The Flightline

Volume 35, Issue 10 Newsletter of the Propstoppers RC Club AMA 1042 October 2005

Editorial; Club Matters Update

Please note that this month's meeting, and every indoor monthly meeting from here forward will be on the first ***Wednesday*** of the month at the ***Middletown Library,*** behind Weather's Dodge in Lima on Rt. 452.

The reason is we want to become known as a Middletown club. At least one of our fields has been in Middletown for over 25 years and of course, the new Sleighton field is on Middletown Township property. The second reason is the meeting room is free. This will save the club about $300 per year, equal to five memberships. Bring your show and tell to the first meeting, next week on Wednesday 4th October.

Middletown has authorized us to begin a 30 trial for the use of the new Middletown Sleighton field. Members prepared the field and then Mike Black inaugurated it with the first glow flight on one of our fields for over a year. Read about it in this issue.

Mike Black has requested a series of indoor dates at the Tinicum School and only awaits the board to request the insurance form from AMA. The dates are, Fridays; 11/4, 12/2, 1/6, 2/3, and 3/3; 7 - 9 PM.

Meanwhile we are a bit behind in our mandated election process. Nominations will be accepted for club office at the October meeting. Elections will be in November.

Dave Harding

Agenda for October 5th Meeting
Christian Academy Field 7:00 pm

- Approval of September meeting minutes
- Membership Report
- Finance Report and Proposed 2006 Budget
- Flying Field Status and Issues
- Nomination of Officers
- Indoor Fun Fly Plans
- Show and Tell

INSIDE THIS ISSUE

Middletown – Sleighton Field Preparation and Initiation

After waiting patiently for much of the Summer Vice President, Dick Seiwell announced that the Middletown Township supervisors authorized our use of the new Middletown – Sleighton Field on a 30 day trial period. Obviously they want to move methodically when adding potentially controversial activities to township properties so this first step should not come as a surprise. Furthermore, it serves to set us on a path of being conscious of our relationship with our new neighbors.

So, the first step was to prepare the field and this involved a substantial effort in cutting tall brush down to size and then a closer trimming operation. Of course, this activity brings with it the attendant benefit of driving one of Dick Seiwell's many tractors and a modest but energetic group turned out on Saturday 18th of September to tackle the task.

A large area was cut to include not only the runway but pits, parking and access routes.

Paul Grothman gets first dibs with Dick Seiwell

Paul is almost lost in the tall weeds.

Calendar of Events

Club Meetings

Regular Meeting 7:30 pm
Wednesday 5th October 2005
Middletown Library
Behind Weather's Dodge on Rt, 452

Tuesday Breakfast Meeting
The Country Deli, Rt. 352 Glenn Mills
9 till 10 am. Just show up.
Flying afterwards at Sleighton Field

Regular Club Flying

At Middletown / Sleighton Field
Monday - Friday;
!0 am until dusk - Electric Only
Saturday
10 - 3pm-for FUEL PLANES and
10 - Dusk for Electric
Sunday - 12 - Dusk – Electric Only

At Christian Academy; Electric Only
Monday through Friday after School till dusk
Saturday 10 am till dusk
Sunday, after Church; 12 pm till dusk

Special Club Flying

Saturday mornings 10 am Sleighton Field

Tuesday mornings 11 am Sleighton Field

Thursday evenings 4:30 on, at CA field.

Note; Flying must be done in accordance with the agreement forged by Vice President Dick Seiwell Specifically, only electric powered airplanes. Beginners using due caution and respecting club rules may fly GWS Slow Stick without instructors.

Propstoppers RC Club of Delaware County, Pennsylvania.
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Minutes of the Propstoppers Monthly Meeting September 6th at the Christian Academy Field

President Steve Boyajian presiding.
Vice President Dick Seiwell called the meeting to order at 7:00 PM
Roll Call by membership chair Ray Wopatek showed 22 members & 1 visitor.

Old Business:

Dick Seiwell announced that we now have permission from the township to fly at the Sleighton field recreational site.

New Business:

As a Middletown organization, Dick Seiwell secured permission for us to use the meeting room at the Middletown library. This site is only available on Wednesdays from 7 to 9 PM. It is located just behind Weathers Dodge off of Baltimore pike. The change in site and meeting day to the first Wednesday of the month was accepted unanimously by the membership present.

This was followed by a discussion of the issues involved in maintaining 2 fields including the additional costs. The membership decided to look further into this issue in the spring when we determine next years membership rolls, needs and income.

The meeting was adjourned at 7:45 p.m. at which time a few of the members enjoyed a session of dusk flying as darkness was rapidly fell.

Respectfully submitted by *Dick Bartkowski*

Middletown Sleighton Field ***Continued from page 1***

This is shown approximately in the satellite shot from Google Maps; www.maps.google.com (Well, they did not actually cause a satellite overflight just to record our event, but this shot will do!)

The primary beneficiaries of Dick's equipment operation were Paul and Rick Grothman, Dick Bartkowski, John Tulai and of course, the "mow meister" himself, Dick Seiwell.

They cut down a large area then proceeded to work it until it was close to the flying surface height. Then they worked from the center out to drive the clippings from the area.

Dick Bartkowski gets his turn

Now of course, the rail birds can always see what is being done incorrectly and eventually they have to point it out to the "boss".

I suppose you know you are doing that wrong!

Move over, let me show you how. Rick Grothman gets into the act.

Naturally this results in the job being handed over to the observer, who may need some instruction before being able to show what actually needs doing!

Where is the go button?

"Well, it's not bad but it could be better", John Tulai observes.

"Ok, if you have to"! (Wait, wait, isn't this the approach used by Tom Sawyer?)

But that doesn't deter others from making observations too. And they get their turn to show how it is done, and so on.

Anyway, the crew did an outstanding job cutting it down to size and Dick Seiwell went back on Sunday to give it a final cut. Of course the grass is now largely stubble but it will come back and with repeated mowing, and a little rain, we will begin to get a decent surface.

One hopes that we can build a satisfactory relationship with the neighbors and township to see an excellent lawn by next year.

But in the meantime Mike Black and Dick Seiwell went out on Saturday 24th for the inaugural "wet fly". Here is Mike's report;

It was a beautiful, warm, late summer morning with 10 to 20 mile per hour winds. My Thunder Tiger Extra 300 was up to the challenge of my first summer flight and the first glow fuel powered flight at the new field. The runway was a bit bumpy but the long legged landing gear handled it well. Dick, his grand daughter and I enjoyed a beautiful morning at the new site. I am going to try to get out there at ten every Saturday morning that the weather permits.

Former Propstoppers President, Mike Black, makes the inaugural "wet" flight at the new Middletown – Sleighton Field

Sounds like a plan to me, why don't we set Saturday mornings at 10 as a regular date? At least, so long as the township allows us.

Dave Harding

Lateral Directional Stability and Control – Thoughts and Observations

Over the last year a combination our field situation and the population of members with lesser flying skills or just plain rusty, has resulted in a preponderance of Rudder / Elevator controlled models. Many of them have been of the Park Flyer type, but not all of them, but it has been surprising to me to find so many of them with poor flying qualities. Or said more plainly; just hard to fly.

This has also been my experience with many of the RC models I have owned and flown since coming back to the hobby about seven or eight years ago.

I learned to fly by myself with a $25, 2 meter span, foam "Spirit of 76" glider from what is now Hobby People. I flew this model from the slopes in the Tehachapi Mountains of south central California where the wind never failed and the slopes were 15 minutes from my door.

Although I didn't know it initially the model had very poor directional control at low speeds and eventually someone told me that you had to double the size of the rudder to make it control well. A simple cardboard extension was added with sticky tape and I continued the learning process.

Control in that kind of flying is very different than that we need to fly in our fields. The slopes of southern California are generally wide open with scrubby vegetation and an abundance of rock outcrops at the top, where you would like to land. The flying is done away from the slope and generally somewhat in front of you with the model flying away in some form of S shaped flight path. With the high winds most of the day lift is not a problem and once launched the model climbs away into the great air mass beyond the slope.

Continued on page 5

The Middletown – Sleighton Field after the initial day of mowing. This view is looking south from the entrance at the old Sleighton School driveway.

Most of the time you have to fly aggressively to spoil excessive altitude and clumsy flying is not punished and precision control of the flight path is not required, at least, not until you try to land.

Landing, in our sense, is unknown. The task is to bring the model to zero airspeed and altitude exactly over the rug-sized patch where you would like to place your model. I found this maneuver impossible most of the time and the flight invariably ended with a broken model. Actually, sometimes I would land before I wanted to just because I found the model in that desirable landing sweet spot and I wanted to make use of the rare opportunity. So you see, good handling had nothing to do with successful flying on those slopes. I usually made one flight of a half and hour or more then crashed to end the day; heavenly.

Well our club had a flat field in our neighborhood so before long I decided to build a powered model and since I liked gliders, was friendly with the club president, another Brit, who was a pioneer electric flyer, it seemed logical to try this "new" form of modeling. I built a Hobby Lobby Skimmer electric powered glider from a kit and fitted it with the specified direct drive Speed 600 motor and six cell NiCad pack. It was an easy build and looked nice too.

On the first flight it was a bit of a handful, primarily because it was way underpowered but it also seemed to handle funny. I sort of crashed it when trying to make the final adjustments to the flight path to land on the runway.

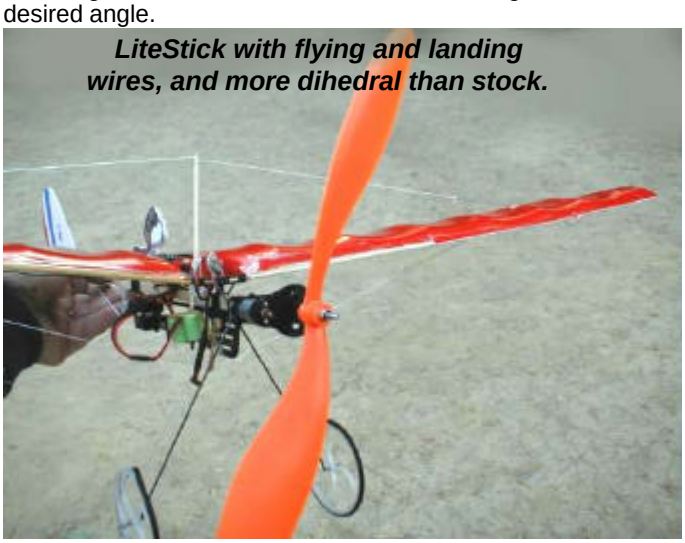
Subsequently we returned to Pennsylvania and eventually I joined the Propstoppers and began to fly from Dallat Field. (At that time the club did not routinely hand out the safety and flying rules, much less the process to gain experience with and instructor leading to a "solo" authorization so I just flew).

Hobby Lobby Skimmer electric glider has minimal dihedral that made hard to fly by a beginner.

Anyway, I found it quite difficult to fly the Skimmer as it would not hold altitude when turning and a moment of inattention resulted in the turn developing into a vertical dive, occasionally with dire results. (But as an aeromodeling lifer I expected to break my models every time out and I knew how to fix them). Eventually I realized that these models did not have enough dihedral to fly well with rudder and elevator control, and recently I have been thinking about other models I have flown and this poor flying quality experience has dawned on me.

This was particularly underscored when I think back to my experiences with my two LiteSticks. I realize that the dihedral was the difference between an excellent handling model and a really poor one. The LiteStick wing is a molded foam sheet to which bamboo "skewers" are glued at the leading and trailing edges. These plug into a fuselage-mounted plastic molding that incorporates the dihedral angle. Unfortunately the as-molded dihedral is insufficient, but fortunately the thousands of flyers recognized the deficiency and suggested fixes; usually the addition of a thread stretched from tip to tip to force a dihedral into the wing assembly.

My LiteStick incorporated both flying and landing "wires"; threads above and below the wings just like the WWI airplanes. I also molded an additional dihedral angle into the root of the bamboo elements. You do know you can permanently bend bamboo by using heat, don't you? I used a soldering iron to heat the bamboo while bending the root to the desired angle.



LiteStick with flying and landing wires, and more dihedral than stock.

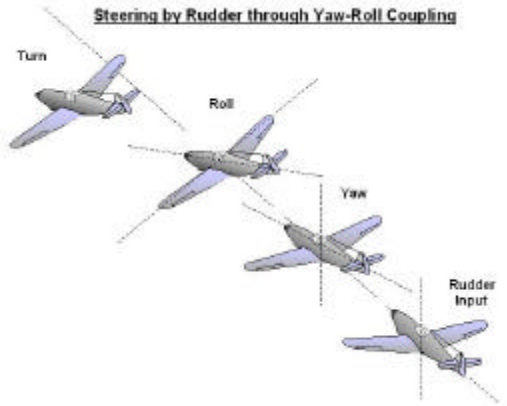
The result was excellent flying qualities at all speeds, a positive factor in my learning to fly indoors in several not so easy steps. (Another factor was the use of lower gearing and a bigger prop which allowed me to power out of difficult spots). My second LiteStick was a very poor flyer, to the point where I hardly ever bothered to make more that two laps around the gym before I parked it. Although I made it the same way I now realize that I just didn't build-in enough dihedral.

Recently I had my #3 grandson "good hands" Tony, build a Slow Stick. Although Tony is usually eager to fly anything and has the patience to stick with it he seemed just disinterested in the Slow Stick. A few weeks ago, with most of my stuff broken, waiting for contests or just not ready, I asked him if I could borrow his Slow Stick. You guessed it; I crashed it at CA field in a flight of no particular challenge. What had happened? Well, as the airspeed dropped directional control vanished and with a little wind at the field I was drifting towards the far tree line. Hauling on the rudder did nothing so I put the nose down to gain some airspeed and just ran out of room, horizontally and vertically. Finally I figured out that the problem was insufficient dihedral on this one too, and with the Slow Stick all you need to do is bend the aluminum spar joiner a little more. Magic, now it flies like it should and I began to think about all the other models I had flown for people recently and realized that so many of them have this problem.

Furthermore, I realized that none of the Old Timers we fly in SAM contests do, and that is because they were all originally free flight models and it is essential to have sufficient stability in a free flight model, or it certainly doesn't get published in the magazines or get kitted (no ARFS in those days).

So, what is this all about? Why do we need dihedral in our rudder and elevator controlled models?

Obviously the first requirement is a rudder with sufficient control power to move the airplane in yaw at a rate consistent with the desired turning maneuver. But to produce a turn from this yaw motion requires the model to have what is known as yaw-roll coupling. In other words, the aerodynamic form must produce a roll, in the desired direction, from a yaw.

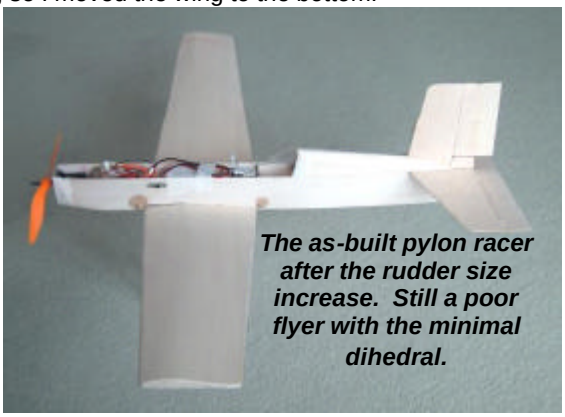


The most common element to achieve this is dihedral in the wing. A wing with dihedral experiences an increase in angle of attack for the outboard wing when yawed. Take one of your wings, or just a strip of paper folded in the center, and then view it from the front while you yaw it. See the angle of attack?

However, there are other factors that can be significant in achieving this desired effect, or the opposite. Wing sweep is one factor and again you can see why with a paper cut-out. When you yaw a swept wing, the outboard wing un-sweeps such that it has a longer "span" than the inboard wing. This clearly produces the desired roll from yaw.

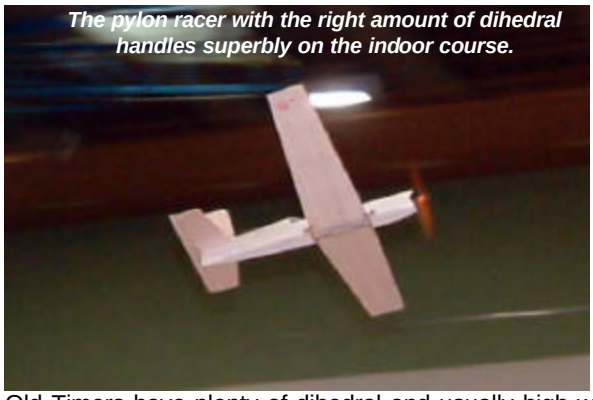
The other well known factor is the vertical placement of the wing. In this case the fuselage aerodynamics and its interferences with wing flow affect the yaw-roll coupling as does the vertical placement of the CG. When an airplane yaws it usually experiences an increase in drag, which in turn results in a deceleration. Now consider that the deceleration force acts at the CG but the drag force acts somewhere in the middle of the aerodynamic bits and you can see that this produces a rolling couple. It is generally favorable with a high wing airplane and unfavorable with a low wing. To make an overall satisfactory airplane you must make these elements work in their entirety. Usually low wing airplanes require more dihedral than high wing airplanes.

An excellent example was the indoor pylon racer I made on Saturday before a meet in England. I planned to make it a mid wing airplane but found that I had mounted the servos there, so I moved the wing to the bottom.



The as-built pylon racer after the rudder size increase. Still a poor flyer with the minimal dihedral.

At the meet, in the hands of the local hot shot would not turn. So fix one was to double the size of the rudder, with limited success. Fix two was to saw through the top skin and tweak in more dihedral. What a difference! The hot shot could knife-edge all the way round the course and I had a superb flying model for outdoors too.



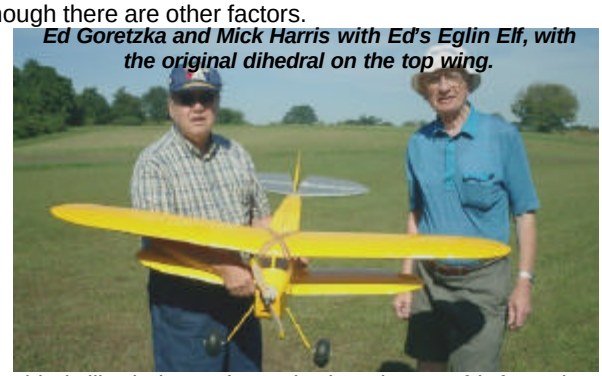
The pylon racer with the right amount of dihedral handles superbly on the indoor course.

The Old Timers have plenty of dihedral and usually high wings and big flat fuselages too; All stabilizing. Although too much of a good thing is bad too. With too much yaw-roll coupling you can over-control the model onto its back, particularly on takeoff. My Trenton Terror is a bit of a handful in this regard.

The Trenton Terror Old Timer has plenty of dihedral, a high wing and deep fuselage. Very stable and controllable, but a handful on takeoff.

Ed Goretzka's Eglin Elf biplane was a monster in its original form despite Ed's claim that it was built to Eglin's free flight plan. At Moore field I found it almost impossible to control although there are other factors.

Ed Goretzka and Mick Harris with Ed's Eglin Elf, with the original dihedral on the top wing.



Ed added dihedral, as shown in the picture of it from the Walt Bryan Electric Fun Fly. But although it was better it was still a handful because the rudder effectiveness varied with the throttle setting. Hmmm… more going on here for discussion at another time. But in the meantime just look at that fuselage and wing junction ahead of the rudder. Think that my have an affect?

Dave Harding

FAA and Model Aviation

by Dave Brown, President AMA.

Why are we hearing so much about the Federal Aviation Administration (FAA) lately? Many modelers are asking this question, so I'll try to give you an explanation that you can share with other members.

The FAA's recent interest in our activities is coincidentally coming from two separate areas within the FAA. The first issue at hand is airspace used by model airplanes. Their attention is focused on us because of technological growth within model aviation and the use of unmanned aircraft for myriad commercial and governmental purposes. The FAA is wrestling with the best way to safely integrate these operations into the national airspace, which will be a daunting task. Another reason the FAA is focusing on model aviation is because many of these commercial and government activities are being conducted with model airplanes that have been modified to make them suitable for these tasks.

In the eyes of the FAA—or at least within the current thinking of the FAA—a model airplane ceases to be a model airplane when it is used for any commercial purpose, regardless of its size. What it becomes and what regulations it is subject to is still up in the air. Although the FAA is discussing this topic, it seems to be adamant that the aircraft are no longer model airplanes, and should not be operated under the guise of the unregulated—or perhaps more appropriately, self-regulated—sport of model aviation.

Unmanned aircraft or UAs are the latest moniker for these non-model airplanes, replacing the earlier RPV and UAV. At the root of the difficulty is the basic philosophy of the FAA, which separates model airplanes flown for sport and recreation from UAs. It is one of its uses rather than one of its descriptions. Within the aeromodeling community, we tend to differentiate between UA and model airplanes on the basis of equipment and technology, and this difference in philosophy creates a few misunderstandings.

As you can imagine, this transitional period, while they develop regulations to apply to these unmanned aircraft, will be full of turmoil as each local office of the FAA applies its own interpretation to the situation.

AMA is working with the FAA in an attempt to keep the sport of model aviation alive and well, while the FAA grapples with the difficult task of defining the regulatory climate for UAs. In the meantime, we as aeromodelers need to become familiar with the national airspace system. We may end up in a situation in which limits on the airspace we are allowed to fly in will be determined by the class of airspace in which we are flying. You may want to make a small investment in a book called *2005 FAR/AIM Book* and study the airspace section.

The second arena in which there have been many questions raised lately has to do with our use of airports for model airplane events. The real question is not the use of airports for model airplane activities—that has not been challenged—but rather the "total closure" of federally funded airports for model airplane activities. The FAA has many policies that regulate the management and use of airports in general, and even more regulations apply to airports that receive federal funding. Among those regulations is a provision which prohibits the "total" closure of a federally funded airport for "non aeronautical activity."

This regulation has existed for a long time, but it has been interpreted differently by different regions of the FAA. It may have been the basis for some refusals to allow modeling events to take place in the past; we have certainly been refused the use of airports, but I am not aware of this regulation being stated as the reason.

In the current situation, a modeling group wanted to use an airport for a jet fly. With the support of the airport management and the local chamber of commerce, the group applied to the local FAA office to close the airport for the duration of the event.

The local FAA office rejected the request, deciding that model airplane activity constitutes a "non-aeronautical" use of the airport. The local club, as well as the local politicians and chamber, pushed the question "upstairs" to the FAA in Washington, and the FAA supported the local office's determination.

At that point, the decision was still local, but when it was pointed out to the FAA that similar situations in other parts of the country were not being made subject to this rule, the FAA issued a letter which "clarified" the situation to all regions. This letter effectively defined model airplane activities as "non-aeronautical" activity for purposes of this rule.

This would seem to shut us out of some airports, but even that is not the final word. Because the term "total closure" isn't defined and is used only in one paragraph of the entire document dealing with airport regulation, what constitutes "total closure?" Is closure of the only runway at a single runway airport for 10 minutes a "total closure?" How about closing it for four hours, opening it up to full-scale traffic for an hour, and then repeating the schedule?

Another obvious question is why would model airplanes be non-aeronautical activity in the eyes of one part of the FAA, while another part of the FAA considers us a being subject to its rules? Again, AMA is working with the FAA to resolve this issue, and we seem to be making some progress. In the meantime, I would recommend that you not change the way in which you do business. This ruling would seem to affect only those situations in which we are proposing to close the entire airport or the only runway of an airport that receives federal funding.

That narrows the effect of this ruling considerably, and I would not let this ruling stop me from making the request for any airport that you would have considered before this ruling because it may still be subject to interpretation. Or perhaps it may be changed by the FAA as a result of our efforts to have it changed.

Fortunately, while the FAA initially presented a firm reaction to our questions, they are now becoming more receptive to our position that we should be allowed this access.

That's how my month as president has gone; how has yours gone? ***From the AMA monthly newsletter***

Dave Harding – Editor
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Propstoppers R.C. M.A.C

Former Propstoppers President, Mike Black, with his Extra 300 ready to make the inaugural "Wet" flight at the new Middletown – Sleighton Field.

Propstoppers R/C Club "Coffee Mess President" Sought

The usual fierce battle for this prestigious position has opened due to the retirement of Tom, "make it strong" Tredinik.

Tom has served loyally in this role for the last few years, during which time he has "set the bar" for this service.

We know this is a hard act to follow, but follow it we must if the expected refreshments and funds are to be available in this period of tight budgets. Who knows, these funds might just what is needed to tip our two field appetite over the edge.

Start your campaign today; throw your hat in the ring with any board member or just volunteer at the next meeting.

Regular Meeting Wednesday 5th October

At the

Middletown Library

7:30 till 9 pm

The Middletown Library is on Rt. 452 behind Weather's Dodge, just beyond Granite Run Mall. From Baltimore Pike, Rt. 1, going south, turn right at the 452 light and drive into the Library on the right. From Rt. 352 going west, from Chester, pass the mall and then turn left onto 452 at the light. The library is on the left 200 ft before the Rt. 1 light

This will be our usual meeting place and time from now on.