

EEVC NEWSLETTER

Published by the Eastern Electric Vehicle Club

Peter Cleaveland, Editor

Club Address: P.O. Box 134, Valley Forge, PA 19481-0134

email: easternev@aol.com. Web site: www.eevc.info

President: Oliver Perry, 5 Old Stagecoach Turn

Shamong, NJ 08088, (609) 268-0944

Copyright © 2008, Eastern Electric Vehicle Club, all rights reserved

Vol 28 No 1

JANUARY, 2008



Now affiliated with EAA

ALAN ARRISON 2007 EEVC CLUB MEMBER OF THE YEAR By EEVC President Oliver H. Perry

It has been a long-standing tradition in the January issue of our newsletter to honor a member of the EEVC as the outstanding club member of the previous year. For the year 2007, Alan Arrison earned this distinction.

The EEVC was formed in 1980 to provide stimulation, information, resources, and support for the advancement of electric vehicles into mainstream driving. It was hoped that many members would become interested in making their own private electric vehicle conversion with the encouragement, advice, and hands-on help from the EEVC membership. Many EEVC members have fulfilled that dream, but many more have not.

It was also hoped that many EEVC members would become active in promoting electric vehicles through public displays and public events. Again, many EEVC members have done just that, but many more have not.

Most members have found our organization intellectually stimulating and a source of information. They enjoy the benefits of



Alan Arrison, EEVC Club Member of the Year

belonging to a group that keeps them abreast of the latest developments in the transportation side of environmental issues. But, as for actually participating in electric vehicle conversions and participating in promotional events, most EEVC members have remained more in the stands than on the playing field. Fans are very important, but without players there is little excitement. This past year Alan Arrison provided us with that excitement and demonstrated that he is a major player, not just a spectator.

After ten years designing, planning, and constructing an electric vehicle conversion Alan was able to drive his conversion onto the competitive

track of last June's 21st Century Automotive Challenge held in Burlington County, New Jersey. At that event Alan won the technical testing award for having the neatest and best made electric vehicle in the competition. His vehicle was no doubt the one vehicle, out of all of the competing electric vehicles, which most people would have preferred to own if

they were forced to commute daily in an EV.

In addition to competing in the two-day 21st Century Automotive Challenge, Alan also towed his vehicle to Kempton, Pennsylvania in September to display it in the three day Energy Fest sponsored by the Mid Atlantic Renewable Energy Association.

For the many hours, days, weeks, and years that Alan spent bringing his VW pickup truck electric conversion to a reality, his participation in two major EEVC electric vehicle events this past year, his faithful attendance and participation in our monthly meetings, and his adventuresome drive to and from our EEVC meeting in his electrified VW pickup, Alan has been chosen for our EEVC 2007 Club Member of the Year Award.

Alan we all salute you!

Out of high school and into life

Alan Arrison graduated from Clearview High School located in Southern New Jersey. His father, an iron worker, was forced through circumstances to learn how to fix everything surrounding his family's life with few to no tools. Alan picked up his mechanical skills and a self taught problem solving mind. Having an interest in motorcycles Alan soon found himself working as a mechanic for a Honda motor cycle dealership for approximately five years after graduation. There he was provided training leading to Honda mechanic certification.

During the early 80s Alan completed an on line electronics course enhancing his acquired mechanical skills.

One might suspect that the arts had escaped Alan's attention (except for the sound of motorcycle exhaust pipes). Not so. For five years Alan was a drummer and vocalist in a full time band that traveled about the Delaware Valley playing in bars that featured live music throughout the week and weekends. Perhaps, while waiting to go on stage, Alan became frustrated trying to play many broken video and arcade games, and began using his skills to repair them. For whatever reason he ended up becoming a repair specialist and technician for the gaming machines that were abundant during the height of the video game era. Alan was well suited for this particular trade with his multi-disciplinary

skills and the understanding of how mechanical, electrical, and electronic machines work. The repair of gaming machines has been his trade for about twenty years.

Alan remembers when juke boxes used vinyl 45 rpm records and pin ball machines sent a real ball bouncing off solid obstacles under a clear plastic top. He has seen the transition from vinyl records to computer based audio systems and "PacMan" type games give way to Star Wars and plasma screen virtual imaging.

The public room gaming business according to Alan, is being killed by the home video game market. So Alan's livelihood faces challenges. He does not want to become as useful as a typewriter repairman.

How then an Electric Vehicle?

Alan cannot exactly remember how or why he joined the Electric Auto Association in the early 90s. But after receiving the EAA *Current Events* publication Alan was able to find electric vehicle conversion companies that were available to provide necessary parts and instruction. He checked out several companies and settled on EV America, owned and operated by Bob Batson. The gaming repair company that Alan worked for just happened to have a 1981 VW pickup (that they used for running about) for cheap sale. Alan purchased the pickup and the needed conversion parts and was soon at work converting the VW pickup to an electric vehicle.

The first part of the conversion, taking out the internal combustion engine and replacing it with an electric motor, went quickly. However, figuring out where to place custom welded battery racks under the hood, without placing too much weight in front of the front axle, slowed Alan down. Battery racks that require welding in a relatively precise fashion, take time to fabricate. And, sometimes uncertainty as to where to place just one battery rack can create longer stalls in a project than a shortage of parts.

One wait led to another and soon the conversion was reduced to a snail's pace. Many projects never do see completion once they stall. Some awfully good purchases can be made of unfinished electric vehicle conversions that entered the doldrums and never recovered. However, Alan stayed with his

dream for ten years and was able to finally show the world a well completed, running electric vehicle. Alan plans on preparing an in depth article describing his conversion project in an upcoming newsletter. As they used to say, "Look for it soon on your local news stand!" (Now they say... "View it on YouTube.")

PART II OF BIG AL'S ADVENTURE: "BIG AL, ON THE COBBLESTONES"



Review and helpful charger hint

Last month we left Big Al somewhere in the middle of Philadelphia (on a dark night) with a dropped axle of his "under charged" electric converted VW Pickup truck, lying on cobblestones.

Earlier that evening Alan had driven his electric pickup to the EEVC meeting, expecting to re-charge his pickup (during the meeting) with his newly purchased Russco 110 volt input, 15 amp output charger. When he plugged the Russco in upon arrival, he discovered to his consternation that the charger was only providing his battery pack with a measly 1 amp. The trip back home to New Jersey, unless he waited to the next morning, would have to be attempted with batteries that would have nowhere near a full state of charge.

In fairness to the manufacturer, we will mention that Alan found out the next day that all that needed to be done to fix the charger was to replace a fuse. Unfortunately, that evening at Plymouth Whitmarsh High

School, the charger still indicated that it was fully functional when in fact it had only limited power. After Alan plugged in the charger the output meter was not completely dead, as many chargers (that we are familiar with) are when a main fuse blows.

There was no way that anyone could have suspected that this brand new charger, showing an output of one amp, had only blown a fuse. Alan discovered the problem the next day after he contacted the charger supplier. We think that the charger should have an indicator light or some clear printed instruction indicating a blown fuse for those who might not be familiar with, what we consider, an UNUSUAL charger feature. If any of you are familiar with this type of setup please write us.

Crawling under the car with cobblestones for a headrest and broken glass in abundance for arms and legs to find, was not Alan Arri-son's idea of a happy ending to his first electric vehicle commute to an EEVC meeting. Neither was "Big Al" in a mood to act as if he were a star in a survival TV show, especially when there was nobody around with a video camera to document it. Never the less Big Al squeezed his lengthy arm and shoulder under the front of the VW and tried to put the half axle back into the transmission coupling. Four bolts had come loose and allowed the axle to come loose from the coupling. It was amazing that all four bolts remained in their bolt holes. Allen, still spouting off about the "darn cobblestones," painfully tried to finger twist each bolt back in place. All of the while he struggled to keep his fingers from slipping, I kept asking Allen if he felt it might not be a bad idea for us to push his truck down the street to some better lit corner?

Allen asked me if I had a flashlight to help him see what he was doing. Earlier, as I drove out of my driveway on route to the meeting, I had been conscious of the fact that my flashlight was in another vehicle but chose not to put the car in reverse to get it.

"No!" was my disgusted answer.

"Me neither!" was his equally frustrated reply.

As my eyes shifted focus from the Alan's exposed mid section to the street, buildings, and sidewalk around me, I grew a little apprehensive. For some reason it seemed to me that

the people moving about on the streets and sidewalks around us, on this unusually warm autumn evening, were different than we were. We they concerned about our welfare or did they sense an unexpected opportunity for theirs? Many of the people walking about seemed very threatening. I felt like a trapped mouse surrounded by laughing vultures.

“Alan,” I kept repeating with no satisfactory answer in return, “Don’t you think we should push us further down the street!” “Darn those cobblestones!” was about all Alan had to say at that point in time.

Finally, after what seemed fifteen minutes of suspense, came a shift in Alan’s conversation. “My fingers can’t spin the nuts anymore!” “My fingers are getting too greasy!” “Can you find me something to wipe my hands off?”

I walked behind the truck looking for the cleanest piece of litter that I could find on the trashed street. I finally found something half suitable. Alan came out from under the truck, wiped his hands and then went back to work. To add insult to injury, neither one of us had any useful tools with us. If the bolts were to go back where they belonged, Alan’s fingers had to be the force to torque them.

Finally after 30 minutes or more, Alan said that he had the axle “together enough” to allow him to drive the vehicle to a better lit area. A few blocks down the street we turned into the lot of a combined gas station and convenience store. I took note of the bars between the cash register and me as I tried to ask for directions to the quickest route to the Expressway. Cars (filled with kids who should have been in bed on a school night) pulled in and out of the station and looked the two of us over. I sensed the reason for the bars protecting the counter girl. Alan and I were temporarily estranged in this totally different society.

The lady behind the bars disappeared and I overheard somebody complain that nobody was around to take their money. So I walked back to the truck where Alan was making a re-inspection. At least Allen had enough light to the bolts that had to be torqued home. The only trouble was we didn’t have the suitable tool to tighten them with.

Thirty minutes earlier I had “mentalized” a prayer for help. In times like this one tends to

just want to get out of the situation by hook or by crook quickly. We are not frequently in a mood for exploring opportunities in situations like this. Sometimes my prayers remind me that getting out of the situation would prevent me from learning some valuable lessons. I was not in a mind frame for learning new lessons. I just wanted to get out of there. As I hoped against hope that we were NOT in for a hands-on adventure in inner city life, a beat up car pulled along beside us. The gaze of the driver temporarily made me feel that he was not a gang leader. He quickly jumped out and asked what we were doing there? “You guys don’t belong here!” were his exact words. “Do you need a mechanic?”

A few moments later he had the trunk of his car open and was displaying all of his tools. It turned out that he was traveling mechanic, just coming home from a job. For a price he said he would loan us whatever we needed to fix the problem. Alan, even though he told the guy that he was an Angel, decided not to overly enrich the pockets of heaven and offered him 10 dollars. For 10 dollars the traveling Angel Mechanic even held a powerful light for “Big Al” to see with, while Alan tightened the bolts with the rented “exact fit” specialty tool.

That was not all. Our rescuing Angel also showed us the quickest way to get out of our “high risk” repair place and onto the Schuylkill. He implied that we should not hang around for more sight seeing.

Angel warned us that there were several very steep hills to climb up. (I never realized that there were valleys in Philly.) “Take it easy!” I yelled to Alan as we set off for the Schuylkill Expressway. Again, I had all I could do to keep up with Al as he raced up those steep streets and whipped around corners. Man, he really burned the kilowatt-hours!

Down the Schuylkill we flew. Nobody passed us. All I could think of was the towering Walt Whitman Bridge waiting for us somewhere ahead. Did “Big Al” think his batteries would last forever? It sure seemed that he was in a hurry to find out.

As we climbed the Walt Whitman for the first time other cars began to pass us. The dying speed that I long had dreaded finally occurred. I did not think that Alan had mira-

cle batteries or that we, by some expected miracle, could defy the laws of physics and chemistry forever. After what had seemed an eternity, we came to the top of the bridge. Knowing that it was all down hill to New Jersey, a feeling of relief crept over me. There were a few more miles of flatland driving after crossing the Delaware before we pulled into the parking lot of a closed Diner. There Alan's mother was waiting for us. She, of course, wondered where we had been. (Alan carried the single family cell phone and could not contact her after she left their home. Knowing that his mother was waiting for us all of this time in suspense, Alan had been in a hurry to get to Jersey.)

"Hurray!" "We made it!" Thank goodness. And it was only about 1:00 AM. Alan shook his head and said, "Boy those batteries are almost fried, I've got to get them home and start charging them up." "I can't wait till morning."

As Alan began unloaded the towing hitch from the back of the pick up truck which his Mom had brought to the rescue, I briefly engaged in small talk with her. Suddenly we heard "Big Al" start shouting phrases that we barely understood! Stunned by all of this commotion we ran over to the front of the electric truck. What in the world had now suddenly and unexpectedly gone wrong?

After a few minutes of watching Al run around in circles waving his hands and condemning himself, we eventually figured out that something was missing. Al had forgotten the pins that attach the tow bar to the VW front bumper. Now he had to drive all the way to his house near Glassboro to get them before he could begin the tow home. Alan's mom suggested that she drive him home, probably to prevent Alan from getting a speeding ticket.

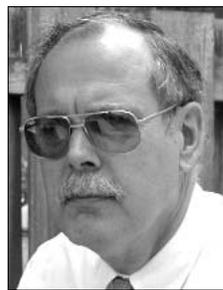
We both left his electric truck in the diner parking lot and headed to our respective homes. I would get to bed a little earlier than Alan, but eventually so would Alan. Finally he was able to exchange the cobblestones of Philly for a real pillow and dream of more adventures to come.

So there you have it, EV fans! Driving an EV can be an adventure, a test of endurance, and a source of interesting tales to tell. By all means give it a try.

You have now read chapter one in the "Adventures of Big Al!" Word has it Alan will make nine more adventurous trips to make the book ten chapters long. I hope to bring my flashlight and tools with me next trip, along with a video camera. But Alan's mom is reluctant for us to go on another trip together. On a previous trip we had reason to keep her up late waiting for Alan's return.

Sometime when I get the courage I will discuss Ollie's Folly, the fateful trip last September that Alan and I took with the Olympian. On that trip Alan was following me. There was a lesson to be learned, and I did learn one, the hard way.

MORE ALTERNATE ENERGY ON THE COAST By California Pete



Going with the waves

Our local power utility, PG&E, continues to gain renewable energy credentials. On December 18 the company announced that it has entered into a long-term, 2 MW commercial wave energy power purchasing agreement with

the Canadian firm Finavera Renewables Inc. The power, which is expected to start flowing in 2012, is to come from the Humboldt County Offshore Wave Energy Power Plant located approximately 2.5 miles off the Northern California coast.

The technology involves clusters of so-called AquaBuOYs, which convert the vertical component of wave kinetic energy into pressurized seawater by means of two-stroke hose pumps. The pressurized seawater is directed into an energy conversion system consisting of a turbine driving an electrical generator. You can see an animation at www.finavera.com.

SF offers solar rebates

The city of San Francisco, despite its reputation for fog, has embarked on a plan to encourage homeowners to install solar panels. The *San Francisco Chronicle* reported on December 12 that the city would offer companies and residents government-funded loans and rebates to offset the costs of installing

solar panels. This would be in addition to California state incentives, it seems, and is unusual, says the *Chronicle*, because it combines rebates and loans.

The program resembles a recently-enacted plan in Berkeley (see the November column) and would, if approved, allow for rebates of up to \$10,000 for businesses and \$3000 to \$5000 for residents to install solar panels, “depending on whether they use a local contractor and are working on property in a neighborhood near a power plant.”

The cost of a 3 kW rooftop solar electric system in SF is \$24,000, “according to Barry Cinnamon, president of the California Solar Energy Industries Association. Between a \$4,000 city rebate, a similar \$7,000 refund available through the state and a federal tax credit of \$2,000, they would be able to get the price down to \$11,000, Cinnamon said.”

TWO EV RACING EVENTS IN JANUARY

Rev up those motors! The third weekend in January will see EV racing events on both coasts.

The Florida Electric Auto Association (www.floridaeaa.org) will be holding the third annual “Battery Beach Burnout” electric vehicle drag racing and autocross competition will be held on January 25-26 at Countyline Dragway (www.countylinedragwayinc.com) in Miami. The EV drag race will be Friday evening from 6:00 p.m. to midnight, and the EV autocross and Show ‘n Shine will be Saturday from 10:00 a.m. to 4:00 p.m. at the same location.

Countyline is a 1/8-mile drag strip. Note that 1/8 mile records are now available for all voltage classes with the recent approval by NEDRA, the National Electric Drag Racing Association (www.nedra.com), of recording 1/8 mile records for all NEDRA classes.

The Florida EAA is staging “Battery Beach Burnout” (BBB) in conjunction and collaboration with the Electric Vehicle Association of San Diego, (www.evaosd.com), which is hosting its own EV drag racing and autocross competition, “Electric Dragin’” (www.electricdragin.com), at Barona Dragstrip in San Diego on the same.

There will be several events pitting com-

petitors against each other on opposite coasts; AC Propulsion will be bringing one of their eBoxes (www.acpropulsion.com/ebox/) to Electric Dragin’ in San Diego, going head-to-head against Andrew Roddy with his eBox at BBB in Miami. Dan Wolfson in San Diego will face off on his Vectrix electric motorcycle (www.vectrix.com) against Charles Whalen on his Vectrix bike in Miami, to mention just two of a number of such matchups.

For more information, go to <http://floridaeaa.org/modules/content/index.php?id=9> and www.evaosd.com.

NEWS UPDATE

NYC police mount Vectrix scooters

On December 26 CNN reported that the New York City Police Department plans to road test four Vectrix electric scooters this month. The scooters will be along side the city’s existing fleet of 329 Piaggio (Vespa) and 104 Yamaha scooters, which are used to patrol city parks, police street demonstrations or direct traffic. Two reasons are cited for trying the electrics: environmental friendliness tops the list, but the cops are also looking forward to scooters that don’t announce their approach with that characteristic buzz, the better to sneak up on the bad guys.

The Big Apple has been using scooters for a long time. Within a few months of their introduction in 1964, “muggings dropped by 30% in Manhattan’s Central Park, by 40% in Brooklyn’s Prospect Park,” according to *TIME*.

An electric Chitty Chitty Bang Bang?



As if in response to childhood dreams of a

go-anywhere car, Swiss design firm Rinspeed (www.rinspeed.com) has come up with a prototype submersible car. Called the sQuba, it's supposed to drive on land and also travel underwater at depths to 10 meters. Power comes from four 48 V lithium ion batteries driving a 37 kW (50 hp) motor that drives either the rear wheels or a pair of propellers, with water jets forward to control diving.

There are no plans for production, but the company plans to show the prototype at the Geneva Motor Show in March.

Clean coal moves ahead

Last month we reported that that Southern Co. and its partners had canceled construction on an advanced clean-coal power facility planned for the Orlando, FL area, just two months after breaking ground on the project. It turns out that the bigger clean coal project, FutureGen, is moving ahead. A December 18 AP article by David Mercer reported that the FutureGen Alliance had selected Mattoon, IL for the \$1.8 billion project.

Valence Technology shows intelligent, large-format lithium-ion battery system

Valence Technology (Austin, TX, www.valence.com.) showed off its new Epoch phosphate-based lithium-ion battery systems for electric vehicles at EVS-23 in November. The batteries feature an advanced management system that will monitor and adjust cell performance so battery packs will always operate at their optimum performance capacity. Battery packs will be available in 12.8 volt and 19.2 volt modules and will allow users scalability up to 390 kWh. Other benefits include a fail soft capability that will eliminate system failure and a life expectancy of more than 2000 charge cycles.

Solar cell production jumped in 2007

On December 27 the Earth Policy Institute reported that production of photovoltaics jumped to 3800 megawatts worldwide in 2007, up an estimated 50 percent over 2006. This brings cumulative global production to 12,400 MW. PV production has been doubling every two years, according to the group, "making it the world's fastest-growing energy source."

Portable fuel cell power unit

On January 3 Millennium Cell Inc. and Horizon Fuel Cell Technologies announced the completion of a pre-production version of the HydroPak portable power generator that uses a water-activated cartridge system. The unit combines Horizon's fuel cells with Millennium Cell's Hydrogen on Demand storage technology. Claimed advantages include infinite shelf life and enough energy to recharge an average notebook computer eight to ten times, quiet indoor operation with zero harmful emissions, more energy storage than possible with batteries, and lower costs than similar fuel cell devices.

The unit debuts at the Consumer Electronics Show at the Las Vegas Jan. 7-10. It's designed with a common AC outlet and two USB connectors to charge or operate low power devices such as portable lights, notebook computers, portable televisions. The planned retail price is \$400 for the system and \$20 for the disposable cartridges.

Tom Swift and his electric airplane?

Green Car Congress reported on January 4 that an electric aircraft powered by a lithium polymer batteries had made its maiden flight in France in December. What's unusual is that the airplane was of fairly conventional construction — conventional as of 1925, anyway, being made of wood and canvas. Power for the Electra came from an 18 kW motor, which propelled it over 50 km (321 miles) in 48 minutes.

The organization behind the project was APAME (Association pour la Promotion des Aéronefs à Motorisation Électrique, Association to Promote Electrical Aircraft), with the support of a number of partners.

"The wood and fabric Electra," according to Green Car Congress, "is 7m in length, with a wingspan of 9m. Weight of the aircraft without batteries is 134 kg. The battery pack weights 47 kg. Maximum takeoff weight is 265 kg. The aircraft has a cruise speed of 90 km/h."

Luxury EV planned for 2009

The Car Connection reported on October 31 that Palo Alto-based Fisker Automotive plans a plug-in hybrid sports sedan. The car, which was scheduled to debut at the North

American International Auto Show in January, was priced at \$80,000. The engineering is fairly prosaic, says the Car Connection, but the styling and luxury are top-end.

COMING EVENTS

Electric Dragin 2008

January 26-27, San Diego. For information visit the Electric Vehicle Association of San Diego at www.evaosd.com.

Battery Beach Burnout

January 25-26, Miami, FL. Go to <http://floridaeaa.org/modules/content/index.php?id=9>.

2008 Hybrid Vehicle Technologies Symposium

February 13-14, 2008, San Diego. Go to www.sae.org/events/training/symposia/hybrid/ or call 202-463-7319.

Motor, Drive & Automation Systems Conference

February 14-15, Atlanta. For information go to www.e-driveonline.com/motors_conf08_index.htm

2nd Annual Alternative Energy NOW

February 20-21. Lake Buena Vista, FL. Go to www.upcomingevents.ctc.com/2ndAnnualAltEnergyNOW_home.html

2008 Clean Heavy Duty Vehicle Conference

February 20-22, San Diego. Go to www.calstart.org/programs/chdvc/ or call 626-744-5600.

Electric Auto Association Annual National Meeting

February 23, Palo Alto, CA. Go to www.eaaev.org/eaevents.html

Cleantech Forum XVI

February 25-27, San Francisco. Go to <http://cleantechnetwork.com/index.cfm?pageSRC=SanFranciscoForum>

Fuel Cell Expo 2008

February 27-29, Tokyo. Go to www.fcexpo.jp/english

WIREC 2008, Washington International Renewable Energy Conference

March 4-6, Washington, DC. For information call 202-647-6828.

2008 SAE World Congress

April 14-17, Detroit, MI. Go to www.sae.org/congress/ or call 626-744-5600.

BCI 120th Convention & Power Mart Trade Fair

April 27-30, Tampa, FL. Go to [\[terycouncil.org/120th.htm\]\(http://terycouncil.org/120th.htm\)](http://www.bat-</p></div><div data-bbox=)

78th International Geneva Motor Show

March 6-16, Geneva. Go to www.www.salon-auto.ch/en

SOLAR 2008

May 3-8, San Diego, CA. Go to www.ases.org/solar2008/

Alternative Fuels & Vehicles National Conference & Expo 2008

May 11-14, Las Vegas. For information go to www.afvi.org/NationalConference2008/

WINDPOWER 2008

June 1-4, Houston. For information go to www.windpowerexpo.org/index.cfm.

21st Century Automotive Challenge 2008

June 7-8, Burlington County Institute of Technology and the Historic Smithville Park in Burlington County, NJ. For information contact Oliver Perry.

2008 SAE International Powertrains, Fuels and Lubricants Congress

June 23-25, Shanghai, China. Go to www.sae.org/events/pfl/

Battery Power 2008

Sept. 4-5, New Orleans, LA. Go to www.batterypoweronline.com/bp08_index.htm

Convergence 2008

October 20-22, 2008, Detroit, MI. Go to www.sae.org/events/convergence/ or call 626-744-5600.

Electric Drive Transportation Association Conference & Exposition

Dec 2-4, Washington, DC. Go to <http://edta.orchidsuites.net/sites/conf2008/>

MEETING SCHEDULE

Meetings are held in Room 49, Plymouth-Whitmarsh High School, 201 East Germantown Pike in Plymouth Meeting, PA, and begin at 7:00 p.m.

February 13

March 12

April 9

May 14

June 11