



FIGHTER FORMATION FUNDAMENTALS



Fighter Formation Qualified Aircrews,

The following article is another in a continuing series on formation fundamentals that hopefully will aid in your formation endeavors. Airshow season is just around the corner with Sun-N-Fun in April and it's time hopefully to start thinking about formation flying again. Before we begin, I have had several calls concerning annual check rides and qualification card expiration dates. **The formation card has no expiration date and requires no annual re-qual. The qual date on the card is simply your original qualification date.** We are all aware of our limitations in formation. It is left up to you to stay current and proficient in formation. If you feel that you could use some brushing up, get with a flight lead and practice. If you are unaware of who these people are in your area, call me and I can give you some names. Fly safe!

This edition of formation fundamentals will discuss duties and responsibilities of a fighter flight lead. I ran across a great article in one of my past USAF publications that addresses flight lead qualities. The following is a reprint from a 1984 USAF TAC ATTACK by Lt Col Alan Reid 104TFG.

WHAT'S A FLIGHT LEADER?

What's a flight lead? The guy out front – right? Unfortunately, at times he may be only that. I thought back over my career and remembered what I admired about good flight leaders. In my mind it was the leader who could put himself in your cockpit and made some decisions or moves that made a potentially nasty situation easier. The best flight leaders that I can recall embodied the following qualities:

They know their own limits. *They knew that what they did well and not so well, and what their weaknesses were likely to be on a given day, in any state of fatigue or proficiency. So they rarely led a wingman into their own weak areas where both were likely to be maxed out.*

They had an uncanny ability to assess their wingman's limitations at any given moment. *They know almost instinctively when to back off or call "Knock it off". Without the wingman even knowing it, perhaps, the flight became less demanding; a decision was made that eliminated some uncomfortable choices and allowed the wingman to concentrate only on the job at hand.*

They thought ahead – way, way ahead. *You notice I said "thought" instead of the more popular "planned" ahead. Plans are dogmatic, in a sense and are frequently shot to pieces. By thinking ahead, a leader saves several options so that he may then form a plan. The good leaders were continually thinking ahead as to descent options, power settings, wingman position, etc. to enable the formation to flow smoothly with smooth transitions in maneuvers that ultimately made the wingman's job easier.*

They had been there before. *They had witnessed or made mistakes before. They had filed all these situations away after a lot of soul searching and "it could have been me". They were not interested in repeating mistakes and continually strived to improve their performance. They had been a wingman before and used their past experiences to make the wingman's job easier.*

They made decisions. *They made good decisions, and they made them decisively. They were more than willing to make a conservative decision based on the wingman's lack of capability. They also took the heat so that the wingie could save face, but always played instructor later to insure the wingman understood the mistake and how to correct it next time.*

They knew the rules. *This is the big one. The good leaders that stand out in my mind were the ones that knew the procedures and the rules that governed out operations. They knew all the procedures cold and always flew as the manuals dictated so that the wingman was never surprised and always knew what to*

"flying fighters is not a matter of life or death - it's much more important than that"

expect. While predictability may not be the best course of action with regard to the enemy, it is mandatory within the formation. The best flight leads insisted every member of the formation knew the rules as well. They insisted that everyone within the formation flew predictably.

How do you acquire, learn and relearn these qualities? You do not learn to be a flight leader. Rather, you commit yourself to succeed with the full knowledge that the process never ends. You gain experience, and you make sure you gain from your experience. You accept responsibility for a flight: and you use all the rules, all the information in the formation manuals, all the experiences, all the facets of your knowledge to date to make sure it's done to the best of your ability.

That's about the essence of it. You take charge, plan, brief, and lead with determination that will be done to the best of your ability. If you come across as a "Tiger", that's fine. If you come through as an "old hen" sometimes, that's ok too; because along with the acceptance of responsibility comes a total realignment of priorities. And I don't need to define that further – either you understand it or you don't.

*Lt Col Alan Reid
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This article reflects on some personal flight lead traits that ultimately improve the formation's performance. The remainder of this paper will discuss more flight lead topics. This discussion is based on recent tactical material contained in USAF unclassified formation employment fundamentals. I have modified as required to reflect out civilian fighter operations:

Leading: Be alert, be positive, be flexible and be professional.

Be Alert: Maintain a high level of situational awareness. To do this you must be proficient in your airplane and not have to devote time to thinking about flying the airplane. A flight lead that is not proficient cannot and will not devote adequate attention to the safe and efficient conduct of the flight. He will often be so engrossed in his own personal problems that the rest of the flight will have to take care of itself. A proficient and effective flight lead is able to fly heads-up, maneuver his own aircraft instinctively, monitor the environment and the performance of his wingman and control the flight's execution. He is able to recognize and react to contingencies quickly and properly. Last but not least, when all is over, he has a clue to what happened, which is imperative for an accurate reconstruction and honest evaluation of the mission.

Be Positive: Never allow your flight to be in serious doubt as to what your intentions and desires are. A thorough and relevant flight briefing takes care of most of this problem. An important part of every flight briefing is explaining what, how and why each significant phase of the flight will be conducted. The better you do this, the better your team will be able to properly anticipate your next move or reaction. However, even the best of flight briefings must sometimes be supplemented by in-flight directive commentary. Direct your wingman to correct formation position if required. Advise your flight what your new game plan is if you must do something other than briefed. Make all radio calls relevant, concise, clear and to the point. Be forceful, but not emotional.

Be Flexible: Fly the mission as briefed, but be flexible. Always be willing to change the plan on the spot if the environment or aircrew performance is not what was expected. Change the plan and manner of execution as required immediately.

Be Professional: As a flight lead, which means demanding professionalism from both yourself and everyone else in the flight: listening up. Keeping radio communications crisp and correct, performing your flight as briefed and operating in accordance with published formation principles of airmanship. You are the "boss" of the formation. Insist each member of the team perform professionally. It is your responsibility to know all the information in our manual and insist that each member of the flight does as well. Professional in our area of operation also means predictable. Being predictable as a flight lead is paramount. In our environment, you may be flying with wingmen possessing a wide variety of experience levels. For this reason, it is incumbent upon you to know the procedures and fly formation by the book. The more you fly "as published" the more predictable you are to new wingmen. Of course the same is true for the wingmen. The more they operate by the book the easier it is for the leader to do his/her job.

With all this said, you should attempt to wrap up the flight with a valuable debrief. First own up to your own mistakes. Nobody likes or believes a perfect person, and you lose a lot of credibility trying to cover up or gloss over your own mistakes. Sometimes personal errors are good learning experiences for others in the flight.

Evaluate wingmen performance, and when good state so, give him/her a pat on the back. Positive reinforcement is a necessary and productive instructional tool. Where performance was bad, state that as well. Be as objective as possible. Identify what was done wrong, and more importantly, why it was done wrong. The important thing here in my mind is to make the debrief a learning experience for everyone. No formation ever goes perfectly. Where there is room for improvement, improvement should be discussed. All too often, in an effort not to hurt someone's feelings, we simply say everything was great and all go our separate ways. We all need to be thick-skinned about the debrief. Constructive criticism is only a tool, and the only one we have to make ourselves better. In the USAF tactical community, the debrief is considered one of the most important part of the mission. Constructive techniques should not be confused with finding fault – it's a valuable learning tool. Wingmen may have suggestions for you as lead as well. Take them as suggestions and analyze their validity – adjust if necessary. Above all, insist your wingmen know "their stuff". "Stuff" refers to the manual, procedures, etc. It is your responsibility as a civilian fighter flight lead to make the formation fun, educational and safe. It's a big responsibility – keep up the good work!

That wraps up this edition of formation fundamentals. I hope you found it thought provoking or that it was a good refresher for all you experienced flight leads. Fly those fighters safe this summer and have a great airshow season!

Cheers,

A handwritten signature in black ink, appearing to read 'B. Hood', with a stylized flourish at the end.

Bradley C. Hood
Fighter Formation Qualification Program
Director - Vintage Fighters

Editor's Note: Correction to the newsletter-formation cards currently have expirations.