THE SLOW ROLL

CHARTERED #921
Since DEC. 1974

President—Frank Moskowitz
Vice President—John Geyer
Treasurer—Dan Smith
Secretary—Bobbie Santoro
Editor—Bob Purdy(Again)

AUGUST 2021

The Slow Roll is published by the Sun Valley Fliers by and for its membership to all others interested in the building and flying of radio control aircraft.

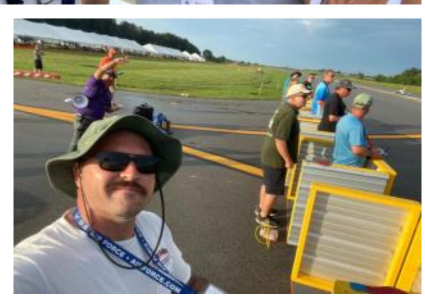
Inside this issue: **Cover Photo showing Arthur Gambino (again) with his Robin DR400. Editor**
SVF CLUB ending 46 years as a charter club

MEETING AT FIELD SEPTEMBER 4, @10

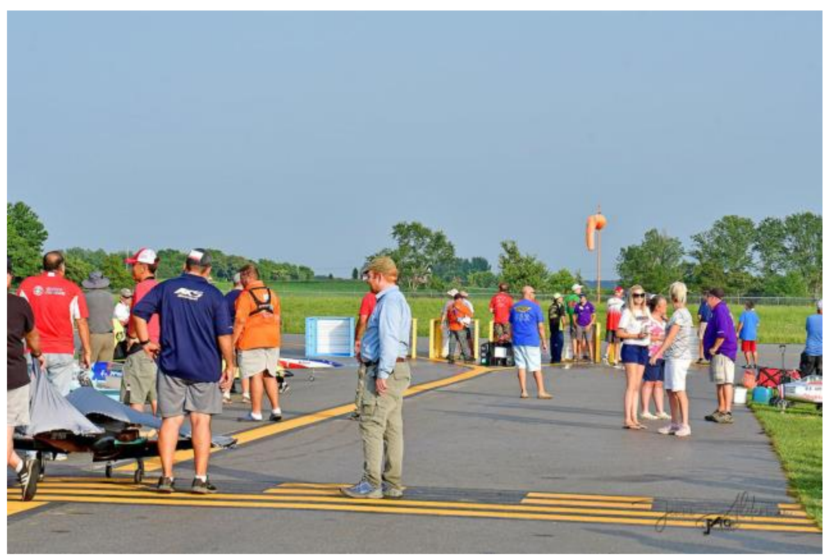
Jets Over Kentucky With those SVF

Greeting All
A good group of SVF members and others from around Arizona traveled to Campbellsville, Ky for the annual Jets Over Kentucky. This year began with a new venue that being the beautiful Taylor Co. Airport. Flying was done from the runway and the intense green of Kentucky was hard on our desert eyes.
We had over 200 registered pilots and I was told about 600 jet aircraft of all types flown by some of the world's best pilots. I was not included in this group!
We had rain showers every day and wet shoes and mud was a common scene. Between the showers, very heavy at times, we managed to get most of all the flying one would want. Lance Cambell landed his beautiful and award-winning SR 71 in a heavy downpour and made it look easy.
On a sad note my BVM Yak 130 was being flown by Brian Rhoads when he was attacked from above and suffered a midair that destroyed both planes. Brian managed to shut down the turbine before impact and it survived. If there was ever a shocking video of a midair, this would have been it!
The photo of the Yak on the runway is credited to ***Jenni Alderman*** and the photos of the Rhoads boys is ***Sharla-Biesky-Powley***. Those from SVF were John Gerhart and his squeeze Sharla, Mike and Nancy Dolan, Dan Bott, and Steve Gladstone. The only aircraft from Arizona that did not come home was the Yak and some of the pieces are still in the Kentucky grass.
KEN RHOADES

Sun Valley Fliers



Jets Over Kentucky With those SVF



The real thing!

SVF Sun Valley Fliers

SVF on JULY 18th 2021

SVF
Sun Valley Fliers

RC QUIZ

1. In the US, what is the governing body of the model airplane hobby?

- Sport Flyers Associations (SFA)
- Academy of Model Aeronautics (AMA)
- Model Aircraft Association (MAA)
- Aircraft Model Flyers of America (AMFA)

2. Which is not a battery type used for flying park flyers?

- Nickel Metal Hydride (NiMH)
- Lithium Polymer (LiPo)
- Nickel Cadmuim (NiCad)
- Silver Oxide (SOx)

3. How many channels are available for FM model aircraft radios in the US?

- 60
- 50
- 10
- 100

4. Each radio has a number of discrete outputs, called channels, that control the various functions of the plane. How many channels are required to fly a powered model that has 'full house' controls?

- 1
- 3
- 4
- 2

5. Glow-powered aircraft require a special fixture in the fuel tank that keeps the fuel supply inlet submerged in the fuel (so it does not pull air into the fuel line) regardless of the plane's

attitude. What is the name of this device?

- Magneto
- Clunk
- Stopper
- Fuel injector

6. Which channel (or receiver output) in a 4 channel radio is usually assigned to the elevator control surface?

- 1
- 4
- 3
- 2

7. Propellers for RC aircraft generally are two-bladed (although can have as many as 3 or 4 blades) and are selected based on a pair of numbers. Common sizes for sport planes are 10/6, 11/7, and 11/6. The first number designates the length of the prop. What is the meaning of the second number?

- Pitch
- Width
- Weight
- Center hole diameter

8. What is the displacement of an OS 46AX engine?

- 46 cubic centimeters
- 4.6 cubic centimeters
- 4.6 cubic inches
- .46 cubic inches

9. What is Realflight G2?

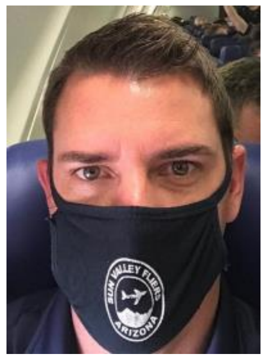
- An RC flight simulator
- A manufacturer of model aircraft accessories
- A park flier made from foam
- A DVD containing highlights from RC flying events

10. How many wires are in a typical servo extension cable?

- 2
- none
- 4
- 3

Sun Valley Fliers

Photos by the RC Paparazzi



Sun Valley Fliers

The photos are showing Jared S, Spencer K, Bryce H, Kyle P, Dean B, and photos could be from the RC Paparazzi

Fuel Facts: What's best for your engine?

[Editor's note: As part of the Model Airplane News archives, this classic article contains a great deal of interesting information. However, since it was first published, some of the pricing may have changed.]

In today's hobby industry, commercial fuel-blending companies are hard-pressed to make a profit, and stay in business. Nitromethane is no longer made in the USA; our only refinery dedicated to its production was moved to India years ago. We now import nitro from China and are subject to interruptions in supply. As refineries shut down to reduce air pollution, the supply of nitro dwindled here, and its price soars. Later, when supply is restored the prices remained high.

Although they are struggling, there is still stiff competition among fuel companies. In their advertising, a few come across boldly, verging on arrogance. One particular blender proclaims an almost divine knowledge of the discipline, predicting the fuel needs of all engine types and sizes; to him, the engine manufacturer's recommendations should be dismissed as insignificant. In other words, some blenders attempt to persuade the modeler to disregard the engine's instruction manual, and instead turn to them for guidance about fuel purchases.

Are Engine Manufacturers too Conservative?

There is a concern throughout the fuel industry that many of the world's engine manufacturers are too conservative when recommending lubricating oil percentages for their products. A high lubricating oil percentage never hurt an engine … or did it? A growing body of experimental and practical evidence suggests that modern engines are being impaired by excessive oil content in the fuel. Here are three examples:

The engine has difficulty maintaining a reliable, low-rpm idle.

The engine has difficulty obtaining a crisp throttle-up.

The engine exhibits diminished wide open throttle power.

The Traditional Modeler

Suggest reducing the fuel's oil content to a traditional modeler, and there'll be an immediate objection, "What are you trying to do, ruin my engine?" Fuel blenders have discovered that change comes slowly when dealing with lifelong modelers. Faced with a traditionalist attitude, some blenders have ventured onto a new path: mix the fuel based on the latest technology and delete the label specifications. Lube percentage and sometimes the nitro content are often left off entirely, thus avoiding the inevitable criticism from engine manufacturers, engine repair centers and modelers comfortable with custom and tradition. Modelers are often suspicious that fuel blenders might substitute a less expensive component, such as methanol, for an expensive component such as nitromethane or a synthetic lubricant. When purchased in bulk, the fuel component costs to one commercial fuel company, minus the shipping charges **(2006)** are:

Synthetic lubricants: average $16 per gallon in multiple barrel lots (55 gallon).

Special synthetic lubricants: average $30 per gallon in multiple barrel lots (55 gallon).

Castor oil lubricant: $9.75 per gallon in multiple barrel lots (55 gallon).

Traditional synthetic oils (UCON, etc.): less than $10 per gallon (55 gallon).

Methanol: $1.49 per gallon in 5,000-gallon lots (tank truck).

Nitromethane: $14 per gallon in 80-barrel lots (53 gallons/barrel, 2-gallon nitrogen space).

The Increased Cost of Reducing Oil Content

A ring-less .40-ci ABC-type 2-stroke-cycle engine with a ball-bearing-supported crankshaft is a good example for comparing blending costs between traditional and non-traditional (reduced lubrication content) fuels. Traditional modelers generally agree that 18% oil (14% synthetic, 4% castor) is safe for this type and size of engine. Conversely, an honest commercial fuel blender knows that he can easily cut the total oil content to 14% (or less) with a mixture of 12% special synthetic and 2% castor oil, while improving the engine's power, idle and throttling characteristics as well as maintaining its longevity.

Traditional blend:

18% lube, 15% nitromethane, and 67% methanol

14% traditional synthetic($10 x 0.14 =$1.40)

4% castor oil ($9.75 x 0.04 = $0.39)

15% nitromethane ($14 x 0.15 = $2.10)

67% methanol ($1.49 x 0.67 = $1)

Ingredient total: $4.89/gallon

Special synthetic blend:

14% lube, 15% nitromethane, and 71% methanol

12% special synthetic ($25 x 0.12 = $3)

2% castor oil ($9.75 x 0.02 = $0.195)

15% nitromethane ($14 x 0.15 = $2.10)

71% methanol ($1.49 x 0.71 = $1.055

Ingredient total: $6.35/gallon

By removing all of the inexpensive traditional synthetic lube (16% at $10 per gallon) and replacing it with a special synthetic (12% at $25 per gallon) and methanol (4% at $1.49 per gallon), it should be clear that the reduced lubrication content fuel costs more to produce. Note: fuel blends are formulated by component volume, not component weight.

Nitro-powered glow engines are excellent choices for sport and scale RC aircraft. Understanding your engine's fuel requirements will help you get the most out of your power system.

Commercial fuel blenders don't always reduce the oil content of their fuels. Older engine designs that have lapped (ringless) ferrous (iron and/or steel) pistons and cylinders, and/or plain bearing (bushing) crankshaft support, require relatively high percentages of castor oil to provide adequate high-load (pressure) protection. For these engines, it's common to find fuel blenders recommending up to 28% lube. RC helicopter fuel is another example of where the oil percentage (both special synthetic and castor) is often boosted several points (up to about 24%) due to the heavy loads and high cylinder head temperature conditions that are often encountered.

At the opposite end of the model fuel controversy, some engine companies are fighting against the commercial fuel blenders' "secret" ingredients and percentages. Here's a statement by NovaRossi, from the instruction manual of Serpent Engines: "Only use fuels which contain pure fuel elements like nitromethane, methanol and castor oil. We do not recommend using synthetic oils or any other fuel additives. Do not use after-run products. If you use high quality fuel then this is not necessary."

This recommendation comes from a company that has won multiple European and World Championships with 2-stroke-powered RC model cars.

Engine Categories & Lubrication Requirements

Ringed and ringless pistons represent the two broad categories of glow-ignition engines.

Ringed 2-stroke engines require lower castor oil percentages.
Ringless ABC (aluminum piston, brass/chromed cylinder), ABN (aluminum piston, brass/nickel cylinder), and AAC (aluminum piston, aluminum/chromed cylinder) engines need a bit more castor oil.

Ringed pistons run best on higher quantities of synthetic oil, limiting varnish build-up. Although castor oil provides superior protection, it will varnish an engine when used in higher quantities. Varnish is not a problem until it begins to interfere with the ring's ability to seal against the piston's ring-land and cylinder wall. Synthetic oils will not varnish, but they tend to flash off during the combustion process, limiting the lubricant's protection. The best traditional strategy to maximize the qualities of both lubricant types in ringed engines is the following mix: 16% synthetic, 2% castor oil (18% total).

Ringless pistons require higher percentages of castor oil than ringed pistons. These engines are designed with an interference fit (zero clearance) between the piston and cylinder near TDC (top-dead-center), requiring additional scuff protection. Of course, higher castor oil percentages varnish the piston/cylinder more rapidly, requiring more frequent cleaning. A good traditional combination of lubricants for ringless engines is: 14% synthetic, 4% castor oil (18% total).

Bushing-Supported Crankshafts = Higher Oil Percentages

Ringed and ringless piston engines that use bushings (plain bearings) for crankshaft support require a higher castor oil percentage than engines utilizing ball bearings. Practical experience, over a long period of time, has shown that about 4% additional castor oil is correct for the traditional blends in question (e.g., ringed engine: 16% synthetic, 6% castor, 22% total oil; ringless engine: 14% synthetic, 8% castor oil, 22% total). Nostalgia glow-ignition engine designs (1948-1970) that use plain bearings forcrankshaft support, and a ringed or ringless iron/steel piston/cylinder require additional castor oil lubricant. Duke Fox specified 28% oil content (all castor) for his famous Fox .35 Stunt engine. In continuous production for 60 years, it has a ringless iron piston, steel cylinder and a bronze bushing for crankshaft support.

Traditional Fuel Blends: Ringed and Ringless Pistons

The following charts show recommended traditional fuels for both ringed and ringless piston engines fitted with ball bearings for crankshaft support. Although the fuel blends shown are formulated to work over a wide range of engine displacements (from approximately .19 to 2.20ci), the total lubricating oil content is probably best suited to a .40ci engine (18%). The range of nitromethane percentages is provided to offer flexibility in performance, depending if the engine is designed for sport or racing type applications, or something in-between. Typically, the 5-, 10- or 15%-nitro content fuel would be used for sport flying.

Reduced Oil Content

I began experimenting with home-brew fuel and reduced oil content in the late ‘60s. The findings were applied to our RC pylon racing program, where there were no restrictions on fuel. Eventually, a summary of this work was published in the May 1974 edition of Model Airplane News (“Two-Stroke Oils: Their Analysis”). Briefly, I found that a racing 0.40ci engine would produce its best bhp (brake horsepower) with 14% oil content, using a blend of synthetics and castor oil; previously, conventional wisdom dictated that the safe minimum was 18%. By reducing the lubrication content by 4%, the fuel becomes less viscous (thinner), often allowing the engine to realize a modest power boost. This is due to:

- Decreased pumping and bearing-drag losses.
- Improved fuel and oxygen molecule contact within the engine’s inducted air.
- Reduced energy loss (heating the excess oil) out of the exhaust.

When reduced oil content was tested in our RC pattern fuel, we found that the .60ci engines were better behaved; they idled steadily at a lower rpm, and throttled-up crisply without stumbling. Thirty years ago, a .60ci displacement 2-stroke glow engine was considered large. Over the decades, power requirements for giant-scale and pattern models enticed engine manufacturers to develop larger glow units, including: 1.2, 1.5, 1.8, 2.0, and 2.2ci 2-stroke single-cylinder designs.

Fuel Requirements for Larger Engines

As an engine’s size (displacement) increases:

- It requires less lubricating oil percentage.
- It demands less nitromethane percentage.

If you’re a traditional modeler who believes that high oil percentages are always needed throughout the engine displacement spectrum, take time to absorb the following two concepts.

Larger Engines Require Less Lubricating Oil Percentage

The following quote was excerpted from a paid advertisement (Duke’s Mixture) from the late engine manufacturer, Duke Fox, (Fox Manufacturing Company) in the August 1989 issue of Model Airplane News magazine:

“… Larger motors need less oil, percentage-wise, than small ones. The reason being that as the size of the motor increases, the displacement goes up as the cube, while the area to be lubricated goes up as the square. Thus a motor with a 1.5-inch bore would be as well lubricated on a 10% oil mix, as one with a 0.75-inch bore would be with a 20% oil mix.” This is known as the lubricating area to displacement ratio.

When doubling the engine’s bore from 0.75-inch (.33ci, with a stroke of 0.75 inch) to 1.5-inch (2.65ci, with a stroke of 1.5 inches), displacement increases as the cube of the bore increase (0.75 in. x 2 = 1.5 in.); therefore 23 (2 x 2 x 2) = 8 times. Assuming similar design features, an engine that is 8-times larger than another (ci), will consume fuel about 8 times faster than the smaller engine. Conventional thinking suggests that 8 times the lubrication will also be needed for the larger engine. However, the large bore engine (1.5 inches) has only 4 times the lubricating area of the small bore engine (0.75 inch), since cylinder area increases as the square of the bore increase, or 22 (2 x 2) = 4 times. Consequently, the larger engine receives twice the lubrication of the smaller engine (8 ÷ 4 = 2). By reducing the larger engine’s lubrication content by half (from 20 to 10%), it will lubricate the same as the small engine. (Bore1 ÷ Bore 2 x Bore 1 % = Bore2 %), (0.75 ÷ 1.5 x 20 = 0.5 x 20 = 10%). Based upon traditional lubrication content, here are a few engine displacements (bore = stroke) with their calculated lubrication percentages:

Larger Engines Demand a Less Nitromethane Percentage

In 1948, three American engine manufacturers released their versions of the revolutionary 1/2A glow engine, but the so called “baby engines” would soon cause problems for unsuspecting modelers. Initially, they were expected to run on fuel that was formulated for larger displacement glow ignition engines that contained mostly methanol. The tiny engines protested by being difficult to start and touchy to adjust; they vibrated, misfired and often quit cold. As it turned out “cold” was the operative word for understanding their balky operation. Small engines have a much higher *cooling area to displacement ratio when compared to larger engines; therefore they overcool, disrupting the normal combustion process. Adding 25- to 35% nitromethane solves the problem, since it provides additional heat to the tiny engine's operating cycle – it also adds power. *Cooling area includes both the cylinder and the cylinder head.

The cold-running 1/2A experience helps to explain why engine designers enlarge the cooling fin area (head and cylinder) as displacement increases. Even with enhanced fins, acceptable head temperatures are often difficult to maintain, illustrating why big engines demand lower percentages of nitromethane. Elevated cylinder head temperatures often lead to potentially destructive combustion problems such as pre-ignition and detonation.

Disp (ci)	Bore (in)	Suggested lube %
2.65	1.50	10
1.09	1.12	13.4
0.65	0.94	16
0.47	0.81	18.5
0.33	0.75	20

From the figures below, various ratios of cooling area (cylinder + head) to engine displacement are compared, ranging from the largest to the smallest engine; notice that the baby engine (0.049) has almost four times the cooling area per unit of displacement than the 2.65 ci engine (12.8 ÷ 3.3 = 3.88). Also note the approximate nitromethane percentages suggested for the given displacements; these are difficult to predict accurately because the engine's design plays a significant role in its ability to cool:

Non-Traditional Sport Fuel Blends

Ringed pistons, ball bearing supported crankshafts. As we have seen, larger engines require less lubrication and nitromethane content to attain their operational sweet spot. What can be expected? A lower, steadier idle, a quicker, crisper throttle-up, and a more powerful wide open-throttle performance, while enjoying the same level of engine component protection. The following fuel blends for various engine displacements are offered for your consideration: Note: the ratio of synthetic to castor oil (8/1) is maintained from the traditional blend for ringed, ball bearing engines.
The synthetic lubricant used for the all of these fuel blends is poly-alkylene glycol, the relatively inexpensive UCON oil. There are a multitude of other synthetics that are available including polypropylene glycol, polyesters, and polyol esters, but they are much more expensive. Fortunately, as confirmed by several lubricant experts, when castor oil is mixed with almost any synthetic, a superior lubricant is produced.

Disp. (ci)	Area/disp.	Suggested nitro %
2.65	3.3/1	2
1.09	4.5/1	7
0.65	5.3/1	10
0.47	5.5/1	13
0.049	12.8/1	35

Castor Oil Helps to Cool a Hot-Running Engine

Another consideration for non-traditional fuels that use reduced lubricant percentages: Castor oil helps to cool any size engine, but it's especially effective with larger displacement engines where the ratio of cooling area to cylinder displacement is limiting heat rejection. Castor oil has been proven to carry away more heat through the engine's exhaust than any common synthetic. The reason? Castor oil doesn't burn in the combustion chamber until extremely high temperatures are reached; most synthetics flash from hot internal surfaces, such as cylinder heads and upper cylinders; often, many synthetics simply burn, adding to the engine's heat load. Several options are available to the engine tuner to alleviate high cylinder head temperatures:

Reduce the fuel's nitromethane content.
Reduce the engine's compression ratio (add a head shim).
Reduce the engine's propeller load.
Increase the fuel's castor oil content.

The first two suggestions will probably reduce the engine's performance and should be used as a last resort. Reducing propeller pitch and/or diameter should probably be tried first. However, if overheating is still a problem, add a bit more castor oil to the existing fuel blend. How much? Start with 0.05% extra, and increase from there.

Final Thoughts

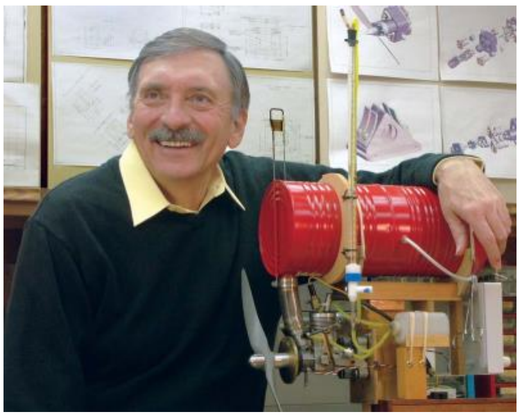
My goal in writing this series of fuel articles is to provide you, the sportsman/hobbyist, with sci-tech answers regarding fuel and the modern 2- stroke glow ignition engine so that you can get out to the field and fly, and your engine will perform well and maintain its longevity. See you at the field!

Text & Photos by David Gierke

About the Author

Longtime Model Airplane News contributor David Gierke is an acknowledged internal combustion engine authority, having written three well-received non-fiction books and numerous magazine articles on the subject. A retired high school teacher and dedicated pioneer aviation historian, Gierke has received extensive recognition for his work, including the 1978 New York State Teacher of the Year award and a citation from the Buffalo, New York chapter of the American Society of Mechanical Engineers. Dave was inducted into the national Model Aviation Hall of Fame in 2003.

Proper Fuel System Installation

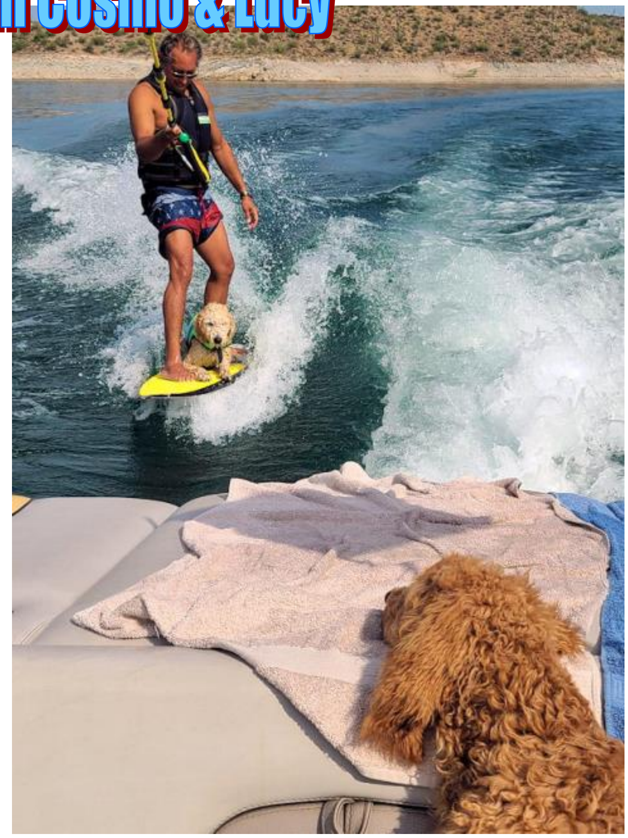


At Lake Pleasant With Marty, Adrienne & Hadley +

SVF Sun Valley Fliers

SVF Sun Valley Fliers

Yuri Water Skiing With Cosmo & Lucy



The dogs and Yuri have the safety vest on

SVF Sun Valley Fliers

SVF Sun Valley Fliers

B-17 Flying Fortress Has Been Hiding in a Barn for Years, Waiting to Be Restored

by **Ciprian Florea**

The term "barn find" usually applies to cars or motorcycles that have been rediscovered after being stored in barns and outbuildings for many years. It's rarely used when it comes to aircraft, simply because most airplanes do not fit in a barn. Well, believe it or not, but at least one B-17 bomber is resting in a barn right now.

Not exactly a barn find, this Flying Fortress has been crammed piece by piece into a large, barn-like building in order to be restored. The owner who raised this building specifically for the B-17 has been working on it for years now. It's far from complete and it will take many more years before it will fly again, but it's definitely something you wouldn't expect to find in such a building.

Documented by YouTube's "Auto Archaeology," this Flying Fortress is a B-17E model, a late iteration of Boeing's iconic bomber. The B-17E took its first flight in February 1941, some six years after the company built the first B-17, and it's quite different than its predecessors.

While previous B-17s were designed as defensive airplanes, the B-17E focused on offensive warfare. Not only longer than usual, but it also featured a much larger rear fuselage, a vertical tailfin, and a gunner's position in the tail. Only 512 were built, a small fraction of the Flying Fortress' total production of more than 12,000 units.

Nicknamed the "Desert Rat," this specific B-17E is a highly documented aircraft. It was originally used as a training plane before it was assigned to various transport conversions. It was stripped off its armor and armament in 1943 and transformed into a standard plane capable of carrying troops, large cargo, and injured personnel in an evacuation capacity.

It was deemed ready for service in 1944 but never-ending engine problems delayed its first long-distance flight to India. It eventually made it to its destination after a couple of months and returned to the U.S. the following year.

Following its final flight in late 1945, it was sold to a junkyard owner alongside other aircraft. Forgotten and dismantled, the B-17 was rediscovered in 1968, when its engines, propellers, and landing gear were detached and hauled away.

The Flying Fortress was discovered again in 1985, while its missing components resurfaced a year later. The current owner purchased the plane sometime in the 1980s and moved to the local airport at Galt, Illinois. In 1995, he moved the plane to its current location in Marengo, Illinois to commence the long and arduous restoration process.

Apparently, the owner wants to restore the aircraft to its original B-17E specification, military equipment, and all. The footage reveals that several parts of the wings have been finished, while the fuselage is being restored as we speak. It's safe to assume that it will take the owner several years to put it back together, but it's amazing to see someone so dedicate almost his entire time to bring a massive World War 2 bomber back to life.

VIDEO

https://www.youtube.com/watch?v=y1zCBKC7Lrw&t=12s

Sun Valley Fliers

How to Safely Store Your LiPos

From Hobbyking

When it comes to storing your LiPo batteries, there are two aspects you need to be mindful of: the chemical aspect, and the physical aspect. Both are equally important and if either one is neglected or downplayed, your LiPos may get damaged and potentially put you in harm's way.

In this blog, we will go through everything you need to know about storing LiPos that will not only keep you safe; but also prolong your battery's cycle life.

Chemical Parameters

Unlike NiMH (Nickel–Metal Hydride) batteries, where you can indefinitely store them fully charged or fully discharged, LiPos require a very peculiar storage parameter. If you store a LiPo fully charged, this will exponentially increase the rate of a natural phenomenon known as "electrolyte decomposition".

Electrolyte decomposition will ultimately cause your LiPos to puff up, as well as rapidly increase the internal resistance (IR) of your battery. An excessively swollen LiPo poses the risk of an inner foil rupture which can lead to a fire or an explosion; while an inflated IR will render your LiPo highly inefficient and cut into your run-times and overall cycle life.

On the other hand, if you store your LiPos undercharged, the internal makeup - anode (negative terminal) and liquid electrolyte - can get irreversibly damaged and your LiPo may never charge again.

For optimum results, you should always store your LiPos at 3.8V per cell. Using a modern LiPo charger such as the **Turnigy Reaktor D6 Pro**, balance charge or discharge your battery to the correct voltage – and make sure that each cell is as balanced as possible. As a rule of thumb, you should never leave your LiPos fully charged for more than 24 hours. If you know are not going to use your LiPos anytime soon, make it a habit to put them into storage mode.

Physical Parameters

You may think, "*What the hell, it's just a silly battery, shove it in a drawer and it's good to go*" -- nothing could be further from the truth. In fact, most LiPo problems stem from improper storage and the physical aspect is regarded by some as even more crucial.

First and foremost, you should always store your LiPos in a **Fire Retardant LiPo Bag**. Even when your LiPos are not in use, a chemical reaction is still taking place. External factors such as the amount of direct sunlight, temperature fluctuations, and the level of humidity can have adverse impacts on your LiPos. Hence, the simple habit of keeping them inside a LiPo Safe Bag will ensure that if anything does happen, you and the others around you are safe.

Next, you need to find a place to actually place your LiPos. Generally speaking, any shaded area which is at room temperature – 40~70°F (4 - 21°C) – is considered best practice. If you store your LiPos in a hot environment, this will ultimately cut into its cycle life. On the other hand, if you store it in an overly cold environment, you will need to slowly bring it back to room temperature for it to function at maximum capacity. And the emphasis here is "slowly" because a sudden increase in temperature will cause condensation in your battery - and lithium does not react well with water.

Taking your LiPos out of Storage

If you only stored your LiPos for a short period, then you can safely charge them up and run to the fields with no problems. However, if your LiPos have been in storage for more than six months, you should always check the Voltage (V) and Internal Resistance (IR) before charging. For regular LiPos, the voltage of each cell should not be below 3V while the IR should not exceed the original value by over 80-90%. If you want to learn more about if your LiPos are safe for use or not, read our blog **3 STEPS TO DETERMINE IF YOUR LIPOS ARE SAFE**.

In Conclusion...

If you will not be using your LiPos for more than 24 hours, then put them into storage. Charge or discharge them to 3.8V per cell, securely place them into a LiPo Safe Bag, and find a shaded area that is at room temperature.

Remember, if you treat your LiPos well, they will treat you even better. When properly maintained, **HobbyKing LiPos** can typically last you up to 2-3 years.

Sun Valley Fliers

AUGUST 2021 SVF Birth Day Boys

John	Boccia
Ronald	Marshall
Mike	Padron
Frank	Moskowitz
Paul	Delawder
Mark	Denoyer
Rick	Marshall
Armen	Maranjian
Walter	Donovan
William	Pearse
Joseph	Santoro
Steven	Neumann
Dustin	Young
Roger	Chamberlain
James	Musser
Allen	Young
John	Christensen
Frank	Seminera
Larry	Riese
Ron	Stark
John	Falconer
Danny	Smith
Gunner	Denoyer
Raymond	Fulks

THE SLOW ROLL

Club Officers 2021-2022
FRANK MOSKOWITZ, President
John Geyer, Vice President
Dan Smith, Treasurer
Bobbie Santoro , Secretary
Safety Officer Kenny Rhoads &
John Laird

Bobby Santoro
Website Supervisor
Please check your Membership list for Phone numbers.

Board of Directors
Jamie Edwards '21-23
Bob Bayless '21-23
Tony Quist '21-23
Brian Rhoads '21-23
Charlie Beverson '20-22
Dan Bott '20-22
Val Roqueni '20-22

Sun Valley Fliers

First Class Mail

SUN VALLEY FLIERS
P.O.BOX 31816
PHOENIX,AZ. 85046-1816

To:

WWW.SUNVALLEY FLIERS.COM

47 SUN VALLEY FLIERS ARIZONA YEARS

AMA CHARTERED #921

SINCE DECEMBER 1974