



SENIOR PATTERN ASSOCIATION

News Letter

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WEB SITE-<http://www.repattern.net/spa/>

May June 2002

SPA Simply Better-Watch Us Grow

FROM THE PRESIDENT



Like a wagon full of freshly picked bolls headin' for the gin.....this issue of the SPA Newsletter is "loaded". Officer ballots, pattern selections, rules changes....just lots of good things that hopefully will motivate a rapid response after some deliberate consideration.

There will be some "changing of the Guard" at some SPA posts effective January 2003....there may be others pending the outcome of the officers election, which at the time of this writing I am not familiar with, but would like to graciously thank Steve and Tom for joining me in "re-upping" for the coming year.

The editor of this colorful newsletter for the past two years, Ed Hartley, has pled for a successor since he has "too many chores to dedicate his talents to", some of which are a bit more demanding than this. Ed has brought our bi-monthly newsletter from a semi-formal bulletin to its' current eagerly awaited, handsome, vividly colorful, informative and entertaining publication! Ed, many thanks for your' hours spent in formulating the NL format and assembling its' content these two years.

Mr. and Mrs. George Truett have volunteered to assemble the newsletters in the future....we contributing editors will, in the future forward our column content to the Truetts. It is the willingness and "volunteerizm" exhibited by folks like the Truetts that make our group go.

Please complete officer ballots, pattern and rules preferences in this issue, poke into the stamped, addressed envelope provided by Steve and send as soon as you can so that desires may be tabulated by Christmas and approved by the Board of Directors at its' annual meeting January 4, 2003 at Georgia Aerial photos (Roy Thompson's office) at 10 AM EST.

I would hope that you'd look with favor upon my proposal Number One which would simplify regs and groupings in the future. Much consideration on my part, only after input from modelers from all parts of the country and weigh-

ing the anticipated results from this "two-part" change, did I offer this proposal. Thanks, humbly, in advance for your' votes to make it a reality.

While spreading gratuitous remarks...we are most grateful to Mr. Jim Ivey who has chaired our SPA Special Projects committee. Jim has asked to be relieved of this role effective January 1st. His successor will be named, hopefully, at the annual Board meeting. Jim, many thanks. Evidently, he is gonna spend more time at the practice field this coming season, so look out for him.

Ron Reed has again arranged for our SPA table rentals at the 2003 Southeastern Hobby and Trade Show in Perry, GA. Steve and myself and hopefully a good gang of Alabama SPA folks plan to attend. Please come and be a part of it. More coming on this on the SPA mail list and website, which, incidentally has changed its' address slightly, refer to Ed's column for specifics.

Thanks for your' attention to my bit here, lets proceed to studying the enclosed suggestions, indicating our' desires and getting our ideas in the return mail to Steve. Steve Byrum,.....there is a guy who honestly deserves a RAISE.... he is the spine of the SPA anatomy!
Seasons' greetings to all!

CHAIRMAN OF THE BOARD



Well this is my last article this year, I hope everyone will take the time to read the ballot and vote. If you do not understand something get in touch with Ed before you vote. This is a very extensive ballot and very important, so lets all vote.

I have had many people ask me how I feel about the proposals on the ballot. I have a hard time understanding this as I have made my feelings known many times this year. However I will state one more time I do not favor the 0 to 60 rule period! I Prefer to see the age groups stay the same. I fail to see how we can change to the 0 to rule and still feel like this is the SPA I envisioned in 1991. Over the years when I was president this was basically the same thing proposed several times. Now, that is

how I feel but, however you feel at least vote. I for one have not enjoyed all the arguing that has gone on this year.

As for the maneuver schedule I can live with any that is approved however, I did note at one time there was a proposal for a list that had two maneuvers that were way out of the time period legal for consideration. This should not even be considered, soon you would be just making up a grab bag of maneuvers if this was allowed to pass.

Well that is enough on the election, I would like to say how much I have enjoyed working with Ed and Steve this year on the news letter they have just taken it to the next level. Also I have enjoyed working with the officers and am very happy to see them running again. With that I will close and wish every one HAPPY HOLLIDAYS.

From the Treasurer



Let me begin by expressing my opinion on several of the proposed rule changes. We have a bit of a disagreement among friends on the issue of age groups within classes. Fortunately, we are friends, so no matter how the rules are changed, we'll be back next summer competing as usual and re-telling the same stories we're all polite enough to pretend we've never heard before. When Mickey formulated the original SPA concept, it was with the senior golf tour as a model. The point was to allow older players to compete with their peers. With this in mind Mickey originally set the minimum age at 45. Several years ago, the Pre-senior classes were added to share our fun with others and provided a feeder system to insure that SPA would survive beyond its founders. I ask you to please honor a tradition that has proved its worth for 11 seasons. Please vote NO on question 1. A more productive solution is to support question 6. It provides for the resurrection of SPA Chapters within interested clubs to encourage and train pilots and judges. This type activity will fill both all of the classes and the judges' chairs.

This past season has been another when SPA has grown. We've had more contests, and more pilots have competed regularly. Because they've enjoyed the competition and the camaraderie, we'll see a number of this year's Novices move to Sportsman next year. Two things are important to maintain this trend. First, we must refill the Novice class. Of the six or seven who competed regularly, all will be Sportsman. If we don't bring some new Novices in, that will become the class no one is interested in. New pilots and those guys who flail around the sky trying to do aerobatics are prime candidates. Elsewhere in this issue, you may find a proposal from Jim Ivey that each club form an SPA chapter. Use that chapter to hold monthly meetings where judging questions and construction techniques are discussed. While much of this information will be old stuff to long-time SPA members, it'll all be brand new to recruits. A primary function of SPA is to see that this type of information is not lost. Jim's idea is the most practical way to preserve it and pass it on.

A second means of growth is all those former pattern flyers. Your officers get several inquiries per month from this type of pilot. We fear that some of you may get the same questions, but we never find out about them. Please let Bruce or myself know of anyone who expresses and interest so we can forward information to them. I spent nearly an hour on the phone with Jeff Bell (Jeff's quarter used here) last week. Jeff lives in upper Wisconsin. He's a crop

duster who rebuilds J-3s for a living during the winter. Jeff flew pattern about 15 years ago till life got in the way. Kids, wife and job have reached a point where his pattern interest is rekindled. The flying site is on his property. He's got a few friends interested, along with a few about an hours drive away. If we can find a way to help connect him with others an hour or two away, an SPA spark will be lit in upper Wisconsin. This can happen any place. We only need to communicate with each other.

Finally, don't waste the association's money. Each of you got an addressed, stamped envelope in this issue. Stop now and fill out the ballot. Write your dues check and mail them back to me. Since Frank Stewart started this procedure several years ago, SPA has consistently had the highest percentage of its membership vote of any of the AMA SIGs. Last year over seventy-five percent of our membership voted. Thanks for your support.

From The Vice President



Hello SPA'ers,

This is a pivotal time for SPA. There are rules changes to be voted on that will set the course for SPA for the next two years. I certainly am not prescient enough to know what the effect of these rules changes would be. I don't believe that anyone else can know with any certainty.

SPA has had steady growth since it's beginning. We had participation last year that was beyond what anyone might have expected. This year was not as good, but the reasons for the decrease are fairly obvious. It's the economy, stupid. I wonder where I have heard that? We may also have had too many contests too closely spaced. We may have not managed our success as well as we might have by not pacing ourselves with the contest scheduling.

The horse we rode in on did a very good job for ten years. Do we really want to make dog food of it. We will all live with the outcome of the vote, but I would like to express my opinion that SPA is not broken and does not need fixing. We need to be very careful at this juncture. It is my belief that the age changes are counter to everything that SPA is about. I was present when the SPA bylaws were written and believe that the original premise is as valid today as it was then. The intent of SPA was to have age groups to make competition more equitable for we aging aces. What we have may not please everyone, but it has managed to draw more contestants than any other game in town.

Please take the time to understand what the changes to be voted on are and PLEASE vote. SPA needs to be representative of the membership, but this will not be if we don't all vote.

Thank you for taking the time to read this. I am a lousy politician, but feel very strongly about SPA and hope that it will survive and continue to grow.

I wish for each and every one of you the best holiday season ever and look forward to seeing you next year.

From the Editor



Of the items we will vote for or against, question 6 is one I am all for. As a former member of the USPJA and as a certified NSRCA judge I believe we need to have judging clinics when ever possible. If this rule passes, I am sure our presi-

dent to appoint a committee to come up with a guideline set of criteria for training our members to become more consistent judges. Perhaps, a judging committee similar to the one NSRCA uses.

I agree with Mickey, Tom and Steve regarding the zero to sixty rule. The SPA has prospered with the age groups as they exist today. I do not think this rule change would be beneficial to the SPA.

I will vote for the "Four Contest" proposal. If you want to compete for the SPA Points Championship, you would plan to attend those four. I believe this would give those of us who want to fly AMA pattern a better chance to compete in both disciplines.

I also support the proposal to use AMA pattern maneuvers flown from 1980 back. Those of us who worked on the new patterns had a difficult time coming up with maneuvers to propose. You will notice the expert patterns only have one maneuver that is different. This is because of lack of selection.

Since this is the last issue for me as news letter editor, I want to thank all who contributed so much to the success of this over the past two years. It has been a great pleasure and sometimes a great pain! Mr. and Mrs. George Truett have volunteered to handle this chore next year.

I will continue to handle the web site for awhile. If any of you computer Gurus out there would like to handle this job, please let us know!

Sun Smarts



Clark E. Julius, M.D.
Professor of Medicine
University of Tennessee
Graduate School of Medicine

The sun is a mysterious matter. Some of us worship it, while others avoid it. It is necessary for life as it gives us warmth, and promotes the synthesis of Vitamin D- a vitamin necessary for strengthening the bones. It generates a healthy tan- a sign of beauty in modern times. It is used to treat various skin diseases but excessive amounts of sunlight can be

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The original T2A by Tom Atkins is now Available. We have five different kits. The kits are fiberglass, carbon fiber reinforced fuselages with foam wings. Deluxe kits are also available which include sheeted wings and stabs and precut bulkheads for an additional \$130.00.

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32644
(352) 493-9656-gltruett@svic.net

Senior Pattern Association Membership Application

Name _____ Date of Birth _____
Address _____ Phone _____
City-State-Zip _____
Current Club Affiliation _____
AMA Number _____

Membership Dues \$20.00 Make checks payable to Senior Pattern Association
Mail to: **Steve Byrum**
1326 3RD St. SE
Cullman, Alabama 35055

damaging to the skin.

SUNLIGHT

Sunlight is composed of 66% infra-red light which emits heat, 32% visible light, which allows us to see different colors and 2% ultraviolet light (UVL). UVL is subdivided into two units. The first is ultraviolet A or UVA that has a wavelength of 320-400 nm and ultraviolet B or UVB which is of a shorter wavelength at 290-320. In other words, when a person sunbathes, he is getting mainly the effects of UVB and these effects are increased by the concomitant exposure of UVA. To understand why different people get different responses to sunlight, we need to understand about skin types.

SKIN TYPES

People are divided into different skin types based on the amount of melanin (the pigment that gives our skin color) content in our skin, and on the capacity of our skin to darken or tan in response to sunlight.

I Type I

Always burn, never tan

I Type II

Usually burn, tan with difficulty

I Type III

Sometimes burn, sometimes tan

I Type IV

Burn minimally, always tan

I Type V

Heavily pigmented, rarely burn, tan profusely

I Type VI

Blacks, never burn, deeply tan

People with skin types I (like the Irish) and II (some Caucasians), will tend to have a higher risk for development of skin changes caused by sunlight exposure.

SUNBURN

Sunburn is an acute response of the skin to excessive UVL exposure and manifests as redness. It may be associated with pain and swelling. Sunburn is mainly caused by the UVB component. It begins several hours after the exposure, and reaches a peak after 12-24 hours. Longer exposures have caused a more rapid and persistent response. The redness (burn) fades over several days to be followed by skin peeling and tanning. Sunburn from the sun is usually an additive effect of UVB and UVA. About 15% of redness is contributed by UVA.

EFFECTS ON THE IMMUNE SYSTEM

Animal experiments show UVL exposures can alter the body's immune response to cells damaged by the sun, and perhaps to infectious agents. This change in immune response is the probable explanation for the increase in certain types of skin cancers on sun-damaged skin.

PHOTOAGING

Photoaging (dermatoheliosis) is the result of sunlight exposure (ultraviolet radiation). This is particularly apparent on the face, neck, arms and hands in fair skinned people who spend much time outdoors. It generally occurs at an early age in fair skinned people. The result of photoaging is lines and wrinkles, brown freckles (lentigines), yellowing of the skin, dilated capillaries (telangiectases), whiteheads and a dry complexion.

TANNING AND SKIN THICKENING

Normally, the skin protects itself by increasing the amount of

melanin in the skin (tanning), and by increasing the thickness of the skin. UVL in the sun causes tanning in 2 phases via immediate pigment darkening (IPD) and delayed tanning (DT). IPD is a rapid darkening which begins soon after UVL exposure and is maximal immediately afterwards. It fades within a few minutes if the intensity of the exposure is small or it may last for several days after exposure to larger doses of UVL and eventually blending with delayed tanning. DT is induced by UVB and occurs about 3 days after sun exposure. Increased thickening of the outer layer of the skin is due to exposure to the sun. This is a protective response of the skin to an adverse stimulus.

ABNORMAL SKIN REACTIONS TO SUNLIGHT

There are certain skin and medical conditions that are made worse or aggravated by sunlight, like lupus erythematosus. These people should use sunscreens and avoid sunlight. Sunlight can also on its own, cause certain abnormal skin reactions. These are called photodermatoses. Some of these are of unknown cause and can occur in any age group. An example is the polymorphous light eruption which is quite common in Europe and the United States. Some abnormal skin reaction to sunlight is due to contact with certain chemicals or due to the ingestion of certain medications. Examples are contact with musk ambrette, a synthetic perfume used in male colognes, or ingestion of certain antibiotics, or anti-diabetic medications. Avoidance of the offending agent usually clears the condition.

PROTECTION

To prevent the adverse effects of sunlight, it is wise to tan gradually rather than to get a burn by getting too much sun at one go. If you need to stay in the sun for a long period of time, it is wise to use a sunscreen.

SUNSCREENS

Sunscreens are broadly divided into physical and chemical types. Physical sunscreens act by reflecting ultraviolet radiation and they include titanium dioxide, zinc oxide and iron oxide. Physical sunscreens are usually opaque preparations and they do not selectively absorb radiation but rather reflect and scatter all UVR and visible light. Chemical sunscreens act by absorbing radiation. Sunscreens preparations may contain both reflecting and absorbing agents or a combination of absorbent types.

SUN PROTECTIVE FACTOR (SPF)

This is the standard measure of sunscreen efficacy, but is primarily a measure of protection against UVB. A standard measure of effectiveness against UVA is yet to be established. SPFs range from 2 to more than 30; a higher factor generally refers to better protection against sunburn. In using a high SPF sunscreen, a person may remain out in the sun longer than the normal burning time and therefore receive larger amounts of UVA. These larger amounts of UVA may be equally damaging to the skin. Therefore, sunscreens for all skin types should contain agents which also filter UVB and UVA.

My Thanks to Dr. Clark Julius and the Knoxville Dermatology Group for allowing us to print this article from their web site.

THIS BALLOT NOT VALID FOR VOTING! - RULES PROPOSALS

This is the ballot for officers and the rules proposals for the years 2003-2004. Due to the proposals presented this year, it is necessary to have several "go to question XX" based on how you vote. **Please read the entire "Rules Proposals" section carefully and make sure you understand the process and what it entails before voting. Questions 1-2-3 are relevant to each other, read them carefully before voting. If you select more than one of these three, your vote will not be counted.** When you have finished answering the questions, please cut this page from your News Letter and send it with your dues using the enclosed pre-paid addressed envelope. **Steve must receive this by December 31, 2002!**

Officer Ballot

Write In

President Bruce Underwood? _____
V. Pres. Tom Atkins? _____
Sec-Tres Steve Byrum? _____

Question 1

Regroup age classes to: 0 to 60 - Senior Class 60 & above - Super Senior

Add ADVANCED class effective Jan 1, 2003

This is one proposal please vote yes or no.

YES? NO?

If you answered NO go to Question. 2
If you answered YES go to Question 5

Question 2.

SCHEDULES

AGE GROUPS	CURRENT	PROPOSED	NEW AGE GROUPS
Pre-Senior	Up to 45	Novice	Novice *Up to 60 Combined
Pre-Senior	Up to 45	Expert	Sportsman *Up to 60 Combined
Pre-Senior	Up to 45	none	Advanced Up to 45
Senior	45 to 65	Sportsman	Expert No change
Senior	45 to 45	Expert	Master No change
Super-Senior	65 & Up	Sportsman	Expert No change
Super-Senior	65 & Up	Expert	Master No change

*Required to allow new members to fly easier pattern schedules.

YES? NO?

If you answered NO go to question. 3
If you answered YES go to Question 5

Question 3.

Leave the age groups as they are.

YES? NO?

If you answered YES go to Question 4

Question 4

Do you want to see an Advanced class added

YES? NO?

If you answered NO go to Question. 6

If you voted yes, select from the following:

Please vote on the age group or groups you would like to see the advanced class added to.

??(a) One Advanced Class combined for all age groups

??(b) Super Senior

??(c) Senior

??(d) Pre-Senior

Question 5

Select the Sequence you would like to see for Advanced:

Sequence One

1. Takeoff. (U).....1
(Downwind Trim Pass)
2. Figure M (U).....4
3. 3 Horizontal Rolls (D).....2
4. 3 Inside Loops (U).....3
5. Slow Roll (D).....4
6. Double Immelman (U).....2
7. Reverse Cuban Eight (D).....2
8. 1 Reverse Outside Loop (U).....3
9. Four Point Roll (D).....4
10. Split S (U).....1
11. 3 Turn Spin. (U).....3
(Turn and fly by for landing)
12. Landing Perfection.....1

Sequence Two

1. Takeoff (U) k=1
2. Figure M (U) k=4
3. 3 Horizontal Rolls (D) k=3
4. 3 Inside Loops (U) k=3
5. 2 Point Roll (D) k=2
6. Double Immelman (U) k=2
7. 4 point Roll (D) k=4
8. 1 Reverse Outside Loop (U) k=3
9. Slow Roll (D) k=4
10. 180 degree Turn k=3
11. 3 Turn Spin k=3
12. Landing k=2

Select One **Sequence One ?? Sequence Two ??**

Question 6

I will make this as short as I can. I see a shortage in trained judges. We need a judges program of some sort. I say a AMA certified judge is a qualified SPA judge. The SPA at one time had chapters, this went by the wayside. When we disbanded chapter one we lost a lot of interested people in our area.

My proposal is simple. In every city-town that has a SPA interest and has a contest, I suggest we ask for a volunteer (sparkplug) to start a chapter at that level. The

primary goal of this person would be to hold monthly Chapter meetings, judges and rules seminars and flight training on the basics of flying SPA pattern. This includes flight line training one on one. End of proposal.

Once the people get interested, they don't have far to go to get answers. This in itself would solve the long run problems that we are trying to patch-up right now. Within a year of good training we can start to populate the upper classes with new faces that know what they are doing. Once out of Novice they will move to their own age groups. They will know how to judge and fly. I believe this to be the way to solve some of the problem without shuffling age groups and stirring up more problems. Once this idea is put into affect it will take at least 2 years to start seeing results, however it will be a program that stays with us.

YES? NO??

The following are sequence proposals select one answer for each class.

SPA NOVICE

ONE

1. TAKEOFF (U) 1 (DOWNWIND TRIM PASS)
2. STRAIGHT FLIGHT OUT (U) 1
3. PROCEDURE TURN (U) 2
4. STRAIGHT RETURN FLIGHT (D) 1
5. 3 INSIDE LOOPS (U) 3
6. ONE HORIZONTAL ROLL (D) 2
7. IMMELMAN TURN (U) 2
8. STALL TURN (U) 2
9. SPLIT S (U) 1
10. CUBAN EIGHT (U) 2
11. LANDING PERFECTION (U) 2

TWO

1. TAKEOFF (U)
DOWNWIND TRIM PASS
2. STRAIGHT FLIGHT OUT (U)
3. 1/2 REVERSE CUBAN 8 (U)
4. 2 POINT ROLL (D)
5. 3 INSIDE LOOPS (U)
6. ONE HORIZONTAL ROLL (D)
7. IMMELMAN TURN (U)
8. SPLIT S (D)
9. Stall Turn (U)
10. CUBAN EIGHT (U)
11. Cobra (W/O rolls) (D)
12. LANDING PERFECTION

ONE? TWO? Leave Novice As It Is??

SPA SPORTSMAN

ONE

1. Takeoff (U) 1
2. 180 Degree Turn (U) 3
3. 3 Inside Loops (U) 3
4. 3 Axial Rolls (D) 3
5. Immelman Turn (U) 2
6. Cuban eight (U) 2
7. Short Inverted Flight (D) 2
8. 1 Rev. Outside Loop (U) 3
9. Spiral Turn (D) 2
10. Figure M (NO ROLLS) (U) 3

11. Slow Roll (D) 4
12. 3-Turn Spin (U) 3
13. Landing Perfection. 3

TWO

SPA SPORTSMAN

- (1) Takeoff (U) K1
- (2) 3 Inside Loops (U) K3
- (3) 2 Point Roll (D) K2
- (4) Double Stall Turn (U) K3
- (5) 3 Horizontal Rolls (D) K3
- (6) 1 Reverse Outside Loop (U) K3
- (7) Short Inverted Flight (D) K2
- (8) Immelman Turn (U). K2
- (9) Split S (U). K1
- (10) Cuban Eight (U). K2
- (11) One Spiral Dive (D).. K2
- (12) Landing Perfection (U) K2

ONE? TWO? Leave Sportsman as it is?

SPA EXPERT

ONE

1. TAKEOFF (U) 1 (DOWNWIND TRIM PASS)
2. RUNNING EIGHT (U) 4
3. THREE HORIZONTAL ROLLS (D) 3
4. LOOP WITH 1-1/2 SNAP ON TOP 3
5. FOUR POINT ROLL (D) 4
6. COBRA ROLL FULL ROLL UP AND DOWN 3
7. 8 POINT ROLL (D) 4
8. TOP HAT (U) 3
9. SLOW ROLL (D) 4
10. DOUBLE IMMELMAN (U) 2
11. REVERSE CUBAN EIGHT (D) 2
12. REVERSE SPIN (U) 4
13. LANDING PERFECTION (U) 2

TWO

1. TAKEOFF (U) 1 (DOWNWIND TRIM PASS)
2. RUNNING EIGHT (U) 4
3. THREE HORIZONTAL ROLLS (D) 3
4. LOOP WITH 1-1/2 SNAP ON TOP 3
5. FOUR POINT ROLL (D) 4
6. FIGURE M WITH 1/2 ROLLS (U)
7. 8 POINT ROLL (D) 4
8. TOP HAT (U) 3
9. SLOW ROLL (D) 4
10. DOUBLE IMMELMAN (U) 2
11. REVERSE CUBAN EIGHT (D) 2
12. REVERSE SPIN (U) 4
13. LANDING PERFECTION (U) 2

ONE? TWO? Leave Expert as it is?

The following is a proposal to change the year for maneuver selection.

Allow use of AMA pattern maneuvers flown in 1980 (currently 1975) and earlier for SPA maneuver schedules.

YES? NO?

See Proposal next page. **VOTE for it HERE**

Four Contest Proposal

YES? NO??

Remember, cut just this page to send in.

Four Contest Proposal

I have drafted the following proposal regarding the number of contests which I believe will improve the attendance at selected contests in our region.

There is no doubt that membership growth is vitally important to the continued success of SPA. However the increase in the number of contests held in District 3 in 2002 has probably contributed significantly to the drop in attendance at each contest.

In order to increase attendance at SPA contests in each AMA District it is proposed that the Board of Directors of the Senior Pattern Association officially sanction Four Club Contests and One Masters Contest each year.

Any AMA chartered club may apply to SPA for sanction to hold one of these events.

SPA Sanction is not required for any local event.

AMA Sanction procedures are not amended by this proposal..

Only the points earned at the four major competitions are to be carried forward to the Annual Masters Contests which is to be held in September at a venue to be selected by the Board from applications received from SPA clubs in AMA District 5..

The K-Factors shown in the proposed sequence changes are those submitted to the rules committee. These numbers will be adjusted on the successful proposals at the January Board Meeting by the SPA board.

THE RULES COMMITTEE

Fuel-Cooled Engines?

-by Clay Ramskill

Our model engines have been called this- and with some reason!

We all know the consequences of taking to the air with our needle valves set too 'lean'; we get airborne, the engine puts out great power but eventually sags, then dies. Actually, the little motor didn't just die because it didn't have enough fuel to run on. What REALLY happens is that the engine runs too hot at the lean mixture setting, and SIEZES due to excessive internal friction.

Generally this seizure occurs at the flash point of the oil we are using in the fuel. The flash point is the temperature at which the oil burns, at about 400 degrees for most synthetic oil. When the oil burns, it doesn't lubricate, and the friction in the engine goes up dramatically, causing even more heat, causing even more of the oil to burn, causing... well, you see the point. So what we have to do is run the engine with a rich fuel-air mixture, ensuring that all of the fuel that goes through the engine does NOT get burned! That extra fuel will

keep our engine cool.

How?

Most all of us did a little experiment in High School, converting water to steam. We heat up a pan of water to the boiling point- and then must supply a LOT more heat to get the water to turn to steam. The same principle applies to the alcohol we're burning in our engines. If there's too much of it, it won't all burn; but the rest is turned into a gas (alcohol steam?), absorbing and carrying away considerable heat energy from the engine. Alcohol, by the way, is very 'good' at this process. Pour a bit of fuel on your arm on a hot day - you can instantly feel the cooling effect as the alcohol evaporates into the air, carrying away some of your body heat.

Oil in your fuel also carries away heat, assuming that it doesn't burn. Although the oil doesn't convert to gas, it will still carry away some of the engines heat as it passes through. So, the more oil in your fuel, the cooler your engine will run, not only from the extra lubrication, but also from heat transfer into the exhaust. Humid air also gives a cooling boost- the water vapor doesn't burn, and carries some heat out of the engine. OK, we've all had the 'run your engine a bit rich' bit drilled into our heads at every opportunity. Aside from embarrassing dead stick landings, what's the big deal? After all, the engine will start right back up, and runs fine. True. But go back up to the 'seizure' part of this article. Note that the seizure comes from lack of lubrication. Every time we let our engines get too lean, we are shortening its life span, from extra wear.

Getting that little bit of extra power, by going a click or two leaner, may well be costing you. Think about it - run rich, 'waste' some fuel = bucks. Run lean, seize engine often = BIG bucks!

Thanks to Clay for this article

<http://www.mindspring.com/~cramskill/inkclay.htm>

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