The AMA
INSIDER
The National Newsletter
for Newsletter Editors and Club Officers

July 2005
Table of Contents

President to President

The New *National Newsletter*

by Dave Brown

Welcome to the "new" National Newsletter. I hope you will find the new format more useful, and informative.

My bi-monthly column will be titled President to President. Specifically for AMA chartered club officers. My goal is to give you an insider's view of what is going on with AMA—in a much more timely fashion than is possible in *Model Aviation*—as well as provide you with some thoughts behind the subject. I hope you will find the information in this publication helpful in your duties as a club officer.

The *AMA INSIDER* will have an expanded format (in comparison to the *National Newsletter*) and will be aimed at all club officers—not just club newsletter editors. With these changes, we hope to provide club officers with information that will help their clubs do a better job promoting itself and serving its club members.

Being the president of AMA isn't that much different from being the president of an AMA chartered club. In either case, we are dedicated to improving the hobby for our members by making decisions on their behalf. We do our best to provide facilities and programs that will be useful for our members in their pursuit to enjoy this great hobby. In doing this, we realize that not everything we do will be used by all of our members. If we organize a contest, we do so with full knowledge that it will not appeal to all members—yet it will serve to improve our respective organizations.

As I am writing this, the new AMA membership marketing committee is reviewing most elements of AMA's vast programs. They are evaluating who these programs serve and their effectiveness in serving that part of our membership. Ultimately, this should result in us having better information to use in the recruitment of more members through increasing our ability to appeal to targeted groups. In most clubs, the instruction or training program is a major element in recruiting new members, but it does not have much appeal to the seasoned modelers. Club contests, for the most part, are not aimed at the same group of members, but both programs are worthwhile.

Growth of the organization is something we all should be dedicated to. Growth of AMA will increase our influence with governmental agencies with which we must deal, and growth of your local club will increase your influence at the local level. ♦

On the Safe Side

Being Safe Means Learning from Others' Mistakes

by Jack Frost

Merriam Webster's Dictionary defines safety as "the condition of being safe from undergoing or causing hurt, injury, or loss."

When I look at modeling safety from this point of view, it seems clear to me that we all have a responsibility to try to provide conditions that will prevent ourselves and others from being hurt, injured, or killed. In addition, we should all endeavor to eliminate the loss of equipment and property damage.

What does this mean? I think it means that just because we can do something, doesn't mean we should.

How many times have you thought, said, or heard the following:

"I'm only going to start the engine once. I'm not going to set up the plane restraint."

"Pull tests are silly. I've never had a line fail."

"This propeller should be good for one more flight."

"This battery should be okay. I'm going to make it a short flight."

Do the actions associated with these statements help to establish a condition that would prevent hurt, injury, or loss? I think not. Who would say these things? I must admit that I've said a couple of them, and I'm reasonably sure that you have too.

Someone once said, "There are old pilots, and there are bold pilots, but not many old, bold pilots." Simply stated, pilots whose actions repeatedly establish unsafe conditions are more likely to have some sort of mishap.

Unsafe conditions don't only exist while airborne either. Take a look around your flying site. I'd be willing to bet that you can find a number of things that could be done better.

How about that chair with the almost broken leg? Or the fence with just a couple of nails sticking out to gouge someone? Or the hole that someone dug and then abandoned?

Many people genuinely concerned with safety have either been injured themselves or had someone close to them injured. Wouldn't it be better to be able to learn a lesson from someone who has already been hurt than to be wounded yourself?

Years ago, my wife's finger was cut by a propeller. It struck her finger with such

please see SAFETY on page 2

Club Relations with Community Could Help Save Flying Site

by Jay Mealy

As the population and land value rise, all AMA chartered clubs are faced with the possibility of losing the use of their current flying site. Regardless of the type of use arrangement the club may have with the landowner, and even if the club owns the site, there is no guarantee that the site will not disappear.

In some instances, no matter what the club may attempt in order to save its site it ends in disappointment. Usually attempts to salvage a site occur after the fact, and fall into the "too little, too late" category. That is why it is important for a club to begin working diligently at keeping its site from its very beginning—or as soon as possible.

There are many suggestions I share with clubs to accomplish such a challenging task. I will share them in future editions of the *AMA INSIDER*, but the one concept that has proven to be worthwhile in saving flying sites is community involvement in a non-modeling activity.

You may be asking "Why?" Well, to be blunt, not everyone perceives model airplanes and their operation as the greatest thing since sliced bread, to use an old cliché. I have been involved in site situations where a non-modeling neighbor has a complaint about a club's presence. He/She then takes that complaint to non-modeling city officials, other neighbors, zoning commissions, etc. When that person succeeds in his or her attempts to shut down the clubs' operations, the club is left wondering what happened.

Almost every club I have contact with describes its community involvement as presenting the benefits of model aviation to senior groups, scouting organizations, having an annual open house, etc.—all aviation activities. We all agree that these events only attract those who have some level of interest in aviation to begin with. This is not to say that those are not good activities, but if that is all the club is doing, it is missing a larger portion of their community's citizens. This is the portion that could pose potential threat to the club's existence. These are the people who have to be shown the benefits the club offers its community in non-modeling ways.

The truth is that it is easier to do away with a club that is just a group of people flying their model airplanes. It is much more difficult to evict a club that has the reputation of supporting its community in other ways.

Here are some ideas about how to support your whole community:

- Find the community's favorite charity and contribute to it annually either financially or through volunteer efforts.
- Whatever the contribution ends up being, make sure the local newspaper has photos, captions, and stories. This is often done best by the club and then presented to the paper. If you do the reporters' work for them they will usually run the story. The importance of this activity is not based on how much you are giving but that you are giving.
- Adopt a section of highway to maintain as part of the nation's Adopt-A-Highway program. This is a good way to get your name posted and in front of a large number of your neighbors who will tend to associate your club with that program.
- Become involved at some level with organizations such as the Ronald McDonald House, Meals on Wheels, hospital volunteer opportunities, etc. Again, make sure, through the club's public relations director, the local media knows about these activities.

The few ideas shared here have been proven successful and I am hopeful that you are already thinking of ways you might accomplish this in your own community. It only takes a little effort on the club's part and they can go a long way in preserving your flying privileges. ♦

SAFETY continued from page 1

force that it not only cut her to the bone, but it broke the bone. It took a long time to heal, and it still bothers her to this day. While I'm sorry that this happened, it doesn't make her finger any better.

Fingers don't grow back, eyes don't repair easily, and accidents cost much more than money. It may seem cool to be able to tell your friends about how many stitches it took to sew your hand up, how much blood you lost, or how long it will take to heal; however, that cool factor quickly diminishes if you lost any fingers or any use of your hand.

Let's face it, serious injuries change us physically and emotionally, but most importantly, they change us permanently.

Build straight, fly as often as you can, have fun, and be safe! ♦

from the Sacramento Soaring Society, Novato CA

Find that Thermal and Stay With It

by Ed Granger

A thermal is basically rising air. To take advantage of this knowledge, you first need to have an airplane that flies reasonably well "hands off."

Good thermal recognition requires you to detect the slightest rise or fall in your Sailplane. Many thermals are missed because pilots go too heavy on the stick in search of a thermal. Airplanes with a tendency to fly in a shallow left or right bank also make thermal recognition more difficult.

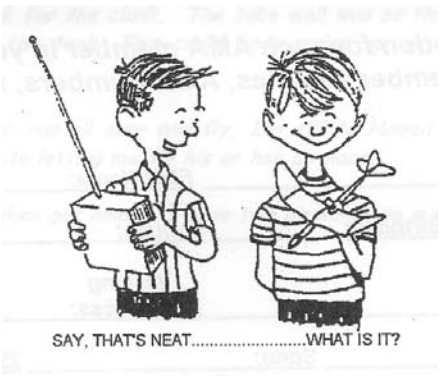
I'm not talking about the ability to find a boomer thermal—anyone can find the boomers. I am talking about the ability to catch the slightest whiff of one. This can often be the difference between first and third place in competition.

Thermals are easier to work with if you work them upwind. I have seen airplanes do several things when they encounter a thermal but will only mention a few of the important ones. A big thermal needs no explanation. Even if you're a new pilot, believe me, you'll know when you're in one.

- Watch the horizontal stabilizer. It rises when encountering a thermal, more so

please see THERMALS on page 4

from the Casper Airmodelers Association, Casper WY



Bright Idea!

from the Dayton Wingmasters, Dayton OH

Partner up with the local library and host a fun fly. It's a good way to reach your community and introduce children to the joy of model airplanes.

from the Champaign County Radio Control Club, Champaign IL

Ford's Aviation Legacy

by Harry Streeter

The Ford Tri-Motor was the most successful airplane of its day. It was the first all-metal, multiengine, American airplane capable of being operated profitably in commercial aviation. How Ford got into and succeeded in the aviation business is an interesting story narrated in a wonderful book, The Aviation Legacy of Henry and Edsel Ford, by Timothy J. O'Callaghan. A friend of mine loaned me his copy, and there is also a 40-minute video that I hope to be able to show at one of our club meetings.

Henry Ford started the Ford Motor Company in 1903, the same year as the Wright brothers made their first flight. He was a keen observer of the developing field of aviation, and so was his son, Edsel, who played a major role in the events to come (although he remained quietly in the background).

During World War I, Ford Motor Company, among others, built Liberty airplane engines, and Ford strongly pursued the possibility of building airships for the U.S. government before the idea was dropped. For several years after the war the American aviation industry was in the doldrums, with war surplus being plentiful and cheap. The public had no desire to travel by air, feeling that it was too dangerous, and there were simply no suitable aircraft for that purpose.

Now enter into the picture William B. Stout, a native of Quincy, Illinois, born in 1880, an inventor, a promoter, and salesman (also an honest and trustworthy man). He founded the Model Aero Club of Illinois in the early 1900s (Fred Kouka denies being a charter member), and found employment during World War I as the head of Packard Motor Company's production of Liberty engines.

After the war, he formed a small company that designed and built the first military and commercial all metal airplanes in the U.S. (Hugo Junkers had done it in Europe some years before). Stout saw how wood-and-fabric airplanes deteriorated over time. He also recognized that wing struts and flying wires create a lot of drag, and his designs featured internally braced cantilever wings (Junkers had already done this).

Stout's first airplanes did not find buyers, and he ran out of money. He had learned a lot though, so by using his excellent reputation—plus his promotional and sales skills—he was able to finance and organize The Stout Metal Airplane Company in Detroit. The purpose of this company was to build airplanes and operate an airline.

The first design was a small, four-seat airplane that, when equipped with a powerful enough engine, flew very well. However, it was too small to be used in commercial aviation, and too expensive for the private market.

Soon Stout had an eight-passenger example flying which he dubbed the Maiden Detroit (made in Detroit), and it did a thriving business carrying people on sightseeing flights in the Detroit area. Henry and Edsel Ford were among those who invested in Stout's company. They followed his progress closely, and decided the time was right for Ford to get into the airplane business.

One problem Stout had was that there were few real airports from which to operate his venture. Barnstorming, crop-dusting, mail flying, and even his small passenger flights were mostly done from small grass fields. Stout had to use Selfridge Field, an army facility, located approximately 26 miles from his place of business.

The Fords' responded to Stout's overtures by building an airport and an airplane factory for The Stout Metal Airplane Company. Completed in 1924, it featured long runways of grass, and was hailed as one of the finest facilities in the world. Three years later the installation of paved runways began. Meanwhile, an elaborate mooring mast used to service airships was built—at the insistence of Henry Ford (it was only used twice and was dismantled in 1946).

In 1925 Ford formed the Air Transportation Service. It served mostly Ford factories and around the Middle West. It bought out Stout's airplane company, but Stout remained as manager. He also launched his new Stout Air Services. He built and sold several single-engine "Ford" airplanes but they were quite small.

It began to be recognized that larger planes with more than one engine were necessary to fulfill the requirements for greater payloads and increased safety. Stout came up with an adaptation of his latest single-engine design, featuring three engines, the first Ford Tri-motor, model 3AT. It was definitely not a

please see FORD on page 5

from the Central New York Indoor Flying Society, Baldwinsville NY

Converting Models into Electric

Hal Stewart, editor

When you are looking around for something a bit smaller to build and fly in a gym or schoolyard, don't overlook converting a rubber-powered Free Flight model into electric-powered model.

Make a mount for the electric motor of your choice. Be sure the motor is set forward enough to allow the propeller to clear the nose of the model.

Since the model will be heavier with electric power, use a basic wire landing strut (not the all-balsa stick landing gear struts on many rubber-powered models). Use the stick-type struts as fairings for the wire landing gear.

You will also need to add provisions for the battery pack, arming switch and any radio gear—including the speed controller. Unfortunately many rubber-powered model kit plans never locate the center of gravity. To find it, start by balancing the model at 1/3 the wing chord back from the leading edge and adjust during your test flights to trim the model out.

You have the choice of buying a kit or building from plans. The model can be a scale model of some airplane you've always liked, or it can be simple rubber-powered contest model.

Remember, really does not matter what you use for power, as long as the model balances properly and wing loading doesn't get excessive. Rubber-powered models were usually designed to be lighter than their gas powered counterparts. Give it a try and have fun. ♦

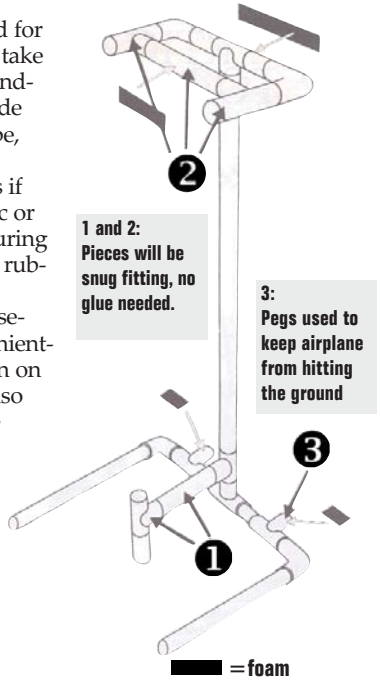
from the Millis Model Aircraft Club Inc., Dedham MA

Need Vertical Storage?

by Ted Zaborski

If you have the need for vertical storage, then take a look at this cheap-and-easy vertical rack made from ¾-inch PCV pipe, PCV fittings (Ts, 90° elbows, and end caps if desired). Elastic fabric or bungee cords for securing the aircraft and foam rubber for cushioning.

It will store your fuselage and wing conveniently while cutting down on hangar rash. It will also keep the front engine bearing lubricated. ♦



*No measurements are included because size and shape will vary.

*Glue is toxic and flammable. Use in a well ventilated area

THERMALS continued from page 2

than the wing, and especially in weak or edge thermals.

• Watch the wing tips. They often will bobble. The airplane goes through a series of rapid, but small, left and right roll gyrations.

• Watch for an unexplained turn. Often a thermal will seem to pull an aircraft toward it. This is further evidence of the rotating nature of a thermal.

So when do you launch? Don't launch when the wind is picking up. You probably just missed a thermal. Wait until the wind subsides a little and let the airplane go.

Be observant to subtle changes in air temperature. Sometimes, you'll notice a puff of cool air. This is thermal wind. When or if you feel a cool puff, launch the airplane. Be patient. I have a tendency to release my airplane as soon as possible, especially when using a hi-start. If you can, wait a minute, it can really pay off.

Look down field. If you're lucky, your field has trees at the far end. Optimally, a thermal will generate upwind of you (those that generate downwind are useless). The trees often will swirl. Straight-line wind is one thing, but when the trees swirl or move haphazardly, they are probably in the midst of a thermal. If that's the case, launch your airplane.

Recognition, entry, and establishment should take about 30 seconds to one minute depending on thermal strength.

Entry. Entering a thermal is a multistage event. The early stages must be smooth and controlled. Once you establish the strength of the thermal, you can begin to work it.

This maneuver will look like a figure eight. You will also make efficient use of time and energy. Your first entry into a thermal should be smooth with the wings banked no more than 30°.

Here's what you do: Turn left and begin a nice large arc. If the airplane does not climb, one of two things has occurred: You missed it entirely or it's on the other side. Continue your turn, straighten it out after 270 degrees and begin a right turn.

The 270 degrees is important. If you complete the turn and then initiate the right turn, the thermal has probably blown past your airplane and is now behind it. This basic pattern is based on a wind of roughly 7-12 mph.

Escape. Sometimes, no matter how hard you try, you will have to escape a thermal. It happens to the best of us. Don't panic and don't sweat it. Some veteran pilots feel that escaping from a dead thermal is more important than finding one.

Here's what you do: Decide when to get out. This is subjective. I've seen thermal recovery from as little as 20 feet off the ground. Turn the airplane into the wind and fly hands off, as though you were starting from the launch release. I determine a thermal is dead when I cannot gain altitude and have been losing it steadily for 30 seconds. Your mileage may vary.

There is no substitute for practice. Most Sailplane pilots require two to four seasons before they master these techniques. Don't get discouraged. I jokingly called this sport "The Hiking and Sailing Club." You do a lot of walking. ♦

from the Thorn Creek RC Club, Lansing IL

Tools for Beginners

Jim Kitchen, editor

A beginner does not need a lot of fancy tools to do a good job. However, there are a few inexpensive tools that make life easier.

• X-acto blade and holder (usually a number 11 for most jobs).

• Coping saw.

• Razor saw: Use it to cut across grain and hardwood.

• T-pins: They come in three sizes, but generally the small and medium sizes are the most useful.

• 18-inch: If the rule tends to slip when using, try spraying with 3M-77 on the down side. Once dry, it acts as an antiskid.

• 90° plastic triangles: For squaring assemblies. (Video cassette boxes are square, will stand alone, and are very useful for holding two parts such as a horizontal and vertical stabilizer when assembling).

• Sandpaper: Aluminum oxide sandpaper is best. This is sold at auto paint stores, has a long life, and is often less expensive than what is found at hardware and model stores.

• Sanding blocks: Always use a sanding pad or block. Various lengths of suspended ceiling tile grid make good, light weight sanding blocks. ♦

from the Thorn Creek RC Club, Lansing IL

Fast Charging: Will it Harm My Packs?

by C. Scholefield

First, let's define fast charge. The industry standard is any charge rate that will charge the cells in one hour or less. This fast charge capability thing is very interesting. Almost all Ni-Cds manufactured today for RC systems can accept fast charge (up to C rate, that's the rate at which you can charge the cells in approximately one hour).

Cells that are specifically sold as fast chargeable go through another step in the process. This step involves charging a sample from the production lot, and then measuring the end of charge voltage. Cells with the highest end of charge voltage are then analyzed for internal pressure. If the internal pressure is acceptable—that is not above a preset limit-the whole production lot is blessed as being fast chargeable. Of course this adds a finite amount of cost to the cell as they must be "formed" prior to being shipped in order to be fast chargeable.

Cells not destined for fast charge applications are shipped "unformed" by some manufacturers. The first charge after the assembly is what "forms" the cell. When you charge your RC system packs for the first time you are "forming" them. That is why the instructions tell you to charge the packs for 16 to 24 hours before you first use the system.

So in most instances you are safe fast charging the RC packs (transmitter or receiver) on the market if you first make sure they get a good first cycle formation charge—24 hours at a slow rate.

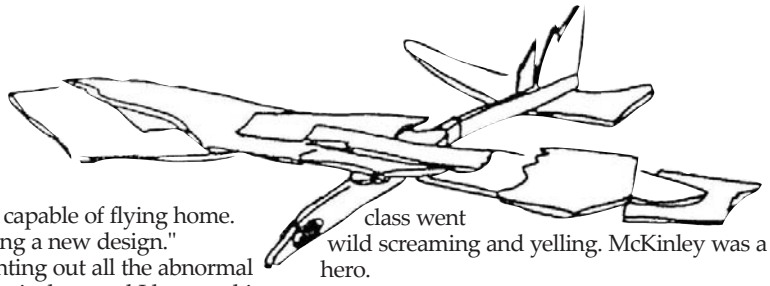
Where the problems arise is that some of the fast charge systems available are a little sloppy when it comes to terminating the fast charge, or they are pushing the cells too hard (higher than the C rate charge) and then damage occurs.

As a rule of thumb if your packs are not getting hot (slightly warm is okay) you are not damaging them in the fast-charge process. When pushing too much current into cells not designed to accept it there is the risk of driving the cells above 1.6 volts (the hydrogen-over-voltage point) and electrolyzing the water in the electrolyte and generating hydrogen. This is a cumulative event and repeated fast charge at these rates will result in sufficient accumulation of hydrogen to cause the cells to vent. When they do vent, there is a chance that the chemical balance will be disturbed and the cell capacity will fade.

Understand that the pack may not be fully charged when the fast charge terminates. It is a good practice, if you are going to fast charge frequently, to top off the packs using the slow charger. This will bring all cells to the same state of charge and "balance" the pack. Otherwise the cell that is not fully charged will be the limiting cell on the next discharge. This continues until there is a major unbalance in the pack and one cell can be driven into reverse (if you don't crash first). ♦

from the Gold Coast Radio Controllers Club, Boca Raton FL

My Favorite Airplane



by Howie Kelem

That's right! Go ahead and laugh. Everybody does when they first see this crazy looking airplane. I admit that it really is an odd-looking airplane. But there's a story behind it all.

This was built by one of my students when I was a teacher, a long, long, time ago. When it came to grading their airplanes, this is what young McKinley brought to my desk. McKinley was a very nice looking, shy, 15-year-old black student. Most everybody in the class started to laugh and make all kinds of remarks, like "what a stupid looking airplane." Well, McKinley was a little slow and I just had to defend him.

"Look at that wing, it's made up of pieces," someone yelled.

"Well maybe he's trying to design a new kind of airfoil," I said back

"Oh yeah, it's got two rudders," someone else said.

"Well, there are lots of airplanes with two rudders," I said.

"The body is bent in the middle," another explained.

"That's not so unusual," I replied. "Lots of airplanes have different shapes.

"But look at the back wing, it looks like half of it is missing."

"Well," I said, "airplanes do get shot up during war and capable of flying home. Maybe he's testing a new design."

They kept pointing out all the abnormal things about the airplane and I kept making up all kinds of answers until one student called out, "I bet it can't fly!"

He had me there and I had no answer. I knew it couldn't fly. So I said that if I tried flying it now, it would probably fall apart because the glue is still wet. Let it dry overnight and tomorrow, and then we'll check it out.

That satisfied the class and they all settled down. All except McKinley. I must have frightened the living daylights out of him because the next day he did not come to school. When the class left, I tested the airplane and just as I suspected, it couldn't fly. So, I sat down and studied it. I added a piece here, a piece there. I made some pieces larger and some smaller. I added some weights. I did my very best, yet keeping the same configuration.

The next day, when my class came in, they were they were on pins and needles. I held them in suspense for almost the entire period. Then came the crucial moment; I launched the airplane into the air and it glided so majestically and gracefully across the room and almost flew out the window. The class went wild screaming and yelling. McKinley was a hero.

When he came to school the next day, everyone told him how great his airplane flew. He couldn't believe it.

Prior to this, he was a quiet little kid with not many friends. He was more of a loner. But now, a whole new world opened up to him. Everybody spoke to him. He made a load of new friends. Everybody liked him. He and his airplane became so famous in the school that it was put on display in the Entrance Hall Showcase and I had to draw plans for his model called SCRAPPY, so that other students could build it.

He later became involved with RC airplanes and won first place in a city-wide contest on Lincoln Memorial Day. He was invited on the Joe Franklin television show, which resulted with an invitation to the White House to meet President Carter with me as chaperon. Today he manages a six-building complex, 24 stories high in Rockaway, New York. He has a gorgeous wife and two beautiful children. He is like family to me and my wife.

He still flies and designs RC models and is a member of the PARCS RC Club in Brooklyn, New York. ♦

FORD continued from page 3

good design. Lack of power was not the problem since the new Wright J-4 Whirlwind air-cooled radial engines were now available on the civilian market. The 3AT mounted the outboard engines buried in the wing, and this was one of the problems. (Fokker had learned that lesson earlier.) Ford's chief test pilot took the beast up once and refused to fly it again.

Henry Ford did not tolerate failure gladly. Stout was soon sent on a public relations tour, and shortly thereafter the Stout building—with the 3AT inside—was totally destroyed by a mysterious fire. The origin of the fire has never been established. Henry Ford appeared more pleased than dismayed by it.

He immediately implemented the construction of a bigger and better building, and within five months his engineers had developed and completed a new tri-motor design, the 4AT-1. It met or exceeded all expectations on its test flights, and was marketed successfully.

The 5AT followed, and while it closely resembled the 4AT, it was a larger and all new design. Several other AT models followed, mostly using different engines. Almost 200 Ford Tri-Motors were built, most being sold to airlines with some going to the military. Some 125 eventually found their way to South and Central America. Ford engineers invented the first steerable tail wheel, developed brake systems for airplanes (I hope they were better than Ford car brakes!), put in the first directional radio guidance system, and came up with many other innovations.

The legendary accomplishments of the Ford Tri-Motor are fairly well known by most of us. Almost 200 of them were built and they were true workhorses for more than three decades all over the world, being strong, reliable, stable, and safe. Some were equipped with floats, some with skis, some were used in polar explorations, and countless numbers of us can say we took our first airplane ride in a Ford Tri-Motor. A recent count showed five still flying today and at least five others are in museums. Some pilots were known to have looped the Tri-Motor, and Harold Johnson, a professional stunt pilot, performed spins and low level snap rolls as well. He once looped one of the beasts 37 consecutive times!

The great depression spelled the end of Ford's airplane business, although the company did build many B-24 Liberator bombers during World War II. Meanwhile, Ford's departure opened the door for the Boeing 247 and Douglas DC-2 to make their debuts. Nevertheless, the Ford Tri-Motor will always be considered one of the most significant designs in the history of commercial aviation. ♦

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