



Jumping on the Formation Bandwagon

A four ship formation made up of three SNJ's and a Harvard over Oshkosh.

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You purchased the warbird, got it checked out, have been flying it for a while, and are now comfortable in it. Flights to air shows and fly-ins are no problem. You've taken your pilot buddies for rides, so what's next? Maybe it's time for formation flying, you are thinking to yourself. Lots of pilots are doing it, and it doesn't look too difficult, so why not give it a try. You could ask another warbird owner nearby to try it with you. It might be fun. Maybe you could go to the next air show or fly-in and get one of those formation cards, a FAST card; maybe you could even fly in formation at the air show.

That scenario is becoming reality

for many warbird aircraft owners, especially pilots flying the popular L-39. It's a universally recognized trainer, and lots of owners—even air show teams—are flying formation in it all the time. And it's possible to get the training necessary: Several formation instructors and check pilots volunteer their time to train and examine pilots all over the country.

Is It for You?

Before you think about flying in close proximity with another aircraft there are some questions you need to ask yourself and some decisions you need to make. They can be summarized in one question: "Is formation

something I want to do?" There are reasons for flying formation, and there are many reasons why you may not want to attempt it. It's worth spending some time speaking with other pilots who are experienced formation pilots, flying a couple of demonstration flights, and then being introspective with yourself and asking some more, detailed questions. Here are some examples of those questions.

- How did I feel on the demonstration flight about my comfort level being close to another aircraft?

- Am I willing to spend the time and energy (and resources) necessary to safely learn and keep current flying formation?

•Will I use the skills I have mastered after the formation training, keeping in practice flying with other local pilots?

•What do I want to accomplish by completing formation training?

•How will formation skills help me meet my flying objectives in flying my aircraft?

Many similar questions all lead to the same conclusion: Why do I want to do this; is formation for me?

I have heard many different answers to such questions, and most of them make sense. The important part of such an analysis is stopping to make the analysis in the first place. Flying formation for the wrong reason or for no reason can be dangerous. It takes a commitment unlike other aspects of flying warbirds.

What It Won't Do

The facts are in. I, and numerous other pilots, have discovered that formation will *not* make you smarter, sexier, skinnier, wittier, more attractive, or any other physical attribute. It won't make

you cool or any other fashionable adjective the younger set has claimed to describe one who is admired. So flying formation to fit in, be cool, or assuage your ego is not a good idea.

Given that limitation, you need to pick a real reason to fly formation—and there are several:

•Polishing piloting skills to reach a higher level of achievement.

•Enjoying the level of discipline necessary to exercise a new skill.

•Appearing at air shows with other pilots of the same type of aircraft and exhibiting the aircraft's (and your) capabilities.

•Enjoying a new flight challenge that requires a higher level of skill and knowledge (and discipline) than previous flying.

•Having the ability to lead or be led back to a landing field in the event of a communications or other system failure.

•Joining other pilots frequently to perform the maneuvers possible in formation and to enjoy the exhilaration and rewarding feeling from accomplishing those flight maneuvers.

What It Is

In essence formation flying is, first,

a discipline. It, traditionally, has been a military activity, engaged in since World War I for tactical, protective, and logistical reasons. It works effectively for military aviators, and these days they only rarely have losses from errors in flying formation. It works for them based on a strict discipline.

That perspective might be one to remember; military pilots are first military officers, schooled in discipline—probably one of the reasons formation flying is safe in the military. Since the discipline is already instilled in the pilots, deviation from briefed flights or specified missions is not an issue. Pilots are briefed, and they follow the briefing. Period.

Civilian pilots desiring to fly formation are successful and safe to the extent they are able to adopt the discipline necessary to emulate the military's approach to flying aircraft in close proximity. Perhaps surprisingly, pilots having difficulty with formation flying are often capable in the motor skills necessary, but they deviate from formation briefings and do not come prepared with knowledge of signals and radio calls—essentially, they lack the discipline to keep the flight safe. On the

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Dr. Rich Sugden leads a three ship formation in his FJ-4 Fury.



SPENCER THORNTON



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A pair of Navy SNJ's depart Oshkosh.



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other hand, pilots who are professional in their approach to the discipline required, including knowledge of signals, radio calls, and flight po-
20 MARCH 2007

sitions, and yet are a little rough or slow to develop their motor skills, still may end up becoming safe formation pilots. Ironically, the disci-

pline is more important than motor skills alone.

In five to 10 hours, the average pilot can develop the timing and skills necessary for basic formation flight. Like in any athletic or sporting activity, some never get comfortable and skilled enough to be safe; others pick it up rapidly—none without the discipline.

In addition to the motor skills and discipline necessary, formation requires a new level of perception and anticipation for pilots. Without the insight to see changes in the other aircraft's position before they occur, the most skilled pilot with lightning reactions will not master formation. So it is not just a flying skill that you are building; you must learn to perceive the smallest of changes in the position of other aircraft in the flight, adjust to those changes, and then take the correction that was just entered back out.

Reactions tempered with judgment,

Performing a twelve ship formation requires strict discipline on the part of each pilot. (Lower right aircraft obscured.)



discipline, and perception all contribute to the skill developed as a formation pilot. Challenging, but rewarding.

Think It Through

Our discussion has not been how to be a formation pilot, but why do you want to be a formation pilot. Think it through. If you elect to fly formation (you may reverse your decision, of course—no ego lost—at any time), the next step is to plan a training program and practice sessions. The last thing you want to do (which would illustrate a significant lack of discipline) is to rush into the experience with an impromptu flight with another untrained pilot (worse yet, with a dissimilar aircraft). If it is for you, proceed to the next level safely.

A FAST card, which documents a pilot as having basic formation skills, is issued from the nonprofit organization (full name: Formation And



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A four ship formation of L-39's over Oshkosh.

Safety Training, hence FAST) that the FAA has designated as the standard bearer for formation flying. It is only required to fly formation in FAA-waivered airspace at air shows. The waiver typically allows altitude and airspeed restrictions to be dropped to allow air show performers to demonstrate their flying act for the crowd.

Formation may be, legally, flown by any pilot of any skill away from air shows. The only FAR listing restriction is FAR 91.111, which requires the pilot in command of each aircraft to “make arrangements” for the flight; that means the flight must be briefed or it is not lawful. (Also no

fees for flying passengers in formation, same FAR.) That superficial requirement does not provide much of a threshold for formation restrictions or safety. Consequently, there are accidents involving light civilian aircraft every year.

The FAST card issued by examiner pilots from signatory organizations to FAST shows you have met some standards to safely fly formation. Regardless of whether you will ever fly in or near an air show, that level of training shows you are a serious formation pilot.

Make your decision about flying formation and fly safely.