



The Flightline



Volume 32, Issue 5

Newsletter of the Propstoppers RC Club

AMA 1042

May 2002

Editorial. Further Field Matters

Perhaps the subtitle should be "Three Field Matters" because in the midst of our concerns about loosing Sleighton Field and no current prospects of a replacement we have been invited to talk again to Thornbury Township about Dallett Field.

Ron Giacinto, the Thornbury Township commissioner who was supportive of our activities at Dallett, recently talked to Propstopper Ed. Glatfelter and asked if we would be interested in returning. It seems that the committee person and her two cronies who so effectively sought to remove us (even as we were hosting Thornbury Township Days) have all been replaced.

Mr. Giacinto Appreciated the efforts we expended to include the Thornbury community into our activities and he has invited us to make a presentation to the township with the intent of re-establishing our lease of the property for flying.

This presentation was originally scheduled for Tuesday May 7th, our regularly scheduled meeting night so we rescheduled our meeting accordingly. However, the township is rescheduling us to another night since their docket was too full and they want us to have our due. (Meanwhile, having canceled our original date we have to hold this months meeting on Thursday the 16th, please note).

So, later this month Mike Black and the other members of our board will make the briefing requesting our return to Dallett Field.

Agenda for May 16th Meeting

- Approval of April meeting minutes
- Finance report
- Membership report
- Field report
- Club Picnic Volunteer Sign-up
- New business
- Battery Pack Soldering Demonstration
- Show and Tell

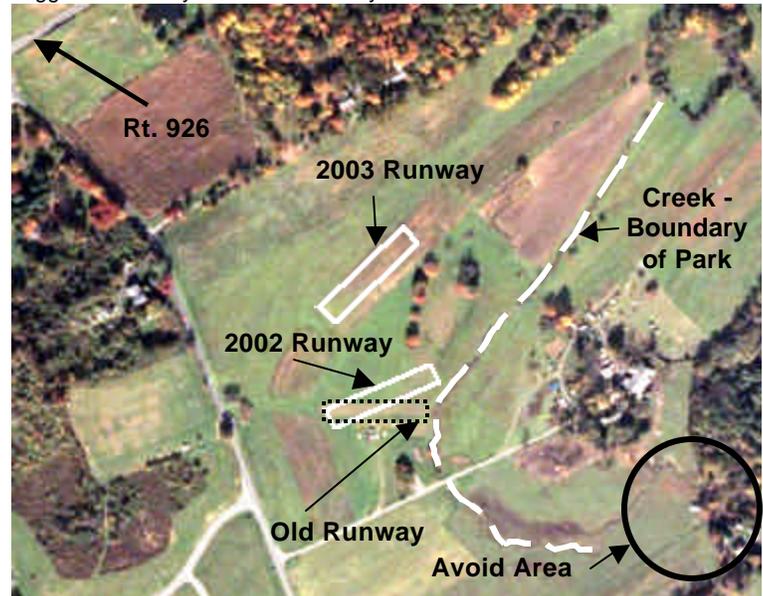
INSIDE THIS ISSUE

- 1 Editorial - Further Field Matters
- 1 March Meeting Agenda
- 2 President's Message
- 2 Calendar
- 2 Field Maintenance Report
- 3 February Meeting Minutes
- 4 The Society of Antique Modelers SAM
- 6 Soldering - The Necessary Art

That's the good news, the bad news is that Mr. Dallett has sold the rest of his property for development and eventually, the land on the other side of the creek will be involved in some kind of development. At that time we will again have to address the issue of flying in proximity to new housing. But that may be a long time from now and in the meantime we must come up with a plan to make flying there acceptable to the Township and possible detractors.

This must include the complaints of the lady who lives beyond the farm and who continually complained of the noise. We must have a plan to fly in such a way as to eliminate or minimize the possibility of flight in that direction.

Mike, Rusty, Dick Siewell and Al Guerwicz have done a survey and suggested some alternate arrangements so that the natural flight patterns would be away from that area and other potential problems. The picture below is an aerial shot of the field while we still flew there with the suggested runway locations for this year and future use.



Dallett Field in Thornbury Township Park

So, the way we currently stand is that Sleighton is good for this year and we can only hope that the surface improves with the maintenance we have done and a little help from the rain gods. Moore field is in great shape and we may have a chance at Dallett again for later in the year and maybe next year. Pretty good considering the under whelming response to the request for members to assist the field search committee. Zero members volunteered to help!



Thornbury Township Day 2000 at Dallett Field. Will we be back?

Dave Harding

Calendar of Events

Club Meetings **NOTE CHANGE**

Thursday 16th May 2002 7:30 PM
Marple Newtown Library

Flying Events

Delaware RC IMAA Fly In
May 3 - 5
Lums Pond State Park

Burlington County RC Electric Fun Fly
May 11th

Old Eagles Electric Fun Fly, Hope NJ
May 18th

Silent Knights of Delaware Indoor flying.
Jewish Community Center, off 202
April 30th
May 28th

A I DuPont High School
50 Hillside Road, Wilmington.
May 17th

All indoor meets 7 till 9 pm.

http://www.silentknightssoaring.org/club_indoor_flying.htm

Regular Club Flying

At Moore and Sleighton Fields

Daily	10 am til Dusk
Saturday	10 am til Dusk
Sunday	12 p.m. till Dusk

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Propstopper's Web Site;

www.propstoppers.org

Check the web site for back issues of the newsletter, pictures of club events and the calendar of future events.

Pictures courtesy of Bob Kuhn and Dave Harding

The President's Message

Mike Black

Dear Fellow Propstoppers,

We had two very productive fieldwork days. I think you will all be pleased with both the short and long term results. Special thanks goes to all those who participated in the work. A very special thanks goes to Dick Seiwel for making arrangements for all of the equipment and to our old friend, Elijah Dallett.

I went with Dick to return the set of discs that we borrowed from him. Elijah thanked Dick and I again for the money we gave him several years ago. To refresh your memories that was to help cover the cost of the damage done to his mower when he hit one of the stumps from the trees we took down. Believe me that was money well spent.

It turns out that Elijah made some positive comments about us to some of the Thornbury Township Supervisors. The supervisors who voted to cancel our lease are out of office. One of the members, who were trying to work with us, Mr. Ron Giacinto contacted Mrs. Glatfelter to see if we might be interested in returning to Dallett Field.

I contacted him and had a very cordial conversation. I reminded him about our work with the Cub Scout troops, the Thornbury Festival days; the free gliders given to all children that visited the field, the tree planting, and the way we maintained the field and kept it clean. I acknowledged the complaints by recommending some changes that would keep us farther away from the home that complained about noise and that would keep us from flying behind Mr. Dallett's house.

His response was very positive. He said he would speak to the other supervisors and call me back. I'm currently awaiting that call.

Hopefully, this will resolve our field search work. Keep your fingers crossed.

I was out flying on Sunday, April 14 with Charlie Crowell, Bill Shelhase, Marty Bakalorz and a friend of mine, Norm Braun, who asked if he could take some pictures for a photography class he is taking. We had a beautiful, sunny, warm afternoon with many enjoyable flights. Let's get out there and tear up some sky.

The flying season is upon us.

See you at the field or the meeting.

Mike

Field Maintenance Report

Sleighton Field Work Day 6th April

The fieldwork went well today. We used a set of discs to loosen the soil. They were borrowed from Elijah Dallett. We then picked rocks, planted seed, and drug the field with a piece of fence weighed with the old picnic table and boards. We are going to try to get it rolled this week.

It looks good. The discs loosened the soil without tearing out the grass that is there. Hopefully, it will grow in nicely. I don't know if anyone got all of the names or not. I saw Bill and Monica Shellhase, Bob and Charlie Crowell, Del Gelnonn, Ray Wopatek, Al Gurewicz, Dick Bates, Dick Bartkowski, Dick Seiwel, Al Tamburro, Mark Berkmeier, Ed Glatfelter, and Mick Harris. I probably missed someone.

Moore Field Work Day 13th April.

The work crew was smaller but we accomplished much more than planned on Saturday.

Thanks to Ed Goretzka, Mick Harris, Dick Bartkowski, Al Gurewicz, and Dick Seiwel for a job well done.

We purchased five yards of topsoil and filled in the low spots. We seeded those areas with perennial rye grass. We then used dandelion killer and crabgrass pre-emergence on the remainder of the field. We cut back the brush around the trees that we cut down last year.

We cleared brush from the driveway and entryway. We made repairs to the gate and gatepost. This made it much easier to open and close the gate. We also cleaned up glass and other debris.

The work was again made much easier because of the John Deere tractor that Dick Seiwel borrowed from a friend. The front-end loader was invaluable in spreading the topsoil.

Mike

April 2nd Meeting Minutes

Vice-president Dick Seiwel called the meeting to order at 7:33.

There were **22 members** and **one guest present**.

Minutes were approved as printed in the Flightline.

Treasurer's Report - Al Gurewicz reported an income of **\$31** and expenses of **\$131.28**. We have a bank balance of **\$5,165.58** and petty cash of **\$17.18**. Our total available funds are **\$5,783.03**.

Old Business

Field Committee - Chris Catania - no report

Field Work

Moore Field - Saturday, April 13 at 9 AM. Please bring rakes and shovels.

Sleighton Field - Saturday, April 6 at 9 AM. Please bring rakes, shovels, and gloves. We plan to lightly disc the soil, plant grass and roll the field. There will be hot dogs for lunch. Dick Seiwel will make arrangements for the discs, tractor, spreader, seed, etc.

Interboro Adult Education Night- Mike Black thanked Jess Davis, Ray Wopatek, Mark Berkmeier, Rusty Neithammer and Bob Crowell for volunteering their time and putting on a good show for the seven night school participants and the Interboro Channel. When the video is edited Mike will bring it to show and tell. Great job gentlemen.

By-law Committee Report - Jess Davis and Dick Bartkowski reported that they along with Dave Harding reviewed the current by-laws. They compared them to the AMA format and found that they fit nicely with only a few changes needed. They will recommend an internal club grievance procedure and a few other minor changes. Once they complete their work they will bring the proposed by-laws to the membership for approval. They will be printed in their entirety in the Flightline for all to read and study. We will make a motion and approve the final document at a regularly scheduled meeting.

Club Picnic - Bill and Monica Shellhase have graciously volunteered to host this year's picnic at **Sleighton Field on Saturday, June 22**. Please mark your calendars. A sign up sheet will be available at the next meeting.

Web Site- Bob Kuhn asked the members if they wanted to see any changes in the web site. If you find links that you feel would be valuable to the membership please e-mail them to Bob and he will add them to the site.

New Business

- None

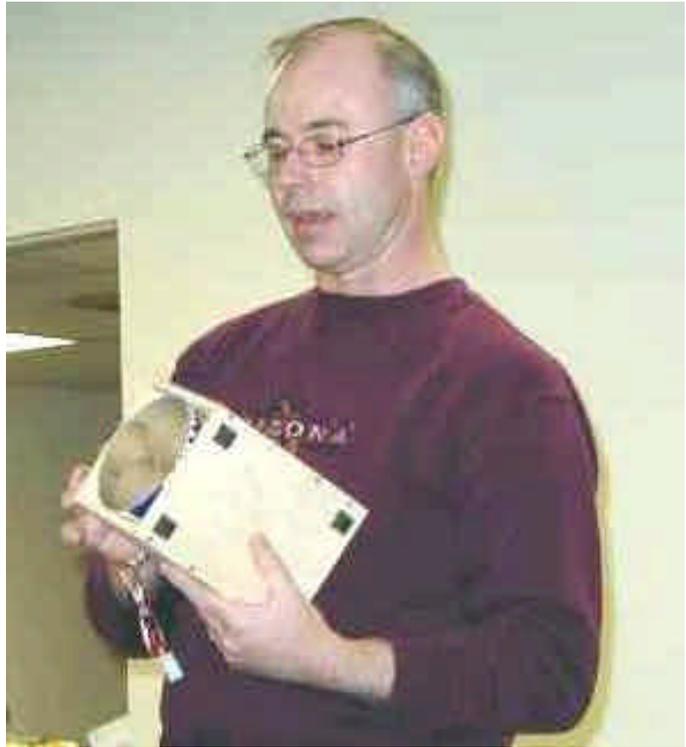
Break

The winner of the 50-50 was Greg Dugan.

Show and Tell

Greg Dugan showed his home built battery cooler. This item was featured in *Model Aviation*. It moves 80 cu.ft of air per

minute running off of a car battery. The fan unit is available at Radio Shack. The total building cost was stated at under \$30.



Mick Harris Showed his ACRO DH6. He stated this was the first airplane built specifically as a trainer. He has a geared Astro 010 with 8 cells as his power unit. It has a 28-inch wingspan. This beautifully detailed electric flies with rudder and elevator.



Al Tamburro moved that the meeting be adjourned at 8:30 PM

The next meeting is scheduled for May 7 (now May 16th - Ed) at the Marple Library.

Respectfully submitted,

Mike Black



The Society of Antique Modelers - SAM

With so many of our members of Senior status it is not surprising that there is some interest in SAM. There is a significant worldwide activity devoted to building, flying and for sure discussing models from the past. AMA has a Special Interest Group for SAM matters and the SAM folks have their own society and an excellent magazine; Sam Speaks .



This is an RC Lanzo Airborn powered by an Ohlsson 60 at the 2001 SAM Champs in Las Vegas.

SAM is involved with models designed and built generally before 1940 although there are other categories for somewhat newer models. Consequently almost all of these models were free flight, either powered by spark ignition gas engine or rubber powered and occasionally gliders. Indeed there is a very active group who just collect the old engines.

In those days there were many fields where such models could be flown, indeed aeromodelling was a widely supported and admired activity, particularly for young men. Nowadays the fields where you can fly a big un-muffled gas powered free flight are mostly in the Western deserts. On the East Coast there are very few such fields and expanding development is rapidly gobbling them up.

Consequently, some years ago SAM introduced RC assist in their events. With RC these models can be kept within smaller fields while still exhibiting the kind of flight performance you get with large lightweight performance models with ample power. However, the large un-muffled motors have high noise levels and, as we know, this also limits the use of flying sites. In the last decade electric powered versions of these models have become popular and there are four competitive events for such models.

Propstoppers Ed. Goretzka, Mick Harris and Dick Bartkowski have built and flown electric powered "Old Timers" and, together with Yours Truly, are considering an assault on the local contests.



Here Ed. Goretzka shows his electric powered Lanzo Bomber at the Electric Fun Fly at Dallett Field in 1999.

Recently Dick Bartkowski and Ed. Have both built Sal Taibi's Pacer. Mick Harris steadies Ed's framed up version.



The competition for these models involves flying for the maximum time following a limited motor run, typically 90 seconds. The battery capacity is limited to seven 800-mah

Nicad cells but the choice of motor or model is open. Inexpensive "can," type motors are quite competitive so cost is not an issue with these models even if you decide to compete. Also, to avoid specialists who can build very light models the minimum wing loading is also specified.

These models are built from balsa and spruce sticks just like in the old days although they may be covered with more modern materials.



This is Mick Harris's Miss America with geared Astro motor.

There are actually four different electric events in SAM. The Limited Engine Run class is the one I have just described. A second class is Electric Texaco. This is similar to the LER but you are allowed to run the motor to battery exhaustion. Winning flights for these models can be over an hour.

A related class is for 1/2A Scale and this is similar to the Texaco but requires the airplane be a model of a pre 1943 piston engined man carrying machine.

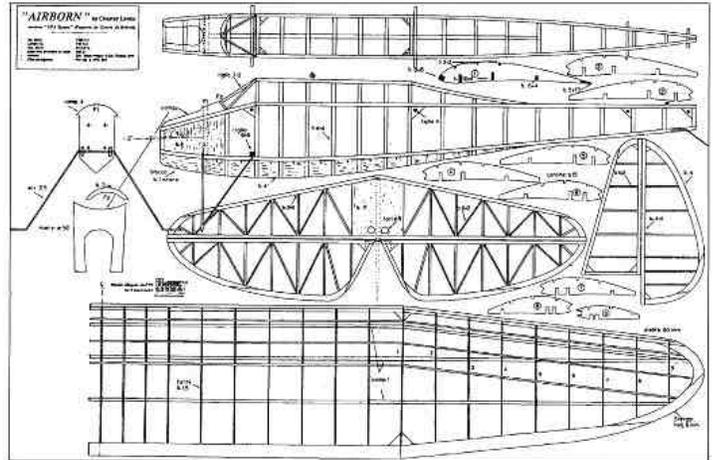
The fourth class is for electric powered models of Old Timer rubber powered contest models. It is called Spirit of SAM and specifies a maximum battery weight of 49 grams. As with Texaco, the motor is run to battery exhaustion. These models also can fly for an hour on motors like the popular GWS motors we use in our indoor models.



Here is Mick Harris's Fairy Facula Spirit of SAM.

Mike Black flies a double sized Jabberwock electric powered version of the original rubber model and designed by Al Tamburro. This would be eligible for the LER event although it is probably too large for the Spirit of SAM class.

Most of these models are built from plans although there are several manufactures of kits and also some who sell plans and laser cut sheet wood parts. There are now even a few ARF's although the "old guys" probably frown this upon.



Lanzo Airborn plans in 1/2 A scale

Since these models take off and climb steeply then glide slowly they are ideal for flying from Moore Field. Their slow speed and inherent stability also makes them a fun flyer for those with limited flying skills. But be aware that they are not aerobatic machines so don't expect maneuvers much more complicated than loops and stall turns.

There are a number of SAM contests in our area. This year there are five in South Jersey and I will list them in future issues of The Flightline. There are also bigger meets in upper New York State and this year the SAM Champs will be in Muncie at the AMA field at the end of August.

So, if you enjoy flying powered gliders and you are looking for something a little different or you are looking to complete in a friendly relaxing event join us and build an electric powered Old Timer.

A good source for plans, laser cut parts and some kits is Bob Holman Plans www.bhplans.com 909-885-3959 or Spirit of Yesteryear for kits www.soy.on.ca/planes.htm 705-737-0532

May Meets

If you want to see some of these airplanes in action together with other electric powered RC join us in traveling to these two meets;

- Burlington County RC Electric Fun Fly near Bordentown NJ on Saturday 11th May.
- Old Time Eagles Electric Fun Fly in Hope NJ, which is near the Delaware Water Gap. Saturday 18th May.

Both of these meets are fun relaxing days at pleasant fields in pretty country. They include vendors who specialize in electric RC to help you with your purchases. They are usually attended by a number of leading lights and columnists from our magazines. Last year at the Eagles meet Ed. Goretzka was thrilled to meet up with his old friends Joe Beshar, Dick Miller and Bob Kopski.

I expect to again make the trip in my motorhome so there is room for ten with models. We can drive in style while holding a group meeting in comfort. Won't you join us?

Dave Harding

Soldering, the Necessary Art.

We all know that soldering is a necessary skill in aeromodelling. We all do it with some level of proficiency but with a little more understanding of the physics of the process I am sure we could all do more, or at least feel more confident when we approach the task.

The first fact to understand is that soldering is **not** gluing! Soldering is the process of joining two or more metal objects with a second metal alloy. The actual physical process involved the chemical bonding of elements in the base metal and the solder at their intersection. This process doesn't work for all metals but for those where it does the "bond" is reliable; it happens every time **when the conditions are met**. It is very strong and a good conductor of heat and electricity.

This bond can only take place if **both the parts and the solder** are at the **necessary temperature**, usually the melting temperature of the solder or **slightly** above.

Furthermore it will only take place if both the parts and the solder are **clean and un-oxidized**.

So there you have it, simple to understand, rather more difficult to achieve. Let's take them one at a time.

Necessary Temperature.

We generally use soft solder in most of our applications (although silver solder is invaluable for some applications like engine mufflers, the same rules apply there too, only at a higher temperature). The soft solder we use is usually 60/40 or 60% lead and 40 % tin. This alloy melts at 370 degrees Fahrenheit and has a great affinity for copper, brass and steel.

So, no sweat you say. Wrap the parts together with copper wire and throw them in the fire and away we go. Well, not exactly. Although throwing them in the fire would achieve the necessary temperature it would probably make the parts too hot too soon and something undesirable happens. The parts are not clean anymore and the bond does not! You may not have tried this but I'll bet that you have done the something similar the first time you tried to do copper plumbing with a propane torch.

You see, all of the metals that we commonly use oxidize in the atmosphere and this process of oxidation takes place very much more rapidly when heated. We have all seen the result of heating a piece of metal beyond the soldering temperature, it gets dark and dull and from then on no amount of heat will cause the solder to bond. Melt yes, and run all over the place, but bond, no!

Ok, Ok, so what you say. Well the first lesson is that the parts must be brought to the necessary temperature but not much beyond. Also, it is advantageous to bring the parts to this temperature quickly. This is for two reasons, one, it gives less time for the oxidation process to progress and two, it minimizes the heating of the parts adjacent to the joint. We'll discuss this a little later.

The best way to bring the parts to the necessary temperature and not beyond is by using a soldering iron as the heat source. The iron is preheated to a temperature somewhat beyond the necessary temperature and when its heat flows into the part and solder the total temperature of the whole thing reaches the bonding temperature and soldering happens. So long as the iron is at the right temperature the parts cannot overheat.

Few key points here. First the iron must be hot before you start the process and it must have the **thermal capacity** to raise the temperature of the whole assembly to the bond temperature.

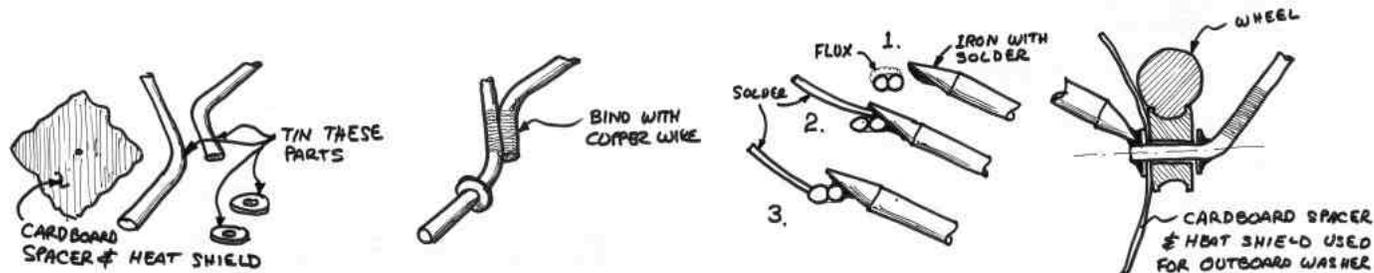
Thermal Capacity? Yep, and that is **not** the wattage rating of the iron either although higher power irons do typically have higher thermal capacity. Thermal capacity is the size of the copper tip and its temperature. Think of it this way. If you take your 5 watt electronic soldering iron, bring it to temperature then plunge it into your coffee it will just hiss and nothing else much will happen. Try the same now using a large industrial iron, or an antique torch-heated iron and the coffee will explode into a steaming mass. That, Gentlemen, is Thermal Capacity and the process I just described it what happens when you introduce your hot iron to the joint site. So, if we are trying to solder a large piece of metal, like joining a pair of 3/16 inch wire landing gear pieces you will need a large iron.

But what about the electrical capacity or wattage, you say. What does that mean. Well, the electrical capacity relates to the rate of heat **input** to the iron. It affects the rate at which it heats up and the rate at which lost heat is replaced. It is not a good measure of soldering capacity. Note that soldering guns have very low thermal capacity and quite high electrical capacity. They heat rapidly but they are only suitable for soldering wire connections (and some say not to use them on electronic circuit boards).

Imagine trying to solder that landing gear wire with your 5-watt electronic iron. The temperature is certainly right but the thermal capacity is tiny compared with the mass you need to heat and a 5 watt input is nothing compared to the heat being lost by the hot part held in your vice.

Now this leads us to the second consideration in heating the part to be soldered. That is the heating of the adjacent parts. If we try to solder our landing gear using an iron that is too small it will take a long time. The region where we place the iron will eventually reach a high temperature but in the meantime the hot wire is conducting the heat away and into the adjacent parts. Sometimes these parts are sensitive to heat and will be ruined. This is a great concern with electrical components and is also a concern with other parts such as soldering the keeper for a wheel. You solder a washer on the end of the axle but you don't want to damage

Soldering a wire landing gear by tinning cleaned and fluxed parts, binding with copper wire and soldering with an adequately sized iron. If you retain the wheels by soldering washers, use a cardboard spacer/shield to protect the wheel from heat and provide a clearance for the wheel (remove the cardboard when soldering is complete)



the wheel's nylon hub. The answer is to use an iron with the correct thermal capacity. When you do this the soldering event is over in five seconds or less and you can cool the whole assembly.

This last factor is particularly important in soldering Nicad battery packs as you need to bring the cell case up to near 400 degrees but not damage the chemicals within. You can control this by using the correct iron then quenching the part before the heat transfers to the cell interior.

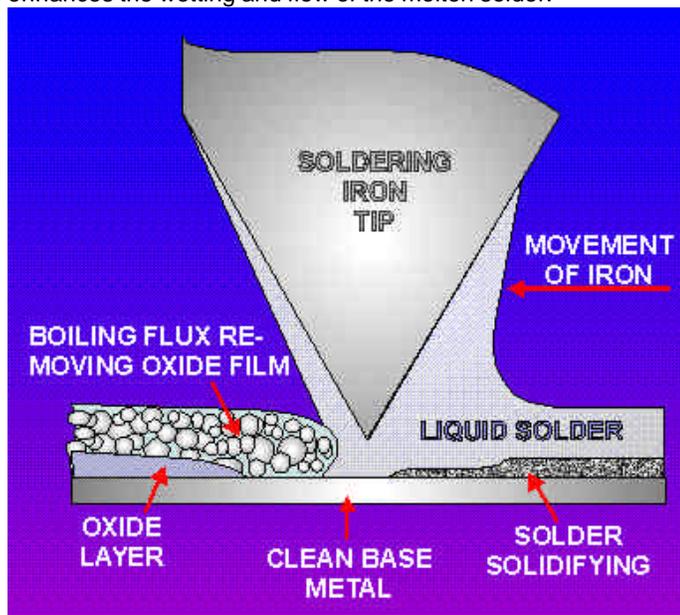
In some applications you can use a thermal "shunt" by clamping a metal object between the solder joint and the sensitive part. The heat flowing down the part will try to heat the shunt thus slowing the heating of the adjacent part. There is one more factor, which affects the heating rate for the parts and that is the interface between the iron and the part. The best heat conduction occurs when the iron has at least a small amount of molten solder and the part has some flux at this site. The result is a quick melding of the molten solder and the part through which the iron's heat can flow. Watching the behavior of the solder at this point is critical to making a good joint. You are looking for the solder to first conform to the part then wet out and flow beyond. This is an indication that the correct temperature has been reached at this point. Completing the joint is best done by touching the solder on the far side of the joint. The entire joint will be sound when the solder flows onto the part without the iron being moved to it. This is an indication that the whole joint has reached the bonding temperature.

Clean and Un-oxidized.

The parts to be soldered almost certainly are oxidized in their natural state be they piano wire or copper wire. So the first step in preparing them for soldering is to remove the oxide layer. This is done in two ways, mechanically by sanding or filing and by the use of a flux. Sometimes the flux alone will do the job but why risk it? It is always a good practice to first clean the parts with sandpaper.

There are two basic kinds of flux available for soldering; Corrosive acids and "Non Corrosive" pastes. They each have their uses but they are very different in the way you handle them and the subsequent clean up.

Flux acts both in the initial application and when it is heated in the joint process. It not only cleans the part but also enhances the wetting and flow of the molten solder.



Non-corrosive pastes are effective with most of the materials we use. They are easy and safe to handle and only require wiping and cleaning with alcohol or common solvent. The correct process is to first clean the part with solvent to remove any grease, sand it till it's bright then, without handling the joint area smear it with flux. Do this with all the parts you plan to join then you are ready for soldering. However, there is a preferred way for us less skilled folk and that is to tin the individual parts before we join them. Tinning is the process of soldering each part. Yes, you perform all the operations necessary to actually solder except you do it on each individual part first. The reason for this is in a complicated or blind joint you may have difficulty heating each part uniformly or you may not be able to reach a part once the joint assembly is in place.

Once tinned, the joining process works much better as the parts already have a bond to the solder material and subsequently the introduction of the joining solder has an affinity to the tinned surface. The joint flows easily.

Acid flux is used in steel parts and I must say I find it more reliable when soldering landing gear piano wire. In this application additional flux can be introduced while the parts are up to temperature and in this condition the flux action seems to be particularly good. The problem with these fluxes is that they are very corrosive and it is absolutely necessary to wash the part then neutralize it with bicarbonate of soda solution.

So these are the basics of successful soldering but there are a few other things you must know.

The iron must be maintained in good condition. What this involves is almost constant cleaning of the tip. You see the tip is constantly at high temperature and as we explained earlier most metals oxidize under these conditions. This applies to solder and copper too. So after a little use the tip of the iron begins to develop dark spots. The continual short-term maintenance is to wipe the tip constantly on a wet sponge then dip it into the past flux. **DON'T DIP IT INTO THE ACID FLUX!** It could cause a dangerous splash.

And while we are on that subject please remember that there is danger when dealing with high energy, high temperatures and active chemicals. Make sure you use eye protection, protect your lap from molten solder drips and hold the iron in a secure stable and temperature resistant stand.



OK, got it? Ready Steady Solder and be proud of your work (but it will take practice.

Dave Harding

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Propstoppers R.C. M.A.C



Happy Days at Moore Field

Note the Meeting this month is NOT on Tuesday next but on Thursday 16th May at Marple Library



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