



Frequently Asked Questions about Formation Training

(Adapted from a Stearman Restorer Association's *The Flying Wire* article.)

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For readers who wonder what the fascination is with formation flying, it can be summed up in two words. It's FUN! You will likely not find another activity to get involved in with your Stearman that will combine the pure joy of flying, the camaraderie of fellow airmen, and the sense of satisfaction you'll feel at the completion of a well conducted flight. But before it can all come together you need to know what you're doing. The purpose of this article is to answer some of the more frequently asked questions that arise regarding the formation training program that is available to Stearman pilots.

I've been flying formation with my friends for years. Why pursue training now?

You may have a lot of experience flying with your friends but if you've never had any formation training you may be operating with unsafe habits or procedures - things you've never even thought about or are aware of. In addition, with formal training you'll learn standard procedures. There are many benefits of standardization, not the least of which is added safety and the ability to fly formation with pilots you've never flown with before. Standardization is the key to how airlines operate with large crew forces and is a big part of what their flight training is all about. Airline pilots regularly fly with pilots they've never flown with before. Obviously this wouldn't work if everyone operated the aircraft using different procedures. By training everyone to operate using the same procedures, flying with strangers is not a big deal. The same goes for formation flying. Four Stearman pilots who have never laid eyes on each other can get together anywhere and safely fly formation.

I've never flown formation before, but I'd like to. Is it safe?

Formation flying, like many other aspects of flying, is not without some risk. An untrained formation pilot - even a "good stick" - is often unaware of the risk to which he is exposing himself and his wingman. With good training, the risk is minimized.

Can I fly formation anywhere I want to?

Yes. Formation flying, with mutual consent of the pilots, can be conducted essentially anywhere. And, with one exception, it's perfectly legal to fly formation without any training whatsoever. The one exception is flying formation at a fly-in or airshow where the FAA has granted an airspace waiver. To do it there you must have successfully completed a FAA sanctioned formation training program. At the completion of this special training you will be issued a certification commonly referred to as a "FAST Card".

I have no desire to ever fly formation in waived airspace; I just want to fly with my friends. I shouldn't need the training to get a FAST Card, should I?

Legally? No. However, if you're going to fly formation at all - even if you never intend to fly in waived airspace - it's wise to undertake the training for safety's sake.

How can Stearman pilots get "FAST" certification?

Stearman pilots work through an organization called *Stearman FLIGHT*. *Stearman FLIGHT* is, in turn, part of a larger organization called FAST. FAST stands for Formation and Safety Team and is the organization recognized by the FAA for coordinating formation training for sixteen aircraft interest groups, fourteen of which represent warbirds.

Who runs the *Stearman FLIGHT* and what is its mission?

The organization is run by dedicated volunteer pilots and has but one objective - to promote safe formation flying. As an organization, *Stearman FLIGHT* has developed a formation training program that is compliant with FAST policy and principles. Obviously the *Stearman FLIGHT* has no power to issue licenses or additional ratings on your ticket, but they do have the authority to certify formation qualification and issue FAST cards. *Stearman FLIGHT* also coordinates with FAST in a record keeping system to track the qualification and currency of those who are formation qualified.

What sort of a training program does *Stearman FLIGHT* offer?

Stearman FLIGHT offers an excellent program consisting of a three to five hour ground school combined with flight training. The volunteers who run the *Stearman FLIGHT* - the officers, Board of Directors, Standards Committee and Check Pilots - are all highly motivated, experienced, and dedicated individuals who have put together a very comprehensive training and standards program. Their backgrounds run the gamut - from civilian to military to airline pilots. The training offered at a *Stearman FLIGHT* formation "clinic" is intense, fun, and done at each pilot's own pace, in a friendly, low-key manner.

What levels of qualification are there, and do I have to qualify for them all?

Stearman FLIGHT offers qualification for 2-Ship Wingman, 2-Ship Lead, 4-Ship Wingman and 4-Ship Lead. A pilot may train to the highest level desired. If you never plan to fly as a 4-Ship Lead you may be satisfied with just a 2-Ship Lead qualification, or even a wingman qualification.

What does the *Stearman FLIGHT* membership cost?

Stearman FLIGHT membership is \$45 annually and you must be a member and purchase a Formation Manual to participate in the training. The *Stearman FLIGHT* Formation Manual is an additional \$45.

Are there any other costs associated with formation training?

Other costs may vary quite a bit. For instance, if you are training with another student and are fortunate to have *Stearman FLIGHT* Instructors and a Check Pilot available locally, additional costs will be minimal. However, the other extreme would be a formation clinic where there are travel and lodging expenses for Instructors and a Check Pilot, and other expenses related to the

clinic. All of these expenses would be proportioned among the students participating. When two students are paired for training (For instance both working on 2-Ship Wing qualification, or one working on 2-Ship Lead and the other training for 2-Ship Wing) the training is complementary. However, if such an arrangement is not available and an already qualified pilot fills a “dedicated” position (lead or wing) to facilitate training, it is customary for the pilot receiving the training to compensate the pilot flying the “dedicated” position for his or her fuel.

How is the training program structured?

Training starts off with ground school and a written exam. Then training sorties are flown with an instructor, allowing you to develop your formation flying skills. The first level of qualification is 2-Ship Wingman. Subsequent to that, further training will begin to develop your skills as a lead. This includes learning how to properly brief and debrief a flight, and how to evaluate your wingman's performance. After acquiring experience as a wingman you are eligible to seek a higher rating, usually 2-Ship Lead. The highest qualification is 4-Ship Lead. This involves additional training, not only to develop competence leading a 4-Ship formation, but also to fly all the wing positions, gaining an appreciation for the added complexities of leading a 4-Ship formation.

Are there study materials involved with the training?

Yes. The *Stearman FLIGHT* Formation Manual is a three ring binder containing a wealth of information on the policies, requirements, concepts, terminology, procedures, hand signals and visual references specific to Stearman formation flying.

What sort of information will I be studying?

Formation terminology, procedures, and hand signals. Like many activities, formation flying has its own jargon, so there are numerous terms to become familiar with. Additionally, much Stearman formation flying is done without the use of the radio. Instead, communication between aircraft is often done with hand signals, so there are a number of them to learn.

How long does the training take?

There is no concrete answer. Each pilot has a different experience level and learns at a different rate. It is unlikely without prior experience that you would qualify for a rating at your first clinic. Even with prior experience don't plan on skipping any steps in the program.

Does my military formation flying experience count?

Yes and no. To the extent that you are familiar with the concepts and are comfortable flying in close proximity to another aircraft, yes. Most military experience, however, is typically in aircraft with more power available and a much higher wing loading than a Stearman. Flying a Stearman with its light wing loading, limited power and limited visibility provides unique challenges. Military formation experience may reduce the time required to acquire formation proficiency.

I'm a pretty good "stick." I shouldn't need any training, right?

Wrong. Being a good stick is necessary, but is no substitute for procedural knowledge and standardization. The finesse involved in getting and keeping your Stearman precisely in position

in a formation is surprisingly difficult even for experienced pilots. The list of things that can go wrong in a formation flight is long and potentially deadly.

My goal is to get a FAST card. Can *Stearman FLIGHT* help me out?

The primary goal of *Stearman FLIGHT* is to train and qualify you to be a safe formation pilot, not just to get you a FAST card. If and when you qualify, a FAST card will result. If you're just looking for the card, you're looking in the wrong place.

What is a typical training sortie like?

It starts with a very thorough pre-flight briefing discussing the maneuvers to be accomplished. The flight itself lasts perhaps twenty to thirty minutes, practicing the briefed maneuvers. After landing a thorough debrief takes place. A clinic will usually involve two to five of these sorties each day, depending upon the number of students per instructor.

What is expected of *me* if I attend a clinic?

BE THERE - Make a commitment to attend. Considerable time and resources go into organizing a formation clinic. Formation flight is by definition a group activity, so a number of people may be significantly inconvenienced if someone commits to a clinic and fails to attend. Obtain the formation manual well in advance of the clinic and be familiar with the concepts, terminology, and the hand signals. Showing up at a clinic unprepared is a waste of everybody's time - yours, the instructors, and your flying partner's.

Can Stearman aircraft with mismatched engines or propellers safely fly together?

Yes. It's not uncommon to see a formation of Stearmans with 220, 300, and 450 engines, or some with climb props, cruise props, metal props, and wooden props. Techniques and procedures to fly "mismatched" Stearmans would be a subject for discussion during the preflight briefing.

Are there currency requirements?

Yes. To be issued a new formation card every year, *Stearman FLIGHT* requires at least one formation flight sometime within the previous year. However, anyone who participates in formation flying will tell you that one flight per year is nowhere near enough to maintain proficiency.

Another pilot and I want to practice on our own before we attend a clinic. How do we know what to do, and how can we do it safely?

The best advice - don't. There are too many "gotchas". The most beneficial thing you can do is to obtain the study materials and become familiar with them - and then attend a clinic.

Who gives the instruction at a clinic?

Stearman FLIGHT Lead Pilots and Check Pilots (A Check Pilot is the *Stearman FLIGHT* equivalent of a check airman). Check rides are given only by Check Pilots.

Is the training fun or are the instructors there to "bust my chops?"

An emphatic yes on the fun! The goal is to have you learn standard formation flying procedures. Nobody is there to harass you or give you a hard time. However, since formation instructors do ride in the aircraft with their students, they do tend to take formation training very seriously and expect their students to do the same.

Where can I attend a clinic and get FAST qualification?

Clinics are held in several places throughout the country. An advanced *Stearman FLIGHT* clinic is held in Galesburg, IL every September. Beginner/advanced clinics are held near St. Louis in May and October. Other clinics may be organized at various locations depending upon local interest. Qualified Instructors and Check Pilots are located in many areas of the US.

I don't live within a reasonable distance of any clinic. How can I get training?

Organize your own clinic. It's not difficult and it doesn't have to be a big production. This is the way much of the training around the country takes place each year. The burden will be on a Local Clinic Coordinator to get interested pilots together. Once you do, the *Stearman FLIGHT* Clinic Chairman can and will assist with much of the leg work involved in organizing the clinic. There are a number of *Stearman FLIGHT* Lead and Check Pilots who will make themselves available to instruct at your clinic. There is no charge for instruction or check rides. All that is requested is that the trainees pick up expenses for their transportation, meals and lodging.