do NOT want to get in AAMG range, so stay above 600 m regardless of what the balloon is doing - G