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SANDERSON FIELD R.C. NEWS

Fly-In September 10th

AMA
CHARTER NO. 3079

CLUB MEETING

This months meeting will be held on Thursday September 8th at 7:00 p.m.

at the Field

Weather Permitting

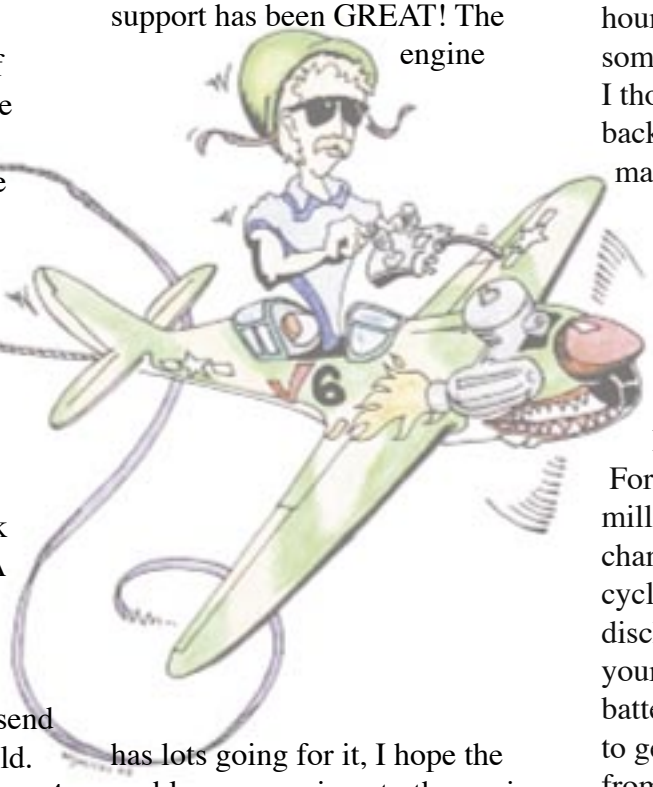
At the last meeting:

We've had a couple of issues at the gate, some people aren't getting the hang of the new system the Port has come up with. Just lock it up lock to lock. Put the combination lock through the padlock so that which ever lock gets unlocked it will open the gate.

The club jackets are ready to order and are $89 with the club logo on the back and either your name or AMA number on the front. It would be a little more if you want your name and AMA number on the front. If you want one send your money to Chuck Kentfield. You can find his address on page 4 of the newsletter.

We have also started to plan for the Christmas party. If you have someplace you would like to go this year, it's time to make your feelings known.

For those of you following the saga of the RCV 91-CD engine, I've gotten the replacement engine from England and have it installed. I hope to have a test flight or two on it by the time you read this. While I haven't been very happy with the problems, I must say the customer support has been GREAT! The engine



has lots going for it, I hope the problems are unique to the engine that died and not all of them. They claim they haven't seen the problem before and I haven't seen any thing on RCUniverse about it either. Here's hoping...

Minutes or mah (milliamp hours)

By James Goss

When you are cycling your batteries most cyclers will allow you to select the results to be stated in minutes or either mah (milliamp hours). This may be confusing to some new pilots in our hobby so I thought I would give you a little background on the subject. Both mah and minutes will tell you what you want to know about your battery pack's condition. You are trying to find out how much energy your battery will store so you will know how long to expect the battery to last during a day at the field. For example, if you have a 600-milliamp battery and it is fully charged when you place it on the cycler and it takes 120 minutes to discharge down to the point where your cycler starts to charge the battery again, then you can expect to get 120 minutes of actual work from the battery.

You have got to remember that the cycler is discharging at the rate you have selected, this may be 50 milliamps or it could be 250 milliamps or any value your

MINUTES OR MAH (MILLIAMP HOURS) CONTINUED

cycler will allow. I like to use 250 milliamps on all packs less than 1200 milliamps. 250 milliamps is a good reference because this is about what an average transmitter draws in current. Some PCM radios will pull a little more, but by and large 250 is a good value to use. With this in mind lets say you have cycled your 600 mah flight pack and it shows 120 minutes of time required to discharge the battery to the point where it drops below 4.8 volts. This is what happens when the battery uses up its stored energy, its rated voltage starts to decrease. With nicads the voltage drops very fast when this point is reached. How long you actually have to fly on this battery depends on the actual load on the battery, and that load may be greater that 250 milliamps. So you may not have the full 120 minutes of flight time even though the cycler said you have 120 minutes. Under some conditions you may only get 60 minutes instead of the 120 you expected. So using minutes is good if you have the same discharge rate on your cycler as you will have in an actual flight, but this is not likely. Your flight discharge rate for the flight pack is constantly changing as your plane goes through its many maneuvers.

Milliamp hours is a little more confusing than minutes, we all understand time so this is why the manufacturer has the discharge rated in minutes or mah. Even I know that there is 60 minutes in one hour. A lot of modelers find it easier to read the discharge in minutes and there is nothing wrong with this. It doesn't have to be 100% anyway. For the more technical minded people the mah rating will tell you the whole story about your battery and it is very accurate. The term mah gets its name because it is current referenced to time. If you have a 1200 mah battery, you should be able to get a current flow of 1200 milliamps (1.2 amps) for a time of one hour before the battery's terminal voltage starts to drop. This same battery should also furnish 100 milliamps for 12 hours, or 600 ma for two hours, or any combination of milliamps and hours that equal 1200 mah. Since your battery is rated in mah and not minutes, this is the only logical unit of measurement to use. Having the same unit rating means you can look at the battery rating and compare it to the cycled mah value. A new battery's cycled value should be equal to or greater than the battery rating.

There is a relationship between minute's discharge and mah discharge. It is easy to understand if you look at it this way. Lets say you have a discharge of 120 minutes and you were using a discharge value of 250 ma. This means that 250 ma were flowing through a load resistance for 120 minutes. To convert this to mah simply change the 120 minutes to hours, 2 hours, so we have 250 ma flowing for 2 hours. Now multiply the 250 ma times two hours to get 500 mah. Both minutes and mah are useful, but I think I like mah better because the battery is rated in mah. Minutes will work OK especially if you have a good record of the cycle time on a battery and you notice a sudden fall off in discharge time, this flags you that something is wrong. Cycling is a good way to spot a trouble in advance of total failure, but you must cycle on a regular basis if you want it to work for you.

CLUB OFFICERS

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Board Member	Herb Coslett	(360)275-4158
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Alt Board Member	Chuck Kentfield	(360)866-9473

Storing Your RC Engine

By James Goss

How do you store your glow engine when it is not being used on a project? If it's going to be idle for a few months I simply use after run oil and inject it in all ports of the engine while rotating the prop. This seems to prevent any rust build up inside the engine. If it is going to set for more than a couple of months I will also place it in a zip-lock bag which helps keep moisture from it. Remember that steel can't rust without oxygen and moisture. This is how oil helps prevent your engine from rusting; it isolates the surface of the steel from the surrounding oxygen and moisture. So the key to long-term storage of an engine is to keep it away from oxygen and moisture. Don't leave it setting out in a damp environment such as found here in the south.

The time it takes metal to rust depends on the amount of oxygen and moisture present, along with temperature. Think about a ship that has been at the bottom of the sea for hundreds of years. The rust action is very slow because of the lack of oxygen. So either one of the two components missing will prevent rust, but these two guys tend to travel in a pair. Here are some methods that I have used in the past:

One sure-fire way to prevent rust is to store your engine in a big mouth glass container, large enough to hold the engine, and fill it completely with kerosene. While the engine is under the kerosene rotate its shaft to purge or pump out all of the trapped air. All the parts will remain lubricated and with a sealed cover on the container the engine will be protected for many years. This is a really good method to use, especially if it is an expensive engine and will be out of use for a long period of time.

Another method is as follows: Give your engine a kerosene bath and dry it off. Place tight fitting carb covers on the carburetor and also on the exhaust port from the muffler. This basically seals the engine other than the muffler pressure tap is still open. Connect a short peace of fuel tubing to the pressure fitting and plug it with a check valve. This is another use for the check valve that we talked about in the article "Fuel Tank Pressure". Using a small hand operated vacuum pump, remove the atmosphere from inside the engine by squeezing the pump. Rotating the prop a few times will expose all the internal parts of the engine to the vacuum pump. The check valve will enable you to remove the vacuum pump without loosing any of the vacuum. Place the engine in a zip lock bag as quickly as you can and use the vacuum pump on the bag also. The reason I say as quick as you can is because the engine will probably start to leak around the shaft and begin to loose some of the vacuum. The way the vacuum removes the moisture is as follows: When you operate the pump the atmospheric pressure inside the engine is reduced toward a vacuum. In a vacuum water will boil at about 50 degrees F. The water will steam, even at low room temperature, and be sucked out by the pump. Thus we have removed most of the moisture and oxygen to prevent rust. Another example of using a vacuum to remove moisture is found in air conditioning servicing.

If you don't have a vacuum pump place your engine in a zip lock bag as was stated above. Use a vacuum cleaner to suck out the atmosphere and reseal the zip lock bag. Place electrical tape on the top edge of the bag to ensure the bag does not leak. Even though there is some air left in the bag the chances of rust forming in the engine is greatly reduced.

Another method that I have used in the past also works. Flush the engine out as above with kerosene. Get a piece of felt cloth large enough to wrap the engine in and saturate the cloth with kerosene. Secure the felt around the engine with twine and place it in a zip lock bag. It will last for years. I chose felt because this material has good capillary or wick action to retain the kerosene or what ever oil you use. I got this idea from working with electric motors, which use felt to lubricate their brass bushings.

I think cost of the engine will be the final determining factor as to how well you preserve your engine for future use. In some cases I have removed an engine from a plane and set it on a shelf for 10 years. Of course after 10 years it would be frozen up and would need to be taken apart and cleaned, but the engine itself would still run

STORING YOUR RC ENGINE CONTINUED

fine. Then other times an engine might show signs of rust after a few months of setting on the shelf, go figure. Keeping in mind that a ball bearing engine has more steel in it to rust, you may want to use a little more care with them.

"THE POST OFFICE DEPT. HAS A MEMO OUT TO ALL EMPLOYEES TO CARRY A ' BOUNCE FABRIC SOFTENER (UNUSED) IN THEIR SHIRT POCKET IF THEY ARE BOTHERED BY BEES AND WASPS ETC. THIS ALSO WORKS IN THE BASEMENT OR STORAGE COMPARTMENT OF YOUR RV TO KEEP OUT BUGS AND MICE!!"

If you haven't paid your dues yet it's after January 1st now and Dues are $40. Save yourself $10 next year and pay before Jan 1st

If you pay by mail send your dues, proof of 2005 AMA membership and a self addressed stamped envelope to the Treasurer:

Chuck Kentfield
6843 Gallagher Cove Rd NW
Olympia WA 98502

The Lewis County Radio Controllers are having an electric only fly-in on September 11th. If you are interested I have a few flyers or you can contact Alan Piercy at 360-274-8632 or by email at avpiercy@solidnet.com

Below are the scheduled events for 2005

Club Scheduled Events for 2005

January.....Annual 1st fly of the year
February .....
March .....
April 23rd .....Sanderson Field RC flyers annual swap meet 9:00 to 12:00 SHS Sub
May .....
June 11th .....Display at Walmart
June 12th.....Public Fly-In
July 9th.....fly-in 9:00 a.m. to ?????
August 20th.....Scale fly-in 9:00 a.m. to ????
September 10th.....Fly-In 9:00 a.m. to ????
October .....
November.....
December .....

It's time for 2005 dues, *pay before December 31st for $10 savings*

Check out our web site at http://sfrcf.quintex.com