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# PVMAC Flightline

The Official Newsletter of the  
Pomona Valley Model Airplane Club (PVMAC)

AMA Charter 0142



PVMAC is the 2nd largest AMA Charter in the U.S.A.

## January 2010 Edition

**Meeting Date: Tuesday January 12, 2009-7:00PM**

**Chino Community Center - Chino, California**



Bench Flying with Phil Goodwine / President

Welcome all PVMAC Members, Fellow Flyers, Friends to 2010.

It's always hard to start off a new year with the sad news of a fellow hobbyist and friend Tom Withers passing away on Saturday 1/2/2010. Tom was a member of the PVMAC for 25 plus years. Tom was a regular at Prado and at the membership meetings. I know prior to Tom becoming too ill to fly, he wanted to get his children out to Prado to share his hobby and special time with them in the hobby he loved so much. Tom requested prior to his passing that in lieu of flowers he would appreciate any contributions be made to the Veterans Hospital of Loma Linda. Tom's memorial service will be held, Saturday 1/9/2010 at 11:00 a.m. located at the Church of Jesus Christ of Latter -Day Saints, 1130 West 21<sup>st</sup> , Upland, Ca. 91784. Decembers membership meeting was great. We had 70 PVMAC members,

anxiously arriving to cast their votes for YOUR, 2010 Board of Directors. The 2010 Board of Directors are Jon Angle, Roy Barringer, Phil Goodwine, Ken McSpadden, Charlie Mitchell, Steve Parola,

Chuck Pozanac, Paul Smith and Sam Wright. There were some very close battles for these 9 positions with 14 nominees running for them. We had an excellent ballot team of Mike Mclean, Danny Swanson and Kyle Goodwine. We had Dave Arellano winning \$329.00 cash, Roy Barringer winning \$350.00 for presentations and Lonnie Morrison winning \$250.00 for presentation awards.

At the December meeting we got to say "Thank You and So Long" to Dave Arellano for his past 5 years of dedicated service to your PVMAC Board of Directors. Dave has stepped down from the board but has not slowed down at all showing up at Norton to fly. He still loves and enjoys this hobby with his fellow friends and adoptive family from Norton. He still will be an active flyer and active support of Norton and the entire PVMAC community. "Thank You Dave" for your dedicated time, support and friendship.

The upcoming year is going to be a good one. The board has already had one Board of Directors meeting. We have already initiated plans to

remove the current PVMAC rules to the container and to reduce the size and shape of the frequency board to allow better visibility of the flight line from the pit area. We have approved and submitted dates for 2010 flying events. Some dates may be changed and we are still negotiating full terms of the IMAC event. Some dates may change if we find a conflict with another event close by.

- May 22, 2010 " P V M A C Public Air Show"
- June 5-6, 2010 " S c a l e Squadron of Southern California"
- July 9-11, 2010 " P V M A C Patriot IMAC Challenge"
- Sept. 11-12, 2010 " P V M A C Scale Electric Jamboree"
- Nov. 13-14, 2010 "PVMAC 2<sup>nd</sup> Annual Wings over Chino"
- Dec. 5, 2010 " P V M A C Toys for Tots"

This weekend January 8-10, brings you the "AMA Expo" at the Ontario Convention Center. Your PVMAC booth is up and running looking great. We had lots of PVMAC volunteers to help set up Thursday afternoon. The AMA requested that Kyle Goodwine's IMAC plane be displayed at show center directly above the AMA booth. Kyle and myself were very honored that they asked him to do this and we gladly

## Presidents article from the front page continued:

did. Steve Parola's Cub, Frank Harris's Corsair are being proudly displayed at your PVMAC booth. We have a 46' flat screen TV with a continuous loop of the "Wings over Chino" trailer along with still photographs. Our very own Board Member and Events Coordinator Sam Wright has been honored by being asked to emcee the AMA Expo.

Kyle and myself are getting ready for another long and competitive IMAC season. Kyle has moved on up to the Advanced class. Just think, 24 months ago we started Kyle out flying basic and done extremely well since. We've had our ups and downs but we've had so many good times and met so many new friends. We enjoy talking to people about our love of this hobby (OKAY OBSESSION) and all of the fun we have. Kyle and myself are looking forward to having an IMAC event at Prado and promise that it will be one to remember.

Have Fun Flying, Enjoy Your Friends,  
Enjoy Life, God Bless  
Phil Goodwine

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## Don't Forget

**The PVMAC Meeting  
Tuesday  
January 12, at 7:00**

**The map to the Chino recreation Center is on the PVMAC Website  
[www.pvmac.com](http://www.pvmac.com)**



## Words from the Editors Desk

Wow, twenty ten or 2010, or what ever you call it, it is here! That only makes me wonder where 2009 went so fast. I think that means we had a great time with our hangar projects and flying RC. Add to that going to a few flying events to participate, time with our family, and oh yes, work too!

### Wings over Chino a Hit!

Our first full club event Wings over Chino has past and we had a great time. Thanks to Tom Calihan, we all can relive those moments on the PVMAC website with photos of great scale aircraft, the pilot and the aircraft details. The promo video clip is also on the website for you to enjoy. Produced by Paul Reese. If you haven't visited the website lately, your in for a treat. Tom has reformatted the website and it looks absolutely great as well as professional, which represents our club in a prestigious manner. We are above the rest and the 2nd largest AMA Chartered club in the U.S.

### Wings over Chino Hats are Available

The hats from Wings over Chino are here and not many were produced. These are a nice soft cotton twill and look great. If we do not sell out at the show, we will have them at the meeting along with WOC and PVMAC

T-Shirts for sale.

## PVMAC Events calendar has been Completed

As the events coordinator for our field, we have scheduled some nice events for 2010. Some dates are in flux to avoid stepping on top of another event, but yo will have plenty of notice. We wanted to establish our dates on the AMA District 10 Calendar and at the moment it is pretty bare, so we are confident our dates will hold.

### Introduce Yourself

We have a lot of new members coming to the meetings now and we all need to introduce ourselves so everyone feels at home.

I see a lot of you at the field and many I know, but I try to meet as many as possible. That simply is why we do this whether we like to build alone in the garage, fly, or just sit at the field and enjoy the activity, it does matter and it makes it better when everyone knows who you are.

### Back By Popular Demand

Ken Wagners part I article on the lady Alice P-51 received great comments, so we ran the part II version for you in this newsletter. For those who have visited our hangar or had a ride in lady Alice, you can appreciate the following pages.

### Short Newsletter

This is a short newsletter due to all of us scrambling to get ready for the AMA Expo this weekend. I hope to see you all there. Drop by the booth renew your PVMAC membership and buy some raffle tickets on the great items we have this year including a DA-50 engine.



## KNOWING THE P-51 MUSTANG PART II

By Dr. Kendall "Wags" Wagner

This time we will explore getting ready to take a flight in the P-51 Mustang, including preparation, some quirks regarding the preflight checks, and how to get the 1500 horsepower Rolls Royce Merlin started. I hope it will be interesting to the members of our model club.

### PREPARATION

Before even heading out to Chino Airport, it is important for any pilot, but especially a warbird pilot to make sure that he is mentally and physically ready to undertake this endeavor. Airplanes are generally unforgiving and the Mustang is no exception. It would certainly be a bad idea to engage in this activity if the pilot is not feeling well, excessively tired or under a lot of mental stress. In that situation, it would be better to wait for another day. There is an old saying that it is far better to be on the ground wishing you were in the air than the other way around.

Another aspect of flying Lady Alice is understanding that this particular P-51 is cleared for visual flight rules only (VFR) and is not a good instrument flight rules (IFR) platform for flying in bad weather.

During World War II when 700-

800 Mustangs would be going up through the weather to escort the B-17's to Germany and back, they would typically lose around five Mustangs a day due to weather-related crashes. The fighter pilots at that time were not really IFR rated and had great difficulty penetrating the pervasive cloud layer found in England. Unfortunately, in the P-51 the instrument panel tends to reflect upside down off the top of the canopy when in clouds and this can be exceptionally disorienting leading to vertigo and loss of control. If the P-51 goes into a spin, it requires 9000 ft. to recover, so clearly if the Mustang were to enter a spin at an altitude lower than that, there would be no chance to save the airplane and the pilot would need to bail out. Assuming the pilot feels well and the weather is fine, I cannot think of a better way to spend the afternoon than driving out to Chino to fly Lady Alice, especially after a morning flying session at PVMAC.

### PREFLIGHT

All airplanes require a careful preflight check. In the Mustang, there are a couple of unusual aspects. Firstly, the large scoop underneath the rear fuselage contains three radiators. There is a radiator for the oil system, a radiator for the engine cooling system and a third radiator for the supercharger coolant. The engine coolant is checked by removing an inspection panel up by the spinner on the left side and of course this can only be checked when the engine is cold. The Mustang uses a 50/50 mix of propylene glycol and distilled water. The system does not really use much fluid, but it should be checked. Obviously, the coolant cannot be checked when the engine is hot as unscrewing the header tank cap will result in scalding hot

coolant flying everywhere. Just to make it more interesting, the oil can only be checked when the engine is hot. It is important to check the oil level immediately on shutdown after a flight as after a period of time the oil goes somewhere in the engine and the oil level can not be checked. There is an oil tank just in front of the firewall which typically holds around 11 gallons of oil; that is right, gallons, and the Merlin is supposed to use a gallon of oil every five hours. The oil is W120 which is the consistency of molasses, especially in cold weather. Aside from these unusual characteristics, the checklist is fairly common to any aircraft including control continuity, tire pressures, clean Pitot tube and a general inspection.

### COCKPIT

Having completed the preflight checklist, it is time to get into the aircraft. One is certainly struck by how much larger the P-51 Mustang is than a typical small aircraft, but although the aircraft itself is large, the cockpit is very small. Sitting in the pilot's seat, the first thing that is noticed is the seat does not move fore and aft. It does move upward and downward, but the distance from the seat to the control stick and instrument panel can only be changed by different sizes of cushions. The rudder pedals are adjustable fore and aft. Immediately in front of the pilot is the windshield. This is composed of three sections, the middle one being a one inch thick piece of armor glass which is quite comforting. Although we are no longer worried about Messerschmitts firing through the armor glass windshield, birds have been known to get

through the propeller in one piece and could definitely cause harm if

they were able to get through the windshield. The next thing that is noticed is the visibility forward is nonexistent. You cannot see a thing directly ahead. Once getting strapped into the parachute, the lap belts, shoulder straps and crotch strap, one certainly feels like he is wearing the P-51, not sitting in it.

#### START-UP

Starting the 1500 horsepower Rolls Royce Merlin engine tends to be a bit of an adventure and certainly does not always go according to plan. The first thing to do is to turn on the master battery switch and check to make sure they are three green lights in the panel indicating the landing gear is down and locked. Next, turn on the pre-oiler; this pumps oil through the engine and makes a big noise. This can apparently eliminate a lot of engine wear as all of the moving parts are lubricated prior to starting the engine. The next thing is to turn on the boost pump and select the left main tank which holds 90 gallons. The boost pump is an electrical pump in each wing tank which pumps fuel to the engine. There is also a mechanical pump in the engine, so if the electric boost pump fails, the engine-driven pump should be able to keep the engine running. We always start with the left tank as there is an overflow tube and fuel that is not used is pumped back into the left tank, so clearly this has to be emptied first so there is no overflow of fuel out of the left main tank. The next thing is to prime the engine. If the engine is cold and has not been run for awhile, it is typically 14-16 seconds of priming. If the engine is hot, it is a one second prime. The next thing is feet hard on the pedals, yell "clear prop" and then hit the starter switch which is a spring-load toggle switch down by

your left knee. As the starter switch is pulled upwards, there is big jolt as the 11 foot propeller begins to turn and it begins to turn very slowly even though the Mustang has a 24 volt electrical system. After counting four propeller blades going by, the right hand is utilized to rotate the magneto switch of both mags. The magneto switch is in the lower right portion of the instrument panel. When (if) the engine fires, one quickly moves the mixture control with the left hand to auto rich. This control is underneath the throttle. Clearly, you need three hands to do this but most of us have only two hands, so there is lot going on very quickly. Once the engine fires, there will probably be a lot of smoke going by the open canopy. This is normal. If you did everything right and the Merlin feels like it, the engine settles down to a nice idle. One needs to see that the oil pressure is coming up quickly; otherwise, the engine has to be stopped to prevent severe damage.

It does not always go so smoothly. The amount of prime needed varies based on the air temperature, the humidity, how long it has been since the engine has been run and I do not know what else; this is a continuing mystery to me. Sometimes the Merlin is in a good mood and sometimes it is not.

There is a 15 second cranking limit on the starter, so if the Merlin does not fire fairly soon, the primer switch can be "tickled" with the middle finger of the left hand while the index finger stays on the starter switch. I have never actually been able to make this work, but the P-51 experts tell me this is the way to go. Right now if it does not start after about 10 seconds, I will just stop and start all over again with another 4-6 seconds of prime. Sometimes this results in a stack fire.

The most fearful thing that can happen during the start procedure is what is called a stack fire. Ever notice on the World War photos and movies, all the fire extinguishers that seem to be everywhere? This is because they had a lot of fires. If the Merlin is over primed (I mean two seconds of prime rather than one second on a hot engine), there will be enough fuel vapor in the exhaust stacks to burn. In other words, we now have a real fire coming out of the engine right in front of the cockpit. If the engine starts, the fire gets blown out in seconds. If the engine does not start, the fire can get dangerous in a short time. This is especially worrisome if there is big guy like Gordy strapped in the back seat, under the canopy, who cannot get out of the airplane quickly. The procedure is keep cranking no matter what, mixture to idle cutoff, and hope the battery does not pick this time to die. If the battery does die, the Mustang can burn and there is nothing you can do about it except get out of the airplane and put the fire extinguisher to work. Assuming, we have the engine running, and all systems are go, it is time to call ground control for taxi clearance to the runway.

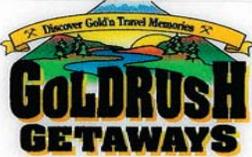
That is it for part II of Knowing the P-51 Mustang. Next time, we will discuss taxi procedures and some really clever engineering that was done by North American to make both the T-6 and the P-51 controllable on the ground. We will also discuss run up and takeoff in the P-51 Mustang. Imagine blasting down the runway behind 1500 horses and being totally unable to see anything at all directly ahead. This will definitely get your attention.

**Wags**



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The Youngest pilot at the Wings over Chino event. PVMAC Member Josh Justus-14 years old.

**Club Meeting Date: Tuesday December 8, 2009 - 7:00pm**  
Chino Community Building 5443 "B" Street - Chino, Ca 91710 (Directions to meeting on website)