

April, 1966



- NEWSLETTER -

President

Bob Upton
2179 May Court
Santa Susana, Calif.
805-527-0382

Vice President

Larry Leonard
8960 Reseda Blvd.
Northridge, Calif.
344-3105

Secretary/Treasurer

Ken Hall
721 N. Lima Street
Burbank, Calif.
846-8147

Contest Directors

Frank Capan
7407 Densmore Ave.
Van Nuys Calif.
786-5878

Dubusher

Don Butman
6161 Platt Avenue
Woodland Hills Calif.
340-2563

Woody Woodward

4249 Bakman Ave.
North Hollywood, Calif.
762-4760

Editor

Loretta Hall
721 N. Lima St.
Burbank, Calif.
846-8147

Director of Photography

Reed Packard
817 N. Orchard
Burbank, Calif.
842-7139

EDITORIAL

Loretta Hall

Since this issue of our Newsletter is bursting at the seams with articles from three very well known contributors, I will regretfully, but for the sake of the postage, eliminate the interviews with our nine new members for March and include them in the next issue. I know that they will all understand and bear with me when they see what a bonanza we have in the Tech Talk section. The National Magazines have never had it so good: Frank Capan - Clarence Lee and Cliff Weirick all under one cover. From now on just call me "Scoop" Hall.

You will also notice that we have no picture in this issue. Reed Packard has been fighting the Flu for about three weeks now and although he is winning the fight it has kept him away from his normal activities. He promises that next issue we will be very pleasantly surprised.

For any of you that were not at the last meeting I have to mention what a great reception our new "Panel of Experts" received. I'm sure it could have gone on all night and I believe that the plan is to make this at least a periodic, if not a monthly, part of our meetings. Our Panelists last month were: Willie Gardner, Willie Smith, Cliff Weirick and Darrel Yonkers, with Jim Oddino directing. The questions asked received intelligent, straightforward and comprehensive answers. I don't see how the whole thing could have been handled any better than it was.

This "Panel of Experts" idea was born at the last executive board meeting and I feel that it certainly is evidence that we have an excellent group of officers working for us.

If you have a question re building, installation ect., (and who doesn't?) write it down so you won't forget it and ask the experts at the next panel discussion. The plan is to change the panel each time since the Board feels that anyone who has been in the hobby for any time is probably an expert at some phase of building or flying and by changing Panelists each time we will get to pick everyone's brain at least once.

Some of you are no doubt experts at one particular phase of the hobby and no one else knows it, so speak up at the next meeting so we can get you on the panel.

PRESIDENT'S CORNER

Bob Upton

I am in the uncomfortable position of having to write this column in time to meet the deadline for this month's Newsletter while organizing a fly-in at Lake Casitas, which of course is now past history. (I hope it was a success!)

The reason for the relatively short notice about the fly-in is the fast approaching contest season at which many of our members will be in attendance. I wanted a good turn out at the fly-in so scheduled it on a week end that did not conflict with a contest anywhere. The date also had to be coordinated with the Ventura Comet Club, who were most cooperative and delighted that we elected to use their flying site.

There is no reason why we can't schedule more of this type of activity since it is an opportunity for the entire family to enjoy the day. This summer when the days are longer, we will schedule a couple of flying meetings as we did last year. Of course this depends on how well we are doing with preparations for the West Coast Championships!

Very soon now the Board of Directors is going to organize committees to handle various aspects of this important contest. The more people we can involve in committee work, the better, since this is really the only efficient way we can do a good job (and we will do a good job), to make this a successful one.

The upcoming LAMA contest is going to be the springboard for the Championships and I was most pleased with the response given to Frank Capan and Woody Woodward when they asked for help. Much can be learned from this contest which will be applied at Fomosa the 3rd, 4th and 5th of September.

THOMPSON TROPHY

Frank Capan

The days of the old Cleveland Air Races....How many of us youngsters remember the heyday of racing, barnstorming and such carrying on as that?

Now then...I say let's apply some of this to our wonderful, expensive hobby. I opened my big mouth and mumbled something about how nice it would be to start a Thompson Trophy Race, patterned after the real thing and in union with the Goodyear racers. I was overwhelmed with the response. This guy was actually interested. Gee...Oh well, why not?

So first a little history...The Thompson Trophy was established in 1930 by Thompson Products, Inc., of Cleveland, Ohio "to spur the development of aircraft speeds and otherwise encourage design innovations translatable into aeronautical progress." Before we proceed further I wish to state that I copied the previous statement verbatim. I wouldn't want anyone to think I spoke like that! Gee.

So the Thompson sounds like a fun event so why not give it a try? We should make up some rules. The course will be the same as the Goodyear's. Same number of laps (10). Scale not mandatory but real type aircraft will be. After all, we are after realism so let's make our models to real type specs. Of course, a real live scale job will get bonus points. Some of the finest scale plans I have ever seen are done by H. A. Osborne. He has a pretty fair list of pre 1940 Thompson Trophy plans and they are really beauts. They are factory type layout. You put your own construction in. Plans are 3½ by 6 feet. Worth getting just to look at. The difference is that the planes will be little bit larger and so will be easier to build and fly. This is what we are looking for in the Thompson. Not for wild out speed but for planes that are easier to build and fly and that will be close to the same speed for more thrilling racing. Sounds good anyhow. Flying skill will be the biggest factor. Rules should be kept fairly simple and I would appreciate suggestions (helpful preferred.)

Engine size is limited for wing area: 450 to 550 square inches for the 40 size, 550 to 650 square inches for engines up to the 50 size. Any way we go for over 650 square inch wings to the maximum AMA legal size engines (64). At least this would eliminate a twin 60 semi-realistic scale P-38. Zoom!

Continued

Scale points will buy you a maximum of 10 seconds start on the best to the least scale. This probably would never come up unless I enter. I'm famous for my ugly planes.

For the strictly scale bug, some of the big radial engine Thompson racers will have such a large cowl that they will require a larger engine just to be able to fly. The area rule would not apply in this case providing that they prove the model isn't a disaster looking for a place to happen.

So the whole story in a nut shell is really to confuse, I mean to get an event started to perhaps get more troops involved. A relatively larger class three type airplane looking something like a real live airplane is what we are after. It would be nice to have true scale but this is an event in itself.

The B.I.R.D. Club is holding a similar event somewhere around the middle of April and I hope that some of us Blueshirts can get down there and put up a grand fight. Sounds good anyhow.

We will have to feel our way along for the beginning and see how things will work out. For a scale entry we would need some identification, three view, or a photo ect.

The first chance we have to try out the event will be at the LAMBA contest in May. This will give us some ideas on how it works and some of the problems that will pop up.

INSTALLATION OF R/C EQUIPMENT

Cliff Weirick

I was prompted to write this after viewing a couple of radio installations during the past week that were causing the modelers considerable trouble. And no wonder; one looked like a big ball of tangled wire and the other looked as if the servos had been anchored in place with epoxy.

I will cover all of the airborne equipment, one part at a time, beginning at the front of the plane.

Generally the battery pack is located in the nose usually under, or behind, the fuel tank. You should wrap it in one of these plastic baggies to protect it in case of a fuel leak. Also, wrap it with a thin layer of foam to help protect it from shock, then wedge it firmly in place.

Now the switch: It should be mounted on the side of the fuselage away from the engine exhaust. Oil never helped one of these. It should have all of its wires "Gooed" firmly in place or wrapped with electronic lacing cord. Anything to keep the wires from flexing at the solder joint. This is the spot where most wire breakage occurs. Use a good quality knife action slide switch. No button contacts. They bounce and you crash. Simple huh?

Let's hit the receiver next: It should be mounted so the antenna is forward or up so that it is away from the servos and their wires. Drill a small hole in the fuselage and bring the antenna out as close to the receiver as is possible. Tie a small strain relief knot in the antenna so that there is no pull on the solder joint in the receiver. Run the antenna to the top of the fin and keep a slight tension on it with a rubber band. If the antenna is too long, leave the excess swing in the breeze. Don't cut it off. The radio manufacturer made it the proper length. No longer and no shorter. Wrap the receiver in about $\frac{1}{2}$ " of foam all around and about 1" in front and wedge it gently in place. Not too tight.

Servo Mounting: There are two methods of servo mounting. The first is using 4-40 machine screws. Generally these will be screwed into a blind nut. It is important to note that a spacer should be used here so as not to crush the grommet. The size of the spacer is very important. Its' length should be just about $\frac{1}{32}$ " shorter than the grommet is thick. The outer diameter should just slide into the grommet and, of course, the inner

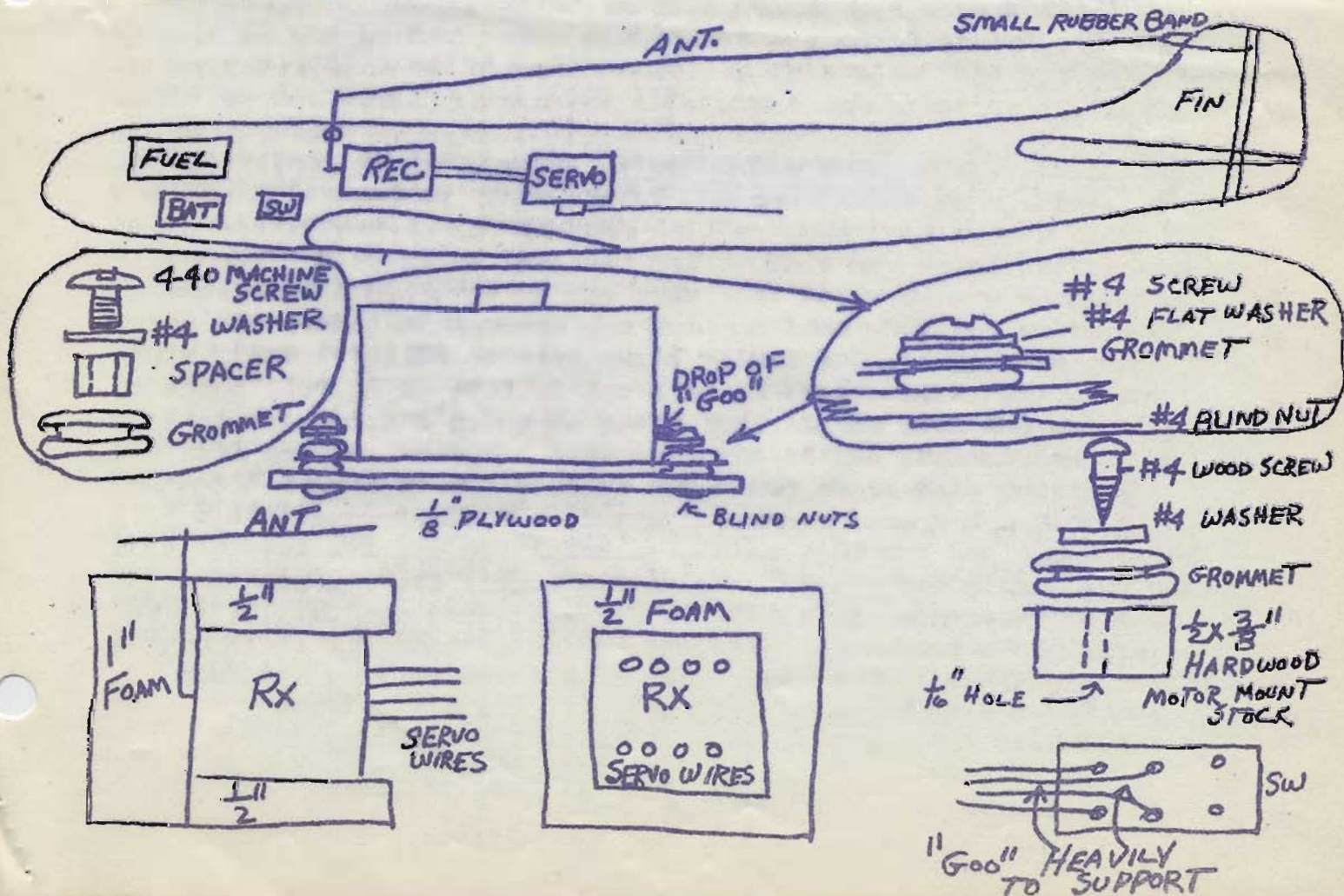
continued

diameter should just allow the screw to pass through it. Bonner Specialties has a version of these available commercially. Now, when you tighten down the screws, the grommets will be squeezed about 1/32" which is just right.

The second method is to use #4X3/8" wood screws. Here you use 1/2" X 3/8" hardwood motor mount stock mounted across the fuselage on which to mount the servos.. First mark the spot where the screws go then drill a 1/16" hole. Now use a #4 flat washer and install screw. You will feel the screw start to get tight before it hits the grommet. Now tighten until the grommet is squeezed about 1/32" then stop. In both cases I always put a couple of drops of "Goo" (available at hardware stores) from the head of the screw to the servo case. This will keep it from ever turning and coming loose but will allow you to remove the screws if necessary.

If the servo is mounted properly you should be able to rock it from side to side but not fore and aft.

Now connect your servos plugs to the receiver. Bundle the excess wire and wrap in foam and wedge in place between servos and receiver. Remember - a nice neat and secure installation is the best insurance that you can have. Always check your installation before flying. Preventive maintenance is good insurance also.



PREVENTIVE MAINTENANCE FOR NICKEL CADMIUM BATTERY PACKS

Clarence Lee

While out at the basin this past week I was told of another new proportional rig biting the dirt because of a bad cell in the battery pack. This is the fifth or sixth case I have known about since last summer which has prompted this article.

Most battery pack failures occur during the first few hours of operation. Phil Kraft found one out of five Gould 600 mil pen cell ni-cads to be defective. When you consider that we use from four to eight cells in our packs the odds of a battery pack failure become rather strong. Many of the manufacturers are changing to the new G.E. cells which so far have proved more reliable, however, the crash this past week was with a G.E. cell so they too can be defective.

All new battery packs should be cycled at least three times before ever being flown in an airplane. This means both the transmitter and receiver packs. Checking of a proportional transmitter pack is very simple. Charge the pack for at least 18 hours. Over charging will not hurt the pack. A lot of battery pack failures can be attributed to under charging of the pack. Most nickel cadmium batteries are rated at 1.25 volts, but with a fresh charge will read 1.35. The G.E. cells are rated at 1.2 and come up to 1.3 on a fresh charge. Multiply this times the number of cells in the pack. If you don't know the number of cells find out. Using my Kraft as an example, it has eight cells. 8×1.3 is 10.4 volts. Although the pack is rated at 9.6 volts (8×1.2) I should get the 10.4 reading fresh off of charge. Check your transmitter pack, and if you do not get the full voltage reading you know immediately that there is a bad cell. This may sound pretty simple to some of the old pros in the club, but it is a very surprising thing the number of members who have no idea what the voltage of their transmitter is or even own a voltmeter. If you are going to spend \$400.00 to \$600.00 for a radio then another \$12.00 for a cheap meter isn't going to break you. So on with the checking. You will need to know the current drain of the transmitter. You can unsolder one of the battery wires and check this yourself with a milliampmeter but most manufacturers take a dim view of this so best ask the manufacturer. Also find out the capacity of the batteries. Most proportional transmitters are either 500 or 600 mils. Turn on the transmitter. It is not necessary to move any controls as proportional transmitter is sending a signal all the time and current drain does not increase when sending a control. If your transmitter drain is 90-100 mils and you have a 500 mil pack, the transmitter should be good for three and a half hours to

continued

four hours of operation. You will not get full five hours because the battery will put out 50 mils for 10 hours. As you increase the current drain the life is shortened. As you discharge your transmitter, take voltage readings every half hour the first two hours and gradually more often as full discharge is reached. You do not want to discharge a ni-cad battery below 1.1 volt, so again multiply this times the number of cells in the pack. In my own case 1.1 X 8 or 8.8 volts. Keep taking voltage readings until this point is reached. If the voltage reading falls below the minimum reading prematurely you will know you have a bad battery in your pack. Be sure and make all voltage readings with the transmitter on. Repeat the charge and discharge cycle at least two times more. If your transmitter draws 90-100 mils and it will operate for three and a half hours before reaching minimum voltage, you can be pretty sure of a good pack. This procedure should be repeated every few months to keep track of the condition of the pack and to eliminate the memory cycle power packs develop which I will explain further on in the article.

All of the above has dealt with proportional transmitter packs. Most reed transmitters use dry batteries or larger capacity ni-cads which seem to be far more reliable.

The receiver pack is a little more complicated to discharge and the following pertains to both proportional and reed packs. You will need an old Bonner servo motor to discharge the pack. Condition of the motor does not matter as long as it runs. You will need to know the motors current drain so check this with a milliammeter. This should be between 200 and 250 mils. Find the two battery pack terminals into which the charger plugs. With proportional packs these are usually the red and black wires and with a reed pack the red and green. However, I am not familiar with all of the sets so others may use other colors. Just be sure to use the maximum voltage terminals, otherwise you will not have all the batteries under operation. Plug the Bonner motor into the pack and take a voltage reading every fifteen minutes the first hour and more often as the pack nears discharge. Take the reading across the motor brush terminals with the motor running. Write these readings down and save for future reference. With a 500 mil pack and a Bonner motor pulling 250 mils the motor should run at least an hour and a half before minimum voltage is reached (1.1 X number of cells in pack). If minimum voltage is reached before an hour and a half you have a bad cell in the pack. If it goes for at least an hour and a half then charge and discharge the pack two more times. A lot of you who bother to check old packs that you have been flying with are in for a shock. A lot of them will be good for less than an hour.

continued

Another check I like to make is to fly five or six normal length flights. Plug in the Bonner Motor and take a voltage reading. Compare this with the previous readings you have taken and you will know how much of your power pack life you are using during a flying session and how much reserve is left. Some of you are going to find you have been playing Russian roulette without knowing it.

Finally, power packs have a memory and develop a memory cycle. If you go out to the field every week and fly three or four flights your pack will develop this as its life cycle. The first time you put in a couple of extra flights the battery pack will many times fail. By discharging to the minimum voltage and recharging several times the original life will be restored. If you fly three or four flights and then recharge the pack every week this recycling should be done every three or four months. This three or four flight cycle probably fits two thirds of the flying members of this club.

In closing, I might say that this recycling and checking of the battery pack occasionally is a pain in the neck, but only takes a couple of hours to do. This is a lot less time than it takes to build a new toy.

Permission to use material from this Newsletter is hereby granted to anyone wishing to do so providing that the Valley Flyers and the author of such material are given credit.