



# Hangar News

Sep 2025

Newsletter of the First Weedwacker Aero Squadron  
AMA Charter #1651

## First Weedwacker Aero Squadron

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**V-P: Jeffrey Coskey** 619-913-1455

**Sec: Mark Gray** 619-993-6548

**Treas: Richard Brown** 619-887-7273

15198 Picturesque Point

El Cajon, CA 92021

### Field Marshals:

Vernon Gilmore, Ron Keith, Butch Weiser, Steve Shepersky, Dick Milhausen, Gary Rold, Richard Brown, Keith Miller

**Fun Fly Chairman** Keith Miller

**Race Chairman** Glen Merritt, David Roche

**Safety Officer** Ron Keith

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\*AMA Introductory Pilot Program Instructors:

Scott Graupmann, Glenn Merritt, Jeff Coskey, Butch

Weiser, Larry Bagalini and Keith Miller

**HANGAR NEWS** is printed for the members of the FIRST WEED WACKER AERO SQUADRON and its contents do not necessarily reflect the policies of the club. Editorial deadline is the 15th of each month.

Articles, news items and classified ads should be sent to [news.weedwackers@gmail.com](mailto:news.weedwackers@gmail.com).

Articles originally published in this newsletter may be reprinted and published by modelers and club newsletters. We ask that credit to the author and this newsletter be acknowledged in the reprint. We will do the same.

**CLUB FIELD:** Cactus Park (East), Ashwood St. (1/4-mile N-E of El Capitan High School) in Lakeside, CA. Please be sure the last flyer to leave locks the pin box and the gate.

## Headlines:

### Upcoming Events

#### Next Meeting:

Saturday September 6th, 2025 9:00 am at our Ron Smith Memorial Flying Field.

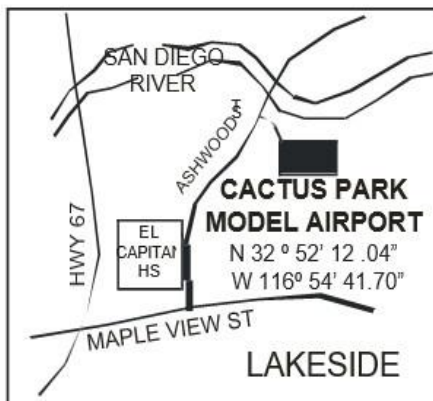
**Elections for Club Officer** November 1<sup>st</sup> Club Meeting

**Veteran's Day Fly-In and BBQ** Saturday Nov. 8<sup>th</sup>

**Swap Meet and Toys-for-Tots Drive** Saturday Nov. 15<sup>th</sup>

#### Close the front gate behind you.

- A new edict has come down from the County Landfill Management group, as flowed down from the EPA following the recent landfill maintenance.
- We must now close (but don't LOCK) the gate as you pass through.
- The public is no longer allowed in the "county park"; only club members and club visitors may be on the premises.
- The gate center post was repaired by Jeff such that the post now reaches into the ground to hold the gates closed. (Please don't open the gates by bumping them with your vehicle!)
- Last person out must still lock the gate behind themselves.



**DISCOUNT  
HOBBY  
WAREHOUSE**

# Hangar News

## Meeting Minutes 02 Aug 2025

Keith Miller

**Call to Order:** The meeting was called to order at 9:00 AM at the field. Club officers present were the President and Vice President. A total of 15 club members were present. The meeting began with the Pledge of Allegiance.

**Approval of minutes:** Butch Weiser moved the minutes of the July 5<sup>th</sup>, 2025 meeting be approved as submitted. Seconded by Craig Graham. The motion was approved.

### **Treasurer's Report:**

Starting Balance June 30 <sup>th</sup> 2025	15,883.28
Income	0.00
Expenses	2,415.43
Ending Balance June 30 <sup>th</sup> 2025	<b>13,467.85</b>

Major expenses in June include the new shed rollup door, grinding the stump in the picnic area, annual MailChimp subscription, additional materials for table repair and refurbishment, and the regular trash and porta-potty

For reference: Bank Balance June 30<sup>th</sup> 2024:  
6,512.65

Table Repair Fund	900.00
Repair Materials	1,130.55
Balance	(230.55)

There was some discussion on accounting for or the table repair fund deficit, some of which Jeff says was not actually "table top" material, but applied to other table structures not originally planned for in the table-top fund. The topic was "tabled" for now.

### **Halbert Estate Sale 3635.00**

The attendees again thanked Jeff with a round of applause for his efforts in closing that deal.

Dean Nickol moved the treasurer's report be approved as submitted. Seconded by David Roche. The motion was approved.

### **General Notes:**

Nothing specific was discussed.

### **Field Maintenance:**

At the time of the meeting, the County's landfill maintenance on the southwest plateau and hill continue, requiring the field to be closed to all access Tues through Fridays. The gopher netting originally laid on the hill alongside the entry driveway was replaced and the area was compacted. Reportedly, the plateau area is designed to encase hazardous materials within that area of the landfill, likely lead. Hence the County's strict access control during the maintenance. Ron will continue to keep the club informed of the progress. Ron reminded the membership that Frank Camarda, who removed the stump from the picnic area, does great work good value. He also trims trees. His phone number is (619) 647-8998.

- Ron invited members to clean out and organized the sheds on Aug 9<sup>th</sup>, 7am (moved up from the originally planned 9am).
  - Jeff's plan is to dedicate the original shed (left side) to grounds maintenance equipment, and the other "Conex" box for picnic-type storage.
  - Also planned is to groom the gravel to reduce its ingress into the pit area, and to arrange the picnic area tables for better use of space.
  - Ron will provide dust masks for workers inside the sheds, and Brian will donate a box of "pandemic" gloves, thus ensuring no one working in the sheds will get Covid.

### **Upcoming Events:**

The working party of August 9<sup>th</sup>, and the Swap Meet on Aug 16<sup>th</sup> will have passed by the publication of this Hangar News. The Board will keep the club apprised of plans by email.

### **Old Business:**

Rule Change – As published in the August newsletter, Keith Miller moved that Rule #11 regarding flight boundaries revert to the description prior to the last June 2024 revision. This is in response to the tenant of the property to the East vacating the lot. Dean Nickol seconded the motion. Discussion: Butch Weiser reminded the club that, given the boundaries are re-opened, we need to avoid old habits of stretching that boundary. To reinforce that, Ron asked that we continue to make our turns approaches at or near the white pump-house. The motion passed.

# Hangar News

## Safety Officer Report:

Ear buds, if absolutely necessary while flying, should be used in only one ear, keeping the other clear to hear flightline chatter. This is important for airspace and runway safety.

## Rule review:

No specific rules were discussed.

## New Business:

No new business

## Show and Tell:

Keith brought his dad's Miss America which was first kitted in 1939. The model presented was purchased by Dad (built and ready to fly) some ten years ago at an estate sale. It has an 84" wingspan powered by an OS Surpass 48 four-stroke engine. It's flown using one of those radios that has the long antenna. This is the third such vintage free flight model Keith refurbished from Fred Miller's collection. (Post-meeting comment: this was the Miss America's "new to Keith" maiden flight which was smooth and uneventful other than a little fiddling with the engine's air bleed port. She's a real floater!)



## Good of the Order: None

There was no motion to adjourn. We just did.  
The meeting adjourned at 9:28 AM.

## Aug 2025 President's Message

Greetings.....

## August highlights:

- 1) The County finished the work on the field that had us closed in July.
- 2) I am collecting batteries to be discharged and disposed of from the field.
- 3) The red battery cans are turning into a dumpsite for vaping and batteries that were never used in the planes. So, please **STOP!** John, at Discount Hobbies, has offered to take a few for disposal. If you crash and the battery is unusable, please put it in the battery can. Do not bring batteries from home that you do not use in the planes.
- 4) Jake has left the premises, but you still have to be careful of flight over the polo field. Keep it tight and do not fly past the pole with the windsock and yellow plane. I am working with the County to extend the runway at the west end. More information will be provided at our next meeting.
- 5) The County patched the sinkhole at the edge of the runway and area at the entrance of field and the middle of the road that leads to the pits.
- 6) The pepper tree at entrance to Weedwackers and polo field split and fell across the road. A tractor was required to remove the tree. Park ranger and crew came to the site and removed the debris from the area.
- 7) The County is requiring that we shut the gate after entering and leaving. Locking is not needed until last member leaves for the day. I am waiting for approval to allow us to leave the gate open as we have done since Weedwackers has been in



# Hangar News

operation. In the meantime, please abide by their rules and close the gate. Wish me luck!

8) I do not think it is a good idea to look for crashed A/C parts if you wear sandals. You are exposed to stickers, critters, holes, a steep ditch, loose sand, and stinging nettles. If possible, ask for help.

9) Rattlesnakes were discovered in the drainage ditch behind the storage shed. Use extra caution.

10) **When flying, do not stand or lean on runway side of fence. Please stay behind the line at gates.**

11) Do not taxi into the pits under power. Try to use only **ONE** table for A/C. Be considerate of others – do not monopolize the tables. Park **ONLY** in designated areas. It is okay to unload behind pits but then **move immediately** to parking spots.

**These are basic rules and simple to follow. If you are guilty of breaking these rules.....STOP!!!**

12) The Board removed all cones from edge of runway so that you can avoid crashing and breaking your A/C. **YOU'RE WELCOME.....**

A special thank you to all that participated in cleaning out the shed. It was one of the better turnouts we have had for a work party. The Board appreciates your assistance!

Thank you for your patience and for working around the County schedule while they were on site. The appearance of the field has improved considerably.

The next meeting is on Saturday, 6 September at 0900.

Just a reminder to wear your badge at the field and display the **required** FAA identification numbers on your aircraft.

Ron  
(619) 988-7667

## Editor's Corner

*Keith Miller*

**Club Officer Elections** are coming up in November. Those interested in supporting the club may offer their services for any of the four officer positions: President, Vice President, Treasurer and Secretary. As of this writing, the incumbents haven't yet declared their intentions to continue their current roles.

## Pylon Racing

Thanks to Glen and Dave, we continue to hold bi-monthly T-28 Pylon Races, most recently on Saturday Aug 23<sup>rd</sup>.

With six pilots on hand, we flew three heats, two rounds of three aircraft at a time, followed by one six-aircraft combined Silver/Gold final round.

Participating pilots were Jeff Coskey, Glenn Merritt, Keith and Jeramy Miller, David Roche and Jim Elgie. And thankfully we have our generous board members Mark Gray and Ron Keith who called the turns.

In Round 1, after jinxing himself by saying he's still flying the same plane he started with years ago, Glen clobbered pylon #2 and foam pieces-parts sprinkled the



race course. He then brought out his spare!! Later, Glen and David mixed it up with a minor mid-air "touch", with David losing his canopy and both pilots landing right away to abide by the mid-air rule. Both planes were un-damaged. Jeff won that heat by default (or as

someone said, by "not his fault").

After all the points were tallied up, Jeramy Miller won the event. Congratulations!

# Hangar News

## Propeller Load Factor

PLF is a measure of a propeller's load absorbed by the engine's power when running. There are many factors that contribute to propeller efficiency and power development including airfoil contour, blade and tip shape, material rigidity, airspeed, angle of attach, air density, and a lot more. However, in our hobby, we can look at three of the prime contributors to PLF that carry the most impact.

### Usage

Most engine or electric motor manufacturers provide a range of propellers best suited for a particular engine. For example, a Saito 72 four-stroke engine can use a wide variety of propellers, as seen in this reference chart, Figure 1

Propellers, Saito Engines. An example is a 13x6 (most widely used), the first number being the diameter, the second is pitch, in inches. (The pitch is the distance the propeller travels in the forward direction per revolution, in ideal conditions.)

A modeler may wish to know if a 12x10 propeller would work, or possible a 15x6. Or we may want to determine what 3-bladed propeller would be good. Propeller Load Factor can be used to compare the effective load that each one presents to the engine. For electric motors, a major consideration in selecting propellers is the effect on current draw by the motor on the ESC and battery. Most of the popular ready-to-fly (RTF) or bind-and-fly (BNF) foamies in the market today come with a safe combination of brushless motor, propeller, and speed controller that are rated for a given number of LiPo battery cells. If we want to put a different prop on the motor, we need to understand how that change might impact the power plant and risks of overloading the electronics.

## Formula

The most prevalent formula is:

$$PLF = Diameter^4 \times Pitch \times \sqrt{(blades - 1)}$$

The primary contributor to the load on an engine or motor is propeller diameter. Pitch contributes to load as well, but to a smaller extent. Regarding blade count, a "normal" propeller has two blades. For most applications, the term (blades - 1) is 2-1=1, and the square root of 1 is 1, so the PLF is simplified to D<sup>4</sup> x P. The usefulness in blade count comes when comparing the PLF between a selection of propellers with multiple blades. Considering two propellers having the same

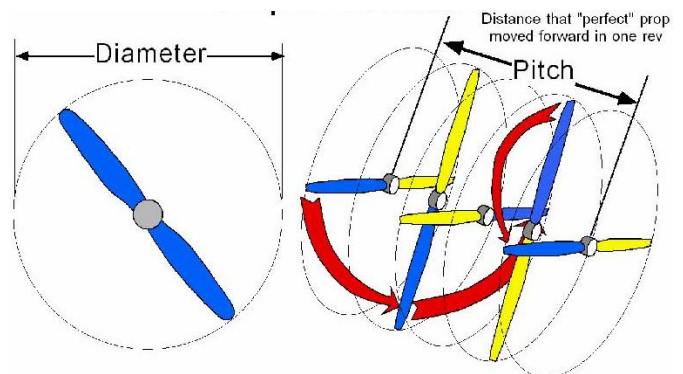
diameter and pitch, the load of the 3-blade prop is approximately 1.4 times the load of the two-bladed prop.

(A good rule-of-thumb: To select a suitable 3-blade prop, subtract 1" from the diameter.)

### Examples

ENGINE	SPORT	SCALE	AEROBATICS
<b>FA-30S(H)/30SGK</b> 2,200 – 12,000rpm	10x5	10x5, 10x6	9 x6, 10 x5
<b>FA-40a/40aGK</b> 2,200 – 12,000rpm	10x7, 10.5x6, 11x5, 11x6	11x5, 11x6	10x7, 10.5x6, 11x5
<b>FA-50/50GK</b> 2,000 – 12,000rpm	11x7, 11x8, 12x6	12x5, 12x6	11x7, 11x8, 12x6
<b>FA-56/56GK</b> 2,000 – 12,000rpm	11x8, 12x6, 12x7	12x6, 12x7	11x8, 12x6, 12x4
<b>FA-62a/62aGK</b> 2,000 – 11,500rpm	12x6, 12x7, 12x8, 13x6	12x6, 12x7, 13x6	12x6, 12x7, 11x8
<b>FA-65/65GK</b> 2,000 – 11,600rpm	12x6, 12x7, 12x8, 13x8	13x8, 14x5, 14x6	11x9, 12x8, 13x6
<b>FA-72/72GK</b> 2,000 – 12,000rpm	12x8, 13x6, 13x8, 14x6	13x6, 13x8, 14x6, 15x4	11x9, 11x10, 12x8, 12x9
<b>FA-80/80GK</b> 2,000 – 11,600rpm	12x8, 13x6, 13x8, 14x6	13x6, 13x8, 14x6, 15x4	11x9, 11x10, 12x8, 12x9
<b>FA-82a/82aGK</b> 2,000 – 12,000rpm	12x8, 13x7, 13x8, 14x6, 14x8	13x7, 13x8, 14x5, 14x6, 15x4	11x10, 11x11, 12x9, 12x10N, 13x9
<b>FA-91S/91SGK</b> 2,000 – 11,000rpm	12x8, 13x7, 13x8, 14x6, 14x8	13x7, 13x8, 14x5, 14x6, 15x4	11x10, 11x11, 12x9, 12x10N, 13x9

1 Propellers, Saito Engines



For the case of the Saito 72, using the PLF formula for the manufacture's list of propellers (Figure 1), the PLF range is 131,769 (for the 11x9) to 230,496 (14x6). A 13x5 prop isn't listed, but its PLF of 142,805 falls inside the manufacturer's range. A 15x6, also not listed,

# Hangar News

has a PLF of 303,750 which is outside the Saito 72's range and may overload the engine. We might want to install a high-pitch prop, say a 12x10. That's an unusual prop for our uses and isn't listed, but its PLF of 207,360 falls inside the manufacturers range and should work.

I prefer to use Excel (or Google Sheets) to build a table calculating PLF over a wide range. In this example (Table 1 Spreadsheet Example, PLF Spreadsheet Example, PLF) for props in the Saito 72 range, the PLF formula (referencing row/column) for the 11x9 prop is  $= (A2^4) * B2 * \text{SQRT}(C2 - 1)$ . If you're familiar with spreadsheets, the formula can just be copied down the column and the row/column references should adjust automatically.

Let's say we're happy with the performance of a 13x6 2-blade prop, but we keep having ground strikes on bouncy landings and we want a shorter propeller but with about the same thrust or PLF. We can see from the table that a 12x6 3-blade prop or a 11x6 4-blade prop would be good alternatives.

And to get ahead of the questions about two-blades being more efficient than three or four – not necessarily so. There's a LOT more science that goes into calculating propeller efficiencies that can show multi-blade props can be more efficient than two-blade props. The misnomer that multiple blades means that one blade is cutting into the wake of the blade the preceding blade are simply false when considering that the blades advance moving through the air well ahead of the previous blades wake (except in very low airspeed conditions).

Maybe next month, I'll cover a similar topic, determining electric motor wattage at the propeller compared to power draw from the battery through the ESC and motor (efficiency for electrics).



*Table 1 Spreadsheet Example, PLF*

ROW COL	A	B	C	D
1	Dia	Pitch	Blades	Pro (PLF) $D^4 * P * \text{sqrt}(B-1)$
2	11	9	2	131769
3	11.5	8	2	139921
4	13	5	2	142805
5	12	7	2	145152
6	11	6	4	152154
7	14	4	2	153664
8	12	7.5	2	155520
9	12	8	2	165888
10	13	6	2	171366
11	12	6	3	175951
12	12	9	2	186624
13	14	5	2	192080
14	13	7	2	199927
15	15	4	2	202500
16	12	7	3	205276
17	13	8	2	228488
18	14	6	2	230496

# Hangar News

## Photos of the month

You may recall that, a couple of years ago, some jabroni backed into the gate while the center post was inserted into the ground, bending the post and rendering the gate useless. That bottom section of the post was cut off to make the gate usable, but they weren't anchored into the ground.

Jeff Coskey made repairs, re-arranging and welding the center post so that it again fits into its receptacle in the ground, anchoring the gates when they're closed.



On August 9<sup>th</sup>, members gathered for a Summer Cleaning event, gutting the storage sheds, ridding them of outdated items, and reorganizing them.

The gravel was groomed in the parking area as well.

Participants included Mark Lukens, Scott Graupman and Emily, Bob Frazier, Mark Gray, Jeff Coskey, Ron Keith, Keith and Jeramy Miller, Brian Kidwell, Dean Nickol, and likely others that we'd like to thank.



# Hangar News





# Hangar News





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