SWIFT MUSEUM
FOUNDATION, INC.
223 COUNTY ROAD 552
ATHENS, TENNESSEE 37303

OFFICE 423-745-9547
PARTS 423-744-9696
FAX 423-745-9869

WEB SITE:
SWIFTMUSEUMFOUNDATION
.ORG

EMAIL:
SWIFTMUSEUMFOUNDATION
AOL.COM

2021 Event Schedule

EAA AirVenture
July 26th — August 1st
Oshkosh, WI

West Coast Swift Nat'l.
Sept. 23 — 26
Jackson, CA

Swift National Fly-in & Convention
Sept. 29 — Oct. 3
Athens, TN

Red River Swift Wing
TBD
Pecan Plantation, TX

Swift Museum Foundation, Inc.

Volume LIII Issue #8 July 2021

Executive Director's Report

by Scott Anderson

Hal Leftwich visited the museum recently with a donation of his father's collection of Swift memorabilia. Hal is the son of long time member and supporter, Lou Leftwich. Lou was the previous caretaker of N33336, Serial #2, the first all metal Swift that was used for C.A.A. certification and is currently on display in our museum. Included in the donation were some very nice, framed photos of Serial #2 and other historical photos. A beautiful painting of N2460B, the last Swift built, was donated as well.

N2460B is also on display here as well. Having both the first and the last Swift in our possession makes our collection of Swift aircraft even more special for Swift enthusiasts to see and enjoy when visiting Athens.

Lou had also owned N2460B for a time, certainly a unique position to have been in, owning both the first and the last Swifts made. Hal also gave us one of the framed and numbered "Flying and Flapjacks" prints by artist Sam Lyons for display here in the museum. Sincere thanks to Hal for thinking of SMF and making this most generous donation. This was clearly a major part of his family's life.

Our road warrior, Norm Fox is off again to pick up another Swift donation. This time to New England to trailer back Dan Moroney's Swift N280VF. We will provide information about this donation when the aircraft arrives at Headquarters and we have had time to evaluate it. Thanks to Dan for keeping the SMF in mind for his generous donation!

Please get your Swift National 2021 pre-registration forms back to Headquarters as soon as possible! This really helps us prepare for the event by giving us a better idea of how many Swifters are planning to come. We are expecting a big crowd this year and are making plans to have a very special 75th Anniversary Fly-In. The fall weather should provide us will great conditions so don't miss out!

The 2021 Raffle drawing will be held during the Convention on Saturday night at the Awards Banquet. Have you gotten your tickets yet? Great prizes and great odds to win while supporting your Swift Museum Foundation!!!

SMF Committees

Executive
Paul Barnett
Paul Mercandetti
Sam Swift
Scott Anderson

Nominating
Paul Barnett
Pick Freeman
Scott Anderson

Audit
Paul Barnett
Paul Mercandetti
Sam Swift

Finance
Sam Swift
Paul Barnett
Scott Anderson

Fund Raising
Jim "Frog" Jones

Newsletter
Pamela Nunley

Nat'l Convention/Fly-in
Paul Mercandetti
Sandy Mercandetti
Scott Anderson

Parts
Steve Wilson
Ken Coughlin
Steve Roth

Formation
Paul Mercandetti
Jim Roberts

Building
Roger Weber
Scott Anderson
Paul Barnett

IT/Web
Tracy Rhodes
Jim Jones

Aging Aircraft
Steve Wilson
Ken Coughlin
Dave Carpenter

2021 Swift Fund Raising Raffle

We need your help!

Please post the enclosed/attached Raffle Flyer at your local FBO or any other location you find appropriate.

Scan Me

swiftraffle.com

1. With your favorite Mobile Device
2. Open the Camera Function
3. Focus on the QR Code
4. Voila!…..You Have Arrived

Selling tickets to support OUR Swift Museum Foundation could not be any easier; while the process is easy, it's going to take YOU in order to make the 2021 Raffle a success.
How Can You Help?

- Post the Digital Flyer and QR Code on Social Media
- Talk to friends, do not assume they know we have tickets available For Sale
- Call Swift Headquarters 423-745-9547 for Printed Flyers to post in your local businesses and FBO's
- Send the Digital Flyer and QR Code to contacts within your phone

For those who wish to purchase tickets with Cash or Check. Ticket Information and Payment may be sent to Swift Headquarters, the appropriate information will be entered and ticket information will be emailed.

Don't forget to provide your email address with payment.

I do hope that each of us will actively engage in promoting Ticket Sales for the 2021 Raffle Campaign. This is by far the greatest source of income for our museum that can directly result in Parts On The Shelves for our beloved Swift.

If for ANY reason you need help, please call Swift Headquarters or myself personally on my cell phone, 601-835-7520; we are happy to walk you through the ease of selling a raffle ticket….no longer are you responsible for returning Sold Tickets, Un-Sold Tickets and Cash to our office….it's Quick, Safe & Easy!!

Swift National Fly-in and Convention

by Paul Mercandetti

Have you made your hotel reservations yet? I will have to make a decision as to increasing the room block and by how much very soon. Please make your reservation as early as possible. If we can keep everyone in the same hotel it will make van transportation much easier.

We are tentatively planning a flyout to the TN Museum of Aviation. If you have a alternate idea (I try to keep it 30-45min flight time) please let me know and I will definitely consider it. Also we are always looking for activities that the ladies would enjoy. Please make some recommendations. If you would like to conduct a seminar (safety, maintenance, etc.) please let me know. We always welcome fresh faces at the front of the room.

There will be a number of new members this year and as always please make them feel welcome. I've been telling them what a great group of people we have at Swift. Thanks for your input.

Swift Formation Committee Report

by Paul Mercandetti

I have not heard from FAST but I am assuming that they will be having a meeting at OSH this year and we will be there to represent you and pass on to you any new and relevant news.

Sandy, Jim Roberts, and I have been doing some Saturday morning breakfast formation flights recently and a friend of mine asked to ride along and take some video. I didn't realize how much he was going to do. He put it up on YouTube, and yes, there are some mistakes in content. Had we known it was going to come out so good we could have tried a little harder. Overall, it is pretty professional looking. If you care to see it here is the link: https://youtu.be/G3SRtJAgmVk ….Don't be too critical, we were just out having some fun. I hope you are able to get out there and have some fun as well.

Well Wishes for Michael Kennedy

Long time Swift member, Michael Kennedy, (Lebanon, TN) was injured earlier this month in his de Havilland Chipmunk. The airplane suffered substantial damage but we are thankful to report that Michael is recovering well.

Many of you remember Michael as "Magic #3" of the exceptional Swift Magic Aerobatic Team. He is also the founder of our "Swift Formation Committee" you know today.

Michael has contributed countless hours of service for the betterment of the Swift and this organization. And for that, we say, Thank you! We send our prayers and well wishes for a speedy recovery.

Editor's note: The following Vintage Airplane article from the May 1998 issue was sent in by a Swift member many years ago. You may remember the late Jim Montague as "Monty the answer man". We thought you might find its content beneficial.

Preparing A Swift For Aerobatics/

Or Just Good Performance

a treatise by JIM MONTAGUE (A/C 1310)

Jack and Lea Anne Nagel cruise in Jack's highly modified Swift.

NOT FAA APPROVED

ANY INFORMATION HEREIN DOES NOT CONSTITUTE APPROVED DATA. THIS DOCUMENT EXPRESSES MY OWN OPINIONS AND WHILE I FEEL THEY ARE ACCURATE, OTHERS MAY DISAGREE, AND THEY MAY BE RIGHT, BUT I DOUBT IT.

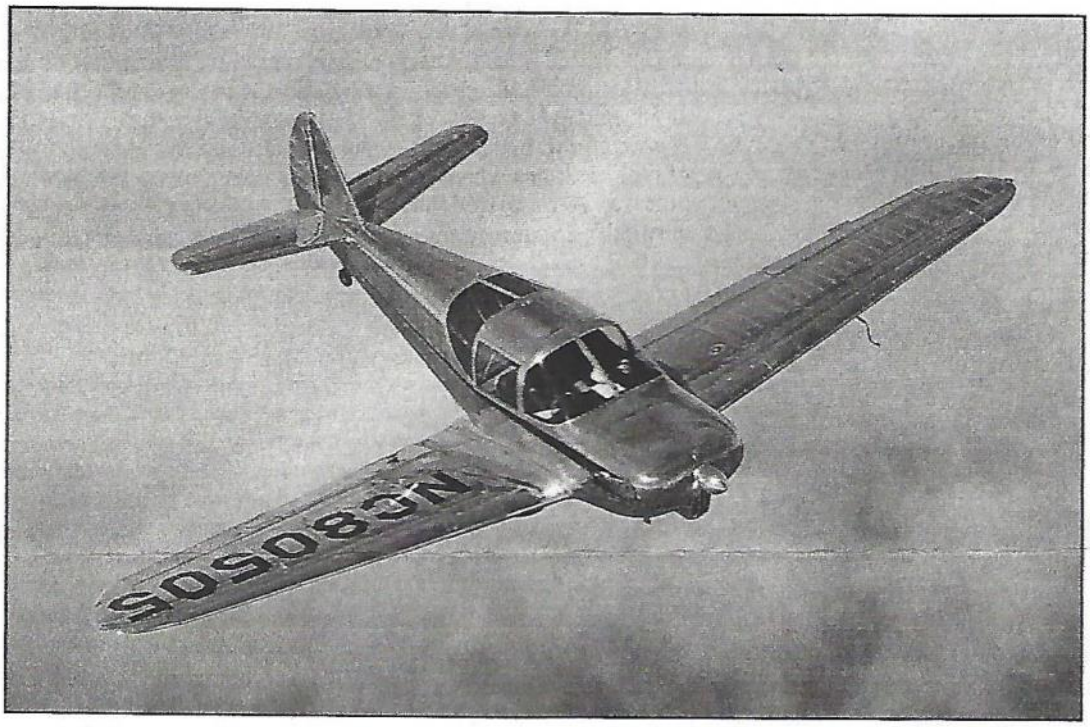
—JIM MONTAGUE

The information herein was learned the hard way over a period of 30 years of Swift ownership. Along the way I obtained a Pilot License, a Mechanics License and an Inspection Authorization. I have belonged to the Swift Association for all of its 25 plus year history,and enjoyed all but a few hours among hundreds of hours spent in these wonderful airplanes.

If you don't yet have a Swift, there are several things you can look for on a pre-purchase inspection which will help you later on. We are only at this time going to consider stock or semi-stock Swifts of 145 hp. Big engine airplanes are a chapter all their own. If you intend to do aerobatics:

1. Don't buy a painted Swift-paint adds weight, 20 to 60 pounds.
2. Don't buy a Swift with an auxiliary fuel tank—it's 14 pounds of extra weight.
3. If the Swift has tube radios, don't pay anything for them; they have to go.
4. If it has a "fully gyro panel," ditto.
5. Have a pre-purchase inspection done by a mechanic who knows Swifts. Remember these wonderful airplanes are old, so be alert for corrosion and bad previous repairs.
6. In particular, inspect the area of the lower spar of the center section.

   If the airplane has been belly-landed, and most have, be alert for cracks from the emergency gear extension bracket at the center of the airplane.
7. If the airplane is a converted GC-LA, make sure it was done according to S.B. #27. In particular, ensure the correct wing fittings are installed.



8. Check the engine mount per A.D. 64-05-06.

THE SWIFT WAS APPROVED UNDER CAR 4A; ANY SWIFT WILL LOOP AND ROLL

Okay, you bought a Swift, but before you do aerobatics I recommend:

1. The empty weight should not exceed 1,200 pounds, preferably less.
2. The ailerons should not be painted for flutter considerations.
3. Do a thorough Annual inspection; inspect all cable runs for frayed cables and rusty cables. Inspect all structure, paying particular attention to the horizontal stabilizer spar at the rivets of the first rib. Later, we'll talk about reinforcing this area. Check any older metal airplane for corrosion.
4. Lighten the airplane where it's easy and practical. Remove all gyros and plumbing and venturis, use an electric turn and bank; if you fly serious IFR you've got the wrong plane. Remove all tube type (heavy) radios.

Retain one comm 760 and transponder, and use a GPS for nav. Use a 20 amp generator—a 35A generator weighs 16 pounds. An alternator can require 2 or 3 hp to turn it.

A quality battery can weigh 27 pounds, a cheapie weighs 16 pounds. Use Slick 6364 mags (10 pounds) or Bendix S6LN-21 (11.5 pounds). The interior upholstery can be heavy. The original seats can weigh 35 pounds. The floor rug can weigh five pounds.

If you get to the air show stage, the ELT can even be removed.

Clean the interior, vacuum out the belly.

If the old D-2 wobble pump is still installed, remove it and install an electric pump. (Two or three pounds lighter.)

Remove landing lights, rotating beacons, unused antennas.

If you don't have the straight stack exhaust, get it.

A Sensenich M74DR-1 prop weighs three pounds less than a McCauley DM739.

Those are the bigger things. To really get the weight down you've got to go a little extreme. Examples:

The early 0-300s used magnesium mount legs, later aluminum-magnesium intake elbows and manifolds.

You may be able to get by with a 12A generator.

Check the B&C starter out; it's lighter and better, but expensive. The ELI landing gear is several pounds lighter than Adel.

Check your gear motor; some are too heavy.

Aluminum screws can be used in nonstructural applications, fairings, windshield retainers, etc.

Removing the oil cooler is not usually recommended, but it's not required legally with a fixed pitch prop.

The fuel tank filler is a steel tube; it could be aluminum. Strip the paint, if it's painted.

Cleveland wheels & brakes are great, but heavier than Goodyear. Aluminum hose ends on all the hoses save a few ounces. McCreary 4-ply tires are recommended, both for low overall weight, and fast gear retraction.

The little wires most Swifts have for gear down indicators are light and simple. But if you properly wire in another "gear down" light, you save a few ounces and some aerodynamic drag.

The brass plugs on the engine can be exchanged for aluminum.

Eat less. Fly with 1/2 full tanks.

Note I haven't mentioned anything in the tail section. First of all, the Swift flies better with an aft C.G.; it's faster and more responsive. There are several things which could be lighter in this area, but it's a Catch-22. Most Swifts have between 9.5 pounds and 15 pounds of ballast in the tail. There are various tail wheels approved on the airplane, with their weight from four to nine pounds. If you remove the ballast, and install a non-steerable tail wheel, you might lighten the airplane by 15 pounds but ruin its flight characteristics and make it hard to land. The tail wheel shock strut is heavy too and could be made lighter. Talking theory, all this could be done and the battery moved aft. The catch is, the heavy battery cable required could negate some of the gain. Also, the existing approvals for battery relocation call for it to be installed behind the baggage compartment. If it were in the aft fuselage an external access door would be required for all but the young and athletic.

The rudder skin is .032" thick, which is ridiculous compared to a Cessna or Piper, which typically use .016" and stiffening beads. The Swift needs the thick skin to avoid oil canning and wrinkles, and as pointed out, they need additional weight in the tail anyway.

Little known facts

The early fuselages are 7.5 pounds lighter than the late ones. In fact, the real early ones with the light skin (.020 and

.025) are probably lighter yet. That's why some GC-1 As required 15 pounds ballast when converted.

The early horizontal and vertical stabilizer spars are .050 instead of .063, but this is not a good place to save a few ounces.

The early Swifts with the riveted on center section are structurally superior except a few serial numbers after 1,000 which have 3/32" rivets in the row below the windshield—these should be 1/8" rivets.

Modifications

The stock wing tips should be used.

The slots have been STC'd to be closed, but the method is crude and heavy. There have been field approvals to do it a little more cleanly. Do not remove the stall strips in conjunction with closed slots! Short wing tips, like the modified Bonanza tip don't do much for lift, but stall nice, (but beware the sink rate) and probably are more spin resistant (probably). The angle of incidence on the horizontal stabilizer is different (less) on the later airplanes. This can be duplicated by copying the rear attach fitting from any of the 2300B or 2400B (s/n 3600 through 3760) series of Temco airplanes and comparing it to what you've got. A converted GC-1A probably has a longer fitting. Caution: someone may have changed this previously, check it before you cut any metal. Treat any previous modifications with suspicion, even if STC'd. STC holders continually warn against a combination of modifications which may be incompatible. A modified hatch may be unsuitable for aerobatics since it might not be possible to exit the airplane in flight. A stock hatch cannot be opened at high speeds. Can you get out the window with a parachute? Sticks are a popular modification these days since they make landings and loops easier by changing the ratio of control movement to elevator displacement.

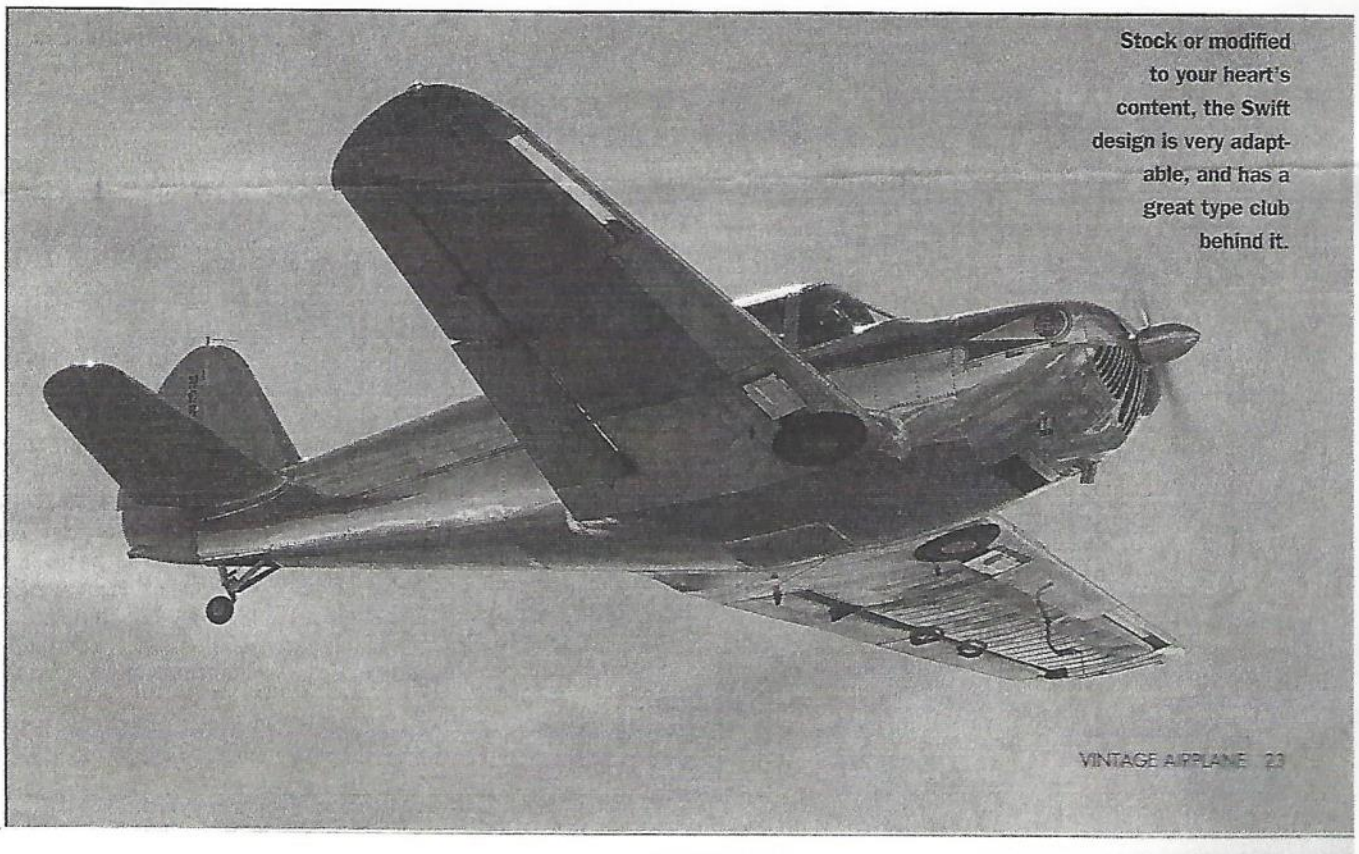
Moving the battery to the back of the baggage compartment is usually a good move, especially when a Merlyn Products access door is installed, although I hate to cut a big hole like that in an airplane. I don't know if I need mention the old Corben tails and wing tips should never be used. The Sensenich M74DR-1 prop is STC'd at a pitch of 62 inches. This is too much pitch. I understand Merlyn has a 145 STC which allows a more sensible 58 inches or thereabouts pitch. The preferred engine is an 0-300A. A C-145-2 is, for all practical purposes, identical if it has a "D" in the serial number. (Denotes dampened crankshaft) The 0-300D can be used if an "A" crankshaft is installed. Continental has an Engineering Deviation on this. The engine should be in good mechanical condition, with no low cylinders or weak mags or bad plugs.

The latest cylinders have larger 30 degree intake valves and the latest camshafts are considerably different. All the 0-300 camshafts are p/n 530803, but the late ones have the number circling the shaft, and the early ones have it longitudinal. Also the late ones are 530803AN or 530803AU or 530803AT, etc. It's interesting that all these engines are rated at 145 hp. Kenny Maxwell at the Maxwell prop shop once told me no engine varies so much in output as the 0-300, and what was a good prop on one airplane wouldn't turn up on another. Downdraft cooling, and fiberglass cowl are okay mods, I just like a metal cowl.

The Merlyn gross weight increase adds only a few ounces of weight and makes the wings stronger, so it would be desirable for aerobatics. 150 seats—okay. Shoulder harness—absolutely. Bubble Canopy? Personal preference. I like 'em original, but I must admit the canopies are nice. Quieter too. Get an intercom regardless. It only weighs a few ounces.

Adjust the aileron stops. Remove the aileron, locate the coarse threaded #10 aileron stop bolt, take it out first, and move the plain check nut to be next to the bolt head, reinstall. Contact should be made at the wing before the secondary stops under the panel, check the manual.

Check the rudder travel. It should be



Stock or modified to your heart's content, the Swift design is very adaptable, and has a great type club behind it.

VINTAGE AIRPLANE 23

adjusted for maximum L-R movement. Check the manual. Tension rudder cables 70 pounds.

The engine should run smoothly, and have minimal mag drop. With the Swift Association STC you are somewhat limited on prop selection and allowable static rpm. The STC limits static rpm to 2,130. The STC was gotten as a paper exercise by Piedmont, and has some strange stuff in it. In effect, you have a 125 hp 0-300. The STC actually requires a placard, "Do not exceed 125 hp, 2,270 rpm at any time." This really shows laziness on the part of whoever issued the STC. Actually, the 0-300 puts out 125 hp at 29 inches of manifold pressure and 2,270 rpm so this is legal, but not wise, to run continuously. If they wanted to restrict the Swift to 125 hp, they should have published the following:

125 hp
Power settings for 0–300 engines

125 hp= 2700 rpm x 25" MP
125 hp= 2500 rpm x 26.7" MP
125 hp= 2450 rpm x 27.2" MP
125 hp= 2300 rpm x 28.7" MP
125 hp= 2270 rpm x 29" MP

125 hp is 86 percent power for a 145 hp engine. Do not cruise continuously with MP over one inch higher than rpm.

Note: 75% power = 108.75 hp
65% power= 94.25 hp

A typical setting with a fixed pitch prop might be 2,450 rpm and 24 inches MP. This is 75 percent power or 108.75 hp, well below 86 percent. As a matter of practicality, at our local airport, elevation 932 feet, full throttle, will yield less than 29 inches MP. With full throttle, we get 27.2 inches MP and 2,270 rpm (which my Swift does, typically) that is about 110 hp available on takeoff per the Continental 0-300 operators manual power chart, with my prop.

I mentioned the Swift was approved under CAR 4a. The current FAR 23 has different categories, Normal, Utility, and Aerobatic. In 4a, all airplanes are aerobatic, limited by placards. The Swift has only two required placards:

(a)"INTERNATIONAL SPINS PROHIBITED"
(b)"DO NOT LOWER LANDING GEAR ABOVE 100 MPH"

A letter was published by Temco in 1949 concerning aerobatics which is copied here:

TEXAS ENGINEERING AND MANUFACTURING CO., INC.
DALLAS,TEXAS
July 18, 1949
FLIGHT CHARACTERISTICS OF SWIFT MODEL CG-1 B

The subject airplane is certified under the requirements of normal category airplanes as specified by U. S. Civil Air Regulations, Part 04, Airplane Airworthiness, dated November 1, 1943.

The flight maneuvers listed below for the subject airplane are itemized to familiarize those not acquainted with the GC-1 B Swift. These maneuvers are essentially aerobatic-type and do not include normal cross-country type of maneuvers.

SLOW ROLL

Obtain approximately 140 mph airspeed before initiating maneuvers.

SNAP ROLL

Obtain 80-85 mph airspeed before initiating maneuvers.

LOOP

Obtain 155-175 mph airspeed before initiating maneuvers. Tight maneuver will result in a high speed stall and inversely a loose maneuver will result in a slow speed stall. In either condition airplane will have tendency to fall off on either side, but will not result in an inverted spin.

CHANDELLE

Obtain 155-175 mph airspeed before initiating maneuver (see loops).

IMMELMANN

Obtain 165-175 mph airspeed before initiating maneuver (see loops).

STEEP CLIMBING TURNS

Obtain 75-85 mph airspeed for short duration (not to exceed five minutes).

DIVE

Do not exceed 185 mph (design speed 210 mph).

INVERTED FLIGHT

Inverted flight maneuvers are prohibited except for very short duration. Oil pressure will drop off due to the particular type of engine oil system.

STALLS

Normal stalls and whip stalls.

SPINS

Airplane is placarded against intentional spins — not because of structural strength, but due to spin characteristics. A two (2) turn spin can be accomplished with a 1-1/2 turns to recover by using opposite ailerons and full forward stick. Above this point speed of turns builds up and airplane has tendency to flatten out. Six (6) turn spins will require approximately four (4) turns to recover by using opposite controls and intermittent throttle blast.

L. A. Childs
Chief Engineer

The statement on spins is self-explanatory and also tells why the Swift is not often entered in competition where spins are important scoring maneuvers. As a personal observation, the Swift does not spin readily, and resumes normal flight immediately if forward yoke is applied immediately. Of course, opposite rudder would be called for, but that would be in a full blown, fully developed spin. A snap roll, which is a horizontal spin, requires about 1.4 times normal stall speed, "G" loading to a stall, and rudder in the direction of the snap. Repeated snap rolls are not recommended. The airplane is now 50 years old, and the tail structure will develop loose rivets and cracks, and perhaps eventually fail.

I do not feel the Swift needs to do spins and snap rolls to be a sport acro airplane.

The Swift, flown by competent pilots, is an excellent airshow airplane. The flight performance is more enjoyable for many, because of its smoothness, not snap-snap maneuvers. Bob Hoover never snapped the P-51 either! With the smaller engines, aerobatics in the Swift is an energy management process, if done in an airshow environment. Several very good pilots have done relatively low-G airshows, some with engines as big as the IO-360 Continental and Lycoming. Ironically, the bigger (heavier) engines require lower "G" maneuvers. Not too many people have seen Mark Holliday perform in the GC-1A, but he, at 1,100 pounds empty weight, has the most margin of all. I believe Mark was first to perform a gear down loop at an airshow with a Swift.

I see where unlimited acrobatic airplanes now weigh 1,170 pounds with 310 hp. We're in a different world here.

—Continued in next month's issue of VINTAGE AIRPLANE—

If you're interested in Swifts, you can contact the International Swift Association at:

Charlie Nelson
P.O. Box 644, Athens, TN 37371

Phone: 423/745-9547

Email: swiftlychs@alo.com

Or look at their Web Site at: http://www.napanet.net/~arbeau/swift/

Two of our faithful Oshkosh Volunteers!
Paul Mercandetti and Stan Price

We drew a great number for the Type Club Hangar! We are positioned directly in front of the main door.