

# TIGER TALES

The Newsletter of the Thorp T-18 Mutual Aid Society

Issue 2 April 2011



Rich Brazell's S-18 NX115RX – 27 Years in the making!

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**From the Editor – Lee Walton**

Well guys here we are at Issue Number 2, and so far so good. I hope “Tiger Tales” continues to evolve and improve and I feel this one has a little bit for everyone. We have tales of newborn T-18’s, some still taking shape, those that are getting some much needed mechanical attention and sadly one that has moved on. We have tales of stormy weather and sunny skies, highly modified Thorps and Dream machines. But before we get started let me give you guys a quick “state of the organization”.

As of April, the Thorp T-18 Mutual Aid Society is 170 members strong. I want to thank everyone who has agreed to receive the newsletter via e-mail; it certainly makes the job easier and allows us to use the membership’s dues for productive things like the Spring Gathering raffle. Of the 170 members, 105 are registered members of the “ThorpForum”. So if you are reading this and are one of the 65 that are not a member of the online forum I encourage you to sign up. It does not cost a thing and although the newsletter is a good read, news just travels faster on the forum site. Here’s the link to get signed up <http://t18.net/forum/register.asp>

We recently broke the 500 member mark on the ThorpForum, not bad for an aircraft design that will turn 50 next year, and one that most have written off as a “dinosaur”.

Huge thanks to everyone who contributed this time around, I actually had a surplus of material. That’s not to say I’m not going to call on you guys to help out next issue though!

-Lee

**Sun n Fun 2011– Lee Walton**

To state the obvious, for the most part Sun n Fun it wasn’t. I’m sure we’ve all heard of the tragic loss of property and hard work that occurred on Thursday during the convention this year. To sum it up a line of thunderstorms came across the field mid day and tossed airplanes around like they were made of paper. There’s a debate over whether it was straight line winds or a tornado but at this point it just really doesn’t matter.

The end result is that the number three machine in the Florida trio’s formation, Les Conwell’s beautiful N818LM was put on its back and damaged beyond repair. Fear not though, as Les has recently completed a GP-4 to carry him and Margie to all of the Thorp Gatherings at blazing speed.



Les’ new “retractable gear T-18” N814LM

Bill William's airplane came out the lucky one amongst the damaged Thorps this year. His vertical fin, rudder, some of the horizontal stab and I believe the 575 frame were damaged. In between storms Bill ran out to his airplane and taxied it across the field and got it safe and sound inside. I'm glad I was not one of the poor souls faced with trying to keep him from doing so. In short by the time you read this Bill's airplane will probably be in the air.

Lastly, David Read's trusty stead N718DR took a hit as well and ended up resting belly up. Bill and Doug Williams, David and I disassembled and loaded his airplane up the next day. Dave reports that he is looking at a new vertical tail, rudder, re-skinning of the outer panels, ailerons, and the majority of his fuselage. New wing tips, rollbar, canopy, windscreen, canopy frame and more is sure to come. Put short, Dave is looking at a full year or more in repair work. This one hits particularly close to home for me. Anyone who has attended any of the Thorp events lately knows that I'm quite used to seeing that maroon and beige airplane off my wing, so, besides the David and Karen, I'm a close second in wanting them back in the air!



Ok, so enough of the dark and dreary Sun n Fun news, time for a recap of what was good at the event this year.



The good news; Bob Highley's newly repainted N711SH suffered the storm without a scratch, as did Richard Bentley's N57JH machine and my airplane N589LW. So that's good! Bob's airplane won best all metal as did mine win best classic homebuilt. So that's good too!

For those who have not seen Bob Highley's since it's come out of the paint shop you're in for a real treat. His finish is flawless, mirror smooth and looks just like Imron promises, "the wet look". Bob's hard work prepping the 2000hr+ machine really paid off and must have impressed the judges as well.



As far as the commercial displays, if you're in to avionics, Garmin had their 430/530 next gen replacements, the "GTN" series on display. Pretty cool stuff but most likely not something that's in the average Thorp driver's budget. Garmin announced that they would be supporting XM weather with their iPad

software. That's a big deal for me and probably a little more relevant to us as this would make the iPad is a good budget weather device.

I'm not really a Light Sport guy but I did see one that caught my eye. First let me explain, that my issue with LSA's is that they all look like they're doing 200 but we all know they're not going that fast nor are they allowed to. So in my opinion a J3 or the like is a great LSA, it's not trying to be something it's not.

So until now that was my choice in the market. I never considered that an LSA biplane until I saw this one, the FK-12 Comet built by FK airplanes in Germany and distributed here by the Hansen Aero Group. For an LSA it's a really slick little airplane.



FK-12 Comet

It's basically a small lightweight Pitts S2. I realize this has nothing to do with Thorps but I'm giving you a Sun n Fun report right?!

Ok so what else, it rained a lot early on, then it rained a lot more, then it cleared up. Thursday night the Sun N Fun crews carefully up righted all of the damaged birds and moved them over away from the general public. Friday morning it seemed like business as usual, the crowds were back, a new crop of homebuilt/kitbuilts flew into replace the broken birds (wise individuals who waited until the WX cleared up to come down), the airshow was on, the Blue Angels

flew, and all was back to normal. Other than the thought of our friends aircraft banged up you could have called Friday a good day. I will say that Sun n Fun runs a tight ship, the difference from Thursday afternoon and Friday morning were like night and day.



Bill Williams and his son Doug, this is Bill's "low country boil" face!

Friday afternoon we met up in tent #1, ate Bill Williams now legendary low country boil, witnessed Richard Bentley present gifts to the deserving Bob Highley and Bill Williams, and listened to the soon to be famous "One winged Fly-Baby" story from Scott Hinton. Attendance was definitely down at the T-18 event, but considering the circumstances the 45 or so that were there seemed like a good number.



A snippet of the group, at the boil. From what I can see Les Conwell is captivating those on the left. Bob Highley is briefing the group on the right.

It may sound strange to say this but looking back on it, this year's event will probably be one of my more memorable Sun n Funs, and not for all bad reasons. After our campsite was blown away Bob, Susan, Bill and Debbie opened their homes up to us "refugees" (thank you guys/gals!). Amongst all of the low moments there were also a few laughs and smiles, I learned what a "crackle berry" is, picked up a couple of goodies at the parts exchange and enjoyed beverages and great food with some of the best people in the world! Were it not for the banged up airplanes I might have put it at the top. So in short I'll be back next year, with bells on, Sun n Fun 2012 Bring it on!

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#### **Wing Derringer (Thorp T-17) – Wendell Green**

I first saw an article about the Wing Derringer in "Air Progress Magazine" in January of 1964. George Wing was building the ultimate owner-flown business aircraft. Wing was using the latest techniques such as chemical milling and matched-hole tooling. The aircraft would utilize stretch formed skins with aerodynamic features for low drag and high performance.



N51863 and the Derringer, this pic was taken by EAA for an article that was never written. Shame on EAA!

George Wing became acquainted with John Thorp when he purchased a Sky Scooter. Wing asked Thorp to design the Derringer (D-1). Thorp's job was to produce the best, most efficient airplane "without compromise."

I had just started Air Force pilot training and was really impressed with this beautiful airplane. I thought it would be fantastic to own one. Over the years, my interest in the Derringer continued. I read every article about its development and the attempts to put it into production. Whenever I saw a D-1 for sale, I would call if only to talk to someone who had one. I was really never in the market because they were too rare and too expensive.



The main office of the D1. Here you can see the RH mixture verniers. Unique to this aircraft.. Not *much* bigger than a T-18!

In 2006, I read of a Derringer for sale in California. The ad read: 2 engines, 2 seats, 200 Knots. I was hooked! Ken Coe, a retired Western Airlines Captain, had lost his medical. After two years of negotiating, the Derringer was mine.

This D-1 was George Wing's personal airplane. It had less than 2000 hours total time with about 600 hours on the engines. It had been

used as a factory demonstrator and test ship with many 337s.



Wendell getting his first official D1 checkout  
Livermore, CA 02/02/2008



On the way home, even though in deep concentration you can spot a slight smile that hasn't faded since!

Getting the Derringer home was my next objective. I had flown a Twin Comanche about thirty years ago for a rating; I had no experience since. Therefore, I asked Lee Walton to go with me to pick up the airplane. His ability as a mechanic was the only reason we made it back to Texas. The starters were worn out and the battery was weak. The aircraft was legal for flight but was flown infrequently. Several systems were inoperative including the heater and the autopilot. An oil leak was discovered and repaired before any damage occurred. As we flew back to Texas, we experienced the smooth and rapid controls. The low fuel consumption and high speed were evidence

that this airplane was made for traveling. Visibility was outstanding due to the large windscreen and the design of the nose.

There are many unique features of the Derringer. The canopy and locking mechanism are complicated but secure. The retractable steps come down as the canopy raises. The landing gear retracts into the engine nacelles.

Flying the D-1 is almost as much fun as meeting the people who want to know about it. Every time I fly it someone will say, "What is it?" or "I've never seen one." The reactions are always positive.



That's one good looking airplane!

Here's a quick PIREP on taking the D1 for a spin around the patch;

Preflight is pretty standard for any light twin with a few stand outs. Namely the unique swing up canopy, seamless chemically milled countersunk riveted wing and the swing cradle gear which retracts up and out leaving the tire directly behind the engine nacelle. The pilot enters the Derringer over the wing and down into the cockpit through a swing up canopy. Once seated there are a few items which again stand out as unique; the throttle and prop controls are in the center as expected but the vernier mixture controls are located in front of

the passenger (*Editors Note: I liked this setup so much I used it on my airplane, I used a vernier for the mixture and the Bob Highley throttle quadrant for the throttle and prop*). As far as the panel layout goes it has a few oddities, the flight instruments are not a standard “six pack” but not due to space and or the 60’s vintage of the airplane but rather it appears Wing just wanted then that way. The circuit breakers are almost entirely out of view under the panel which makes them quite hard to check and monitor. Lastly the flap switch is a very small toggle located mid way up on the panel in front of the passenger. Without it being pointed out a pilot could spend a fair amount of time trying to locate this thing! The canopy has three positions “open”, “closed” and “taxi”, the taxi location props the canopy open about six inches which is very nice. Thorp drivers know how hot it can get under that greenhouse! One important safety item, the D1 will not fly with the canopy open at least one aircraft has been lost due to this. As a result the canopy has two latching systems; pre-takeoff check includes verifying both are latched.

Takeoff is pretty standard, power and prop levers full forward, rotate at 85, positive rate gear up, speed at blue line or above and you’re on the way up at a good clip (2000 fpm+). Leveled off at cruise the Derringer really shines both aesthetically and in the performance realm. Cleaned up and 25 squared yields 200 mph plus with excellent over the nose visibility (think T-18 without the prop turning in front). Pitch control is light and sensitive and roll is a bit stiff, but once trimmed out very stable in cruise. John Thorp successfully designed an aircraft achieving George Wing’s vision of an efficient traveling machine as we regularly travel from Ft. Worth to Denver in 3:30 burning around 50 gallons of avgas.

Stalls are docile as would be expected by the Hershey bar wing. Early flight tests reported rudder and ailerons were quite affective through stall recovery as well.

As expected single engine performance of the Derringer is atypical for a piston twin. A surplus of power, light weight and the position of the engines make the Derringer a twin that actually flies on a single engine. As we know, most piston twins have two engines because they cannot fly on one!

Landings are again pretty typical slow to 130, gear down, maintain blue line (110) or above until final, then slow to 90 over the fence. I operate out of 3900 ft runway and typically use about 1500 feet of it.

After parking I realize what a fortunate person I am to be able to experience such a rare machine. I’m the caretaker of a piece of aeronautical history that few people have ever seen.



*"If you have a T-18, you still need a Derringer"*

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#### **First Flight Report, NX115RX – Lee Walton**

Rich Brazell and NX115RX took the air for the first time on April 3, 2011 Brown Field (KSDM)

near San Diego. As of April 5<sup>th</sup> she had 5 hours on the Hobbs. Rich reported a hands off flight first flight, clean stall 67 mph, dirty 62 mph, at 3000 ft and 2200 rpm 155 IAS. At the time of this writing top end numbers are unknown as Rich is investigating a slight vibration coming from either his turbine powered brain or the powerplant/prop. Other than that oil temps remained in the 180-200 deg range on the zero-time 0-360 turning an AD prop.



Plans for serial number 2019 S-18 were purchased from Ken Knowles in September of 1984 which makes this a solid 27 year project. Rich also built a custom S-18 trailer as he intends to keep the shiny red bird at home which is 12 miles from his eventual home base of KSEE.

A few tidbits on the airplane;

- MTOW 1750 lbs.
- Aircraft Empty Weight 1069 lbs. (Lou's S-18 came in at 1068 lbs)
- Left Wheel 516.0
- Right Wheel 504.0
- Tail Wheel 49.0
- Baggage Capacity 77.0 lbs.
- All electric panel. ADI, DG, T & B and all engine gauges. No vacuum pump, hoses, regulator. VFR only.
- Aero Sport Power 0-360 Engine.
- AD Prop.
- Battery on firewall.
- Standard fuel load.
- "Piper Style" throttle quadrant. RB design.
- Panel mounted "EyeBall Fresh Air" outlets. Very effective.
- Engine compartment "Fire Suppression" system installed. Custom RB design. **(Editor's Note: We'd like to hear more about that Rich! Maybe in the next NL!)**
- 2 Axis TruTrak Auto Pilot. Not yet tested. Will be coupled to the AVMap GPS...not yet tested.

Big congratulations Rich! We can't wait to see you and NX115RX at some (or all) of the upcoming T-18 gatherings!

**Project Report from Down Under– Mike Nolan**

The project was commenced in the 1980's and was purchased by me in early 2008. The aircraft consisted of the basic airframe, a collection of parts and a set of drawings. The workmanship was very professional as the original builder was a Qantas engineer. My friend and I drove 1500 miles to Queensland to collect the aircraft and 1500 miles back to Camden with the fuselage on a purpose built T18 C trailer lent to me by another T18C owner. The return trip took 5 days of careful, slow driving.

During the last 3 years the airframe has been completed and assembled, all the flying controls and flaps completed and installed. The rear cargo floor area was built and installed. A considerable amount of time was spent building and installing the horizontal stabilizer trim jack system with some parts purchased from Mike Archer in the USA.



The construction has followed the original plans however it is planned to install a fuel tank in the cargo area behind the seats. This tank will increase the fuel capacity by 20USG.

A zero time Lycoming O-320 D3G 160HP engine (ex a PA 28 Warrior II) and a Sensenich 68" diameter 77" fixed pitch prop are currently being installed.

The aircraft will be certified for IFR operation and the avionics package currently being installed consists of a King KMA24 Audio Panel, King KY197 VHF Comm., Garmin 430 GPS, King KR87 ADF and King KT76C transponder. Fortunately Australia does not have the severe icing conditions that are experienced in other parts of the world so it is usually not a problem to fly this type of aircraft in IMC.

The aircraft is being built in our garage at Camden NSW Australia which is a rural area 25 miles south west of Sydney. Both family cars have been doing it tough in the driveway for the past 3 years. Camden has a regional aerodrome which has 6 flying schools and a large number of private aircraft based there. The cost of hangarage at the aerodrome is \$450 per month and is one reason why I chose a folding wing T18 as I can take the aircraft home after flight on a trailer and leave it in the garage.



There are three T18C and two non-folding wing T18 aircraft operating in the state of NSW so we have a good technical advice base with every T18 owner always happy to help. I am fortunate

that my wife who is also a professional pilot has given me plenty of encouragement with the project. She also has small hands which help when the space is a bit tight but I haven't yet asked her to crawl down the rear fuselage to assist with the rigging. Regarding the cost of the project it currently stands a \$68,000.00 and will probably raise to \$85,000.00 by time the aircraft is complete. \$39,000.00 of the costs are in the engine and prop, but our decision based upon safety grounds was not to fit a "time expired" on-condition engine.

Since building the aircraft I have purchased parts from Mike Archer in the USA and a really nice windscreen and canopy from Airplane Plastics in Dayton, OH. I would recommend both suppliers to anybody worldwide as both their products and service are the best anybody could hope for. The information available from the American T18 group has been first class and I am really pleased to see our newsletter still in production. We have another T18 nearing completion in NSW and hopefully you will see another article in the next newsletter of its first flight. The aircraft is being inspected for its Certificate of Airworthiness in mid April.

Happy building and safe skies to you all.

**Mike Nolan Camden (near Sydney) Australia**  
kermik@ozemail.com.au

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#### **Tailspring Mount Repair – Fraser MacPhee**

A few months ago, after a mere 4 months of wingless sufferance and upon edict from a rather vocal blond spousal unit, (Get another flying T-18, or get out!!!) I rendered myself the inheritor of SN 279-1, built by Parker Miller of

Houston, Texas. After cleaning and minor upgrades at Walton Aviation and deliverance from Houston, the first order of business was installation of a new tail wheel.



Fraser's new machine N633PM

I knew the airplane had been ground looped some years ago and needed a little TLC from a loving suitor. The bolster plate had been matched to the previous project I had purchased (and Lee has since adopted) and when I went to install the new tailwheel and bolster, it did not match up to the bolt holes in 633PM - it was however, close enough to ream and this was lovingly and precisely done and the installation then proceeded until the last bolt, which continued to turn, and turn, and turn, stripping out the nylock nutplate..... at about which time I garnered the look of someone 10 hours away from a colonoscopy.



Off came the vertical and horizontal stabs to access the area to replace the nut plate. Upon inspection, it was evident there was more to this invasion than had been previously planned. The 4130 bracket riveted to the rear bulkhead had cracked and the flange to which the nut plate was riveted was barely hanging on. Upon even further inspection, it was discovered that the bulkhead flange was also cracked and a repair had to be designed taking both the 4130 bracket and the bulkhead flange structural capability into account and stiffen the area sufficiently to absorb the loads imposed upon it by my now rare but occasional three point carrier traps.

Todd, my hangar neighbor, (a Boeing machinist who works on the top fuselage skins of 737s and who takes an active interest in my safety) and I weighed the multiple scenarios available to us while consulting the T-18 plans and decided on a "Full Fridge" repair. (His fridge holds 72 beers - this was going to take awhile and be done correctly!!).



First order of contemplation was to determine whether the rear bulkhead could be saved, or whether it too, needed to be fabricated and replaced. After cutting out the bottom flange and dressing up the bottom of the bulkhead, we

determined that any vertical load transferred up through the flange to the rivets joining the bracket to the bulkhead would be sufficiently distributed with new rivets. To spread the load even further, we determined that spanning the lower longerons with the bottom flange of the new bracket would further stiffen the entire structure by transferring some of the loading into the fuselage. I had a three beer wrestle with this, but elected to do it as the transfer of forces through the original structure resulted in some lateral forces being imposed upon the lower longerons and skin anyway, (through the bulkhead bent flange below the bracket flange) so this was not going to put loads where they were absent previously. They were just getting there via different vectors, as I saw it.

Once the bulkhead bottom was cleaned and filed and deemed without cracks, a 4130 bracket was fabricated with "longeron tabs" running transverse to and under the bottom of the rear bulkhead (see pic) - this 5 beer reasoning was that this would distribute the load (in this case more of a bending moment starting at the rear tail wheel bolt and running fore and aft) over a longer distance of the longerons.



New 4130 Bracket in place

I determined the bracket angle (it is not 90 degrees) by putting a piece of paper on the side of the fuselage and butting a straight edge up against the longeron and bulkhead rivets. This was important, as 4130 is a very hard metal and at 3/16s thick, it requires a press to bend.

The bracket was templated, drilled out and riveted in place to the rear bulkhead. The longeron connection was drilled out - 2 - 3/16 inch bolts per side through the bracket flange and a spacer the thickness of the longerons was placed between the bracket and the bottom skin. The final photo you see is the new bracket installed but without the bolts tying into the lower longerons. The bolts were drilled and installed using existing rivet holes after the bottom skin was re-riveted in place.

The fix is, I think sturdier than the original design and I think will see the life of the airplane, despite any inadvertent attempts to test its mettle.

I would encourage everyone to examine this area closely at conditional inspections. During previous conditionals, I would give it the cursory glance, but never really examined it with the proper due diligence it deserved. In retrospect, that feeling of colonoscopy lament may have saved a fate much worse, if there is such a thing.

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**Nuts and Bolts** – Brian Haynes

I have been beating my head against a wall (no, it hasn't done any good, or any damage, maybe to the wall!) on a topic for my next Newsletter submittal. And after traumatizing that poor wall, I was coming up a blank, until the other day, it came to me!

As you know, I am a member of the Thorp T-18 Mutual Aid Society, and they have a fairly active little forum (check it out, [www.t18.net](http://www.t18.net) ,yup another plug for the best homebuilt airplane ever!) One of the members started a thread about making a homemade supplied air system to use for breathing air while painting an airplane. To be very honest with you, I was shocked beyond belief at some of the stuff I was reading! Some were so downright dangerous; I had to take this cause up. So now I am going to get on my soap box for awhile, and hit on some topics I think need to be brought up to all my friends in the aviation world, no matter where you are, what you fly, we need to remain healthy and safe.

I will be the first to admit, I am NOT an expert on this subject, but my years of working in heavy industrial and institutional settings, and I have a pretty good background and quite a bit of training in many different aspects. Also, spending 14 years working for the State of California, most in a construction or maintenance supervisor, I have some pretty good background. And California, for most of its pretty poor way of conducting business, it does have some good policies to help keep a person (mostly geared towards worker and workplace settings) healthy and safe. In this day and age, a person who is trained (and yes, there are people out there with college degrees,) are called "Industrial Hygienists". These folk's job is to ensure people have the proper resources to work safely, and remain healthy during the course of their job. Much of this can be applied to our own little workshops or hangers as we build and maintain our aircraft. There is so much information available on these topics, most of it easily available via the Web.

First, let's talk about some of the dangers we face while we build or maintain our aircraft, and

what we need to keep ourselves safe. Many dangers are lurking, ready to lash out and cause us many problems, from nasty chemicals, to the dangers of working with metals (welding, cutting, grinding, riveting, etc.); even power tools pose a significant risk to our good health. It is easy today to identify the risks we are taking, and how best to address the needs for protection. In today's world, we call this equipment PPE's Personal Protective Equipment. Pretty simple, these are devices we use to protect ourselves. They can range from gloves, safety glasses, to welding hoods, and air filters or respirators to proper shoes.

Some of these PPE's are pretty easy to figure out what type we need to keep safe, but some can be pretty confusing. Of course, if you are going to TIG weld two pieces of aluminum together; you are going to wear a welding hood, aren't you? But, how do you make sure you have a proper lens in your hood? This is where all the leading manufacturer of welding equipment is a great resource for information. They all have basic guidelines that you can reference for what you need to make sure you is safe. Once again, go to your favorite welding companies' web page for this information, or ask your local welding supply distributor. It will take a different shade of lens if you are TIG welding vs. oxy-acy torch welding.

But let's say you are getting ready to mix up some resin to make a part from fiberglass. How do you know what you need? We know you are not probably going to use the same equipment that you used to weld your aluminum pieces together, are you? Well, you probably could, but is it going to provide the best means of safety for you? Probably not. The heavy leather gloves you used would be a little bulky, and will it keep the chemicals from reaching your skin? Maybe to some degree, but not totally. Here is

what we can reference for safety. In the good ole USA (and I know our friends to the north have similar systems, and I am sure most other countries do also) our big brother has an organization called OSHA, and here in California, we take it a step farther, it is Cal-OSHA.

Now, I know some of you are already cringing at the mere mention of these four dreaded letters, but even I will say, that they have some good material for us to use. It is the law now, that any company that manufactures a "Hazardous Material" must provide an item called a MSDS sheet. That is short for Material Safety Data Sheet. If it is not provided with what you are working with, look at the container or ask your supplier how to get a copy of the MSDS for your item. Almost all MSDS's are readily available on the Web also. OSHA (and Cal-OSHA) have available on their websites, much information that we can use, much of laden down with all sorts of legal mumbo jumbo (remember, most of this stuff was driven by government with ample amounts of lawyers reviewing it!)

Ok, so let's get started, we are going to mix up a small batch of fiberglass resin. Now, I went to the website for Aircraft Spruce and Specialties and looked up fiberglass resin. I have chosen to use the 3M brand carried by Aircraft Spruce because 3M is a nationally recognized brand. 3M is also a very big supplier for many different types of very high quality, but affordable PPE's. I selected Aircraft Spruce p/n 09-01433, a 1 qt. resin that is supplied with hardener. If you bought a can of this from Aircraft Spruce, you should receive a MSDS with it, but let's say you did not receive one. So before we go mixing up this potentially dangerous material, we are going to research what we need to keep us safe.

So I went to Aircraft Spruce website. They have a live chat on their website, and even though I did not buy this from them, I provided the info-3M FIBERGLASS RESIN QT 05833. In less than 3 minutes I had the MSDS sheet on my computer. I even told the person what I was doing, asked if I could reference how easy it was to get this, and they were very glad to be of help!

Now, if you cannot access the Aircraft site, go to Google, enter in 3M MSDS sheets, took me right to the 3M site, entered in 3M fiberglass resin MSDS, it came back with several choices which was easy to locate the item number of 05833. Clicked on it, and got this site: [http://multimedia.3m.com/mws/mediawebserv er?mwsId=S5SSSuUn\\_zu8l00xM8tenxmxMv70k\\_17zHvu9lxtD7SSSSS--](http://multimedia.3m.com/mws/mediawebserv er?mwsId=S5SSSuUn_zu8l00xM8tenxmxMv70k_17zHvu9lxtD7SSSSS--).

Now I am not going to put all 18 pages on here, but if you would go to this link (or if you are reading this on your computer, just click on it to open, you might have to push "ctrl" and click at the same time) and up will pop the entire MSDS sheets for both the resin and the hardener. If you are at the MSDS page, take a good look at it, and you will agree, a bunch of mumbo jumbo, but don't be shortsighted, it has much useful information. Take a little time to review this entire document, and you will see there are many good things here. One important item listed on every MSDS sheet is right up at the top, Emergency phone number, this is address any safety item or emergency (including accidental ingestion/exposure control), this is something every person needs to be aware of.

So let's start, I am going to look at several particular sections on this MSDS. We will look at sections 7 and 8. Section 7 deals with how to handle and store this material. Section 8 takes that a step further and addresses Exposure Control and Personal Protection. It starts out by

giving Engineering Controls such as proper ventilation. The next section outlines the PPE's needed to protect yourself. If you notice, it even tells you what type of glove will provide the best protective barrier for your hands. Then goes into respiratory protection, and even gives a phone number to 3M for more information. As I stated before, 3M is a big player in PPE's, and one of the best manufactures of the devices including respirators. This a good resource to use, so use it!

Other good resources for PPE's are any industrial supply vendors such as the Grainger Company and Fastenal. They both have Industrial Hygienists on their staff, and are very happy to assist you with making sure you get the proper PPE's to help you work safe, whether it is ear plugs, air filtration systems, welding safety and protection and virtually any other safety item you can think of. They are both easy to find, [www.fastenal.com](http://www.fastenal.com) or [www.grainger.com](http://www.grainger.com).

We owe it to ourselves and our loved ones to remain healthy and work safe. Much work and efforts have been put into workplace safety, and this is information that we can apply to our favorite pastimes.

Other good sources for safety are our big brother OSHA ([www.osha.gov](http://www.osha.gov)) their site is very large, but is easy to find different information. I urge you to spend a little time, and cruise through some of their info. Try typing in their search engine something as simple as "respirator" and a wealth of information will be provided including much of their regulations. Now you might think this stuff is all government blah-blah-blah, but read it! It does have very good information. Other state and local agencies also have much information you can use.

And you can always contact your EAA office, or even give me a shout, and I will do all I can to help you get the information you need. I am always available at [skylane15j@yahoo.com](mailto:skylane15j@yahoo.com)

Until next time, keep safe. Be aware of the dangers of what you are dealing with. You would not think of hopping in your airplane and taking off without resourcing all the information you need to have a safe and fun flight, well our workshops and hangers are no exceptions.

Keep these birds flying, get out and enjoy your plane in the beautiful corner of our little world. Until next month, "You are cleared for departure"



Not bad for a 35+ year-old huh guys?!



Look ma! 4 seats!

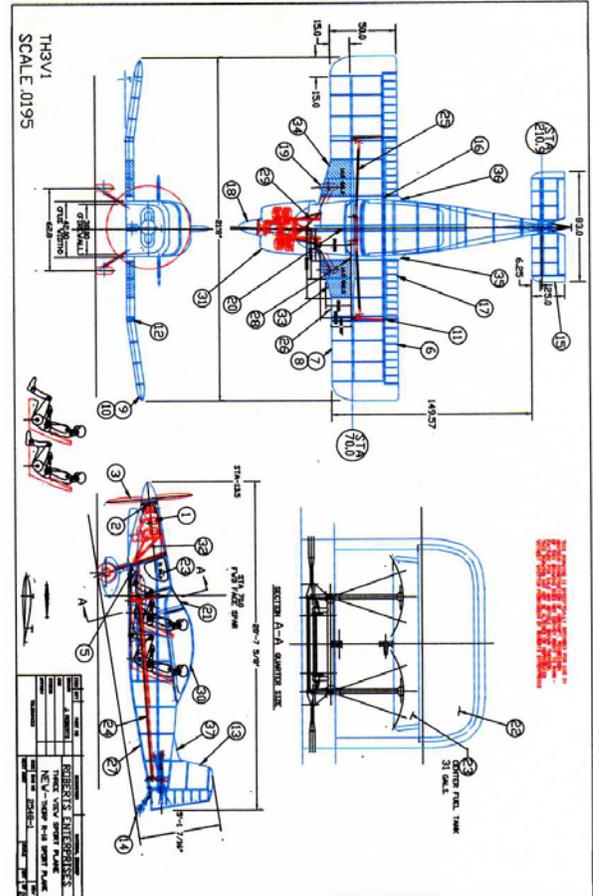
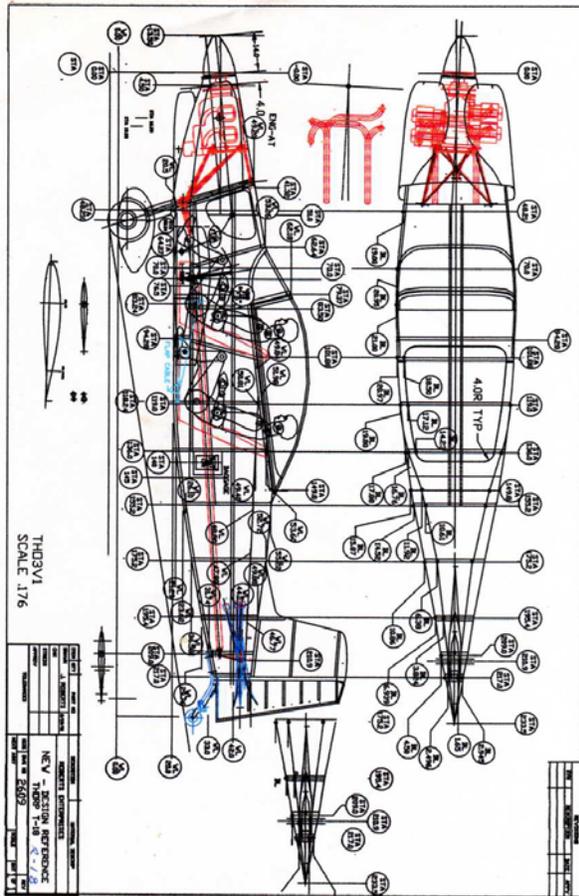
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#### 4-Seat T-18 Drawings – Bob Moehlenkamp

Interesting drawings sent to me by Bob MO of the 4 seat 180 HP T-18 (R-18) N249R. Here she is way back in 1975;



And now in her current state;



**Spring Gathering Reminder – Lee Walton**

Ok gents June 10-12, Elizabeth City, NC that's all you need to know. We're meeting for the weekend to do what we do best, enjoy each other's company, talk about Thorps, and fly our machines. Scott Hinton is really pulling out all of the strings for this event and it promises to be one for the memory books.

Here's the breakdown so far;

Friday: For those who arrive early, Scott has arranged for a guided tour of the C-130 refab facility on the field. We'll do the usual "sit around and wait for everyone to arrive" that

day (I'll be doing that from the air) and then meet up for dinner.

Saturday: We'll be heading out in the Thorps to the Kitty Hawk Memorial for a photo shoot with a local air to air "photog" again arranged by Scott. After (or before, I may have the order wrong here) that we'll be heading back to ECG for lunch at the field and an a little education session with the Kitty Hawk Memorial's Park Ranger. The girls will most likely be exploring the local area, Elizabeth City looks like a really neat place. Later that night we'll head out to one of the local restaurants for a group dinner and libations.

Sunday: We'll eat breakfast, pack up, gas up and head home (that's the part I usually don't like) ... the good news is that after the Spring Gathering Oshkosh is only 6 weeks away!

#### Hotel Information

The Culpepper Inn is booked 100% with T-18'ers, I have a feeling that will be home base.

The alternate hotel The Fairfield Inn (252)333-1003 still has plenty of room. Discounted rate is \$89 tell them you're with the Thorp Group from the airport.



N718DR , Down but not out! start working Dave, I need my wing man back!

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#### **Upcoming Events**

06/10-06/12 **Spring T-18 Gathering** Elizabeth City, NC Contact Scott Hinton with any questions. [shinton@ecgairport.com](mailto:shinton@ecgairport.com)

07/25-07/31 **EAA AirVenture** Oshkosh, WI Note: Forum/Lunch Wednesday July 27 12:00PM at the Nature Center

10/07-10/09 **Fall Gathering** Kentucky Dam State Park, KY (M34) Reservations: (270) 362-4271

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A BIG Thanks to Wendell Green, Rich Brazell, Mike Nolan, Fraser MacPhee, Bob Moehlenkamp and Brian Haynes for their contributions to this issue of "Tiger Tales".

In the next issue (so far):

**2011 Spring Gathering Report** – Lee Walton

**Airventure 2011** – Lee Walton

**Thorp 2011 Project Update** – Lee Walton

If anyone would like to contribute to the next issue please contact me;

#### **Thorp T-18 Mutual Aid Society**

Lee Walton

5000 Schuler Unit E

Houston, TX 77007 [thorpforum@thorp18.com](mailto:thorpforum@thorp18.com)

713-303-1043

**FOR SALE**

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**Thorp T-18 N31BD**



LYC O-320-B2B 160HP, 450 SMOH (6/2006), TTAF 2470, Fresh Professional IMRON Paint Always Hangared, All Maintenance Records / Documents Available, Complete Drawing Set / History.

King KX-155 NAVCOM, King KT-76 Transponder and New Encoder, Garmin MAP 195, Davtron DVOR, Electric Flaps, PS Engineering Intercom

Contact: Barry Hall@ 678-290-6630 (home) / 678-429-4525 (cell) [Barry.Hall@CH2M.com](mailto:Barry.Hall@CH2M.com)  
\$37,500

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**Thorp T-18 N6937**



O-290G converted to D. TTAF: 617, SMOH: 160 SN:844 AD prop, built in 1975. Electric Trim, Strobes, Nav-Lights, Wheel Fairings now installed. Owner is a CFI and willing to check out buyer. \$24,900

Contact : Frank Baldwin:  
[fbaldwin@troyairpark.com](mailto:fbaldwin@troyairpark.com)

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**Thorp T-18 N295RS**



Standard T-18, 2900 TT 160 HP O-320 341 SMOH Built by Rich Snelson completed 1992. Full Garmin panel including GNS-430, GTX-327, GMA-340. Trio Auto-pilot. AD prop. \$39,000

Contact: Tom Worth [wocon@att.net](mailto:wocon@att.net)

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**Thorp T-18 N18JQ**



FAA Certified and initial test flights many years ago. Landing mishap with a friend at the controls put it in the shop for some rework.

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Currently disassembled. Needs canopy Plexiglas, prop and needs vertical fin and rudder completed and re-assembled. Has normal carbureted and upgraded Lycoming O-290G, about 135Hp. All accessories with MA3SPA carb, dual impulse mags, vac pump, starter, alternator, etc Cylinders off for inspection. VFR panel with standard avionics including xponder/encoder. Whelen strobes, all (approx 140) T-18 Newsletters and complete Thorp Drawing set. Many form blocks and templates, jigs etc. Located in Central Mass. \$17,500

Contact: John Craquin [jqcragin@juno.com](mailto:jqcragin@juno.com)

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### **Thorp T-18 N393TC**



N393TC T18 CW [Sunderland Convertible](#) Wing, wide body Lyc IO320 B1A 160 H.P. Hartzel CS,ICS Plus Nav/Com Narco 150,Transponder Mode C ACK Encoder, Garmin 296 GPS TruTrack Digitrak Auto Pilot, Always hangered, Low Time

\$38,500.00

Contact: Tom Carnett 620-331-7877

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### **Carbon Fiber Spinners!**

I have in my possession (on loan) Jim Paine's Thorp spinner mold and have started making composite Thorp spinners.. I will make as many as needed. \$250 plus shipping

Contact: Lee Walton [leewalton@yahoo.com](mailto:leewalton@yahoo.com)  
713-303-1043