JCRC Flight Line

2019 Volume III, March 2019

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President's Message

I have nothing to say, except how come nobody has been out flying at the field?

Dan Jackson

Quotable Quotes

Always try to keep the number of landings you make equal to the number of takeoffs; Life is simple. Eat, sleep, fly.

ANONYMOUS

The natural function of the wing is to soar upwards and carry that which is heavy up to the place where dwells the race of gods. More than any other thing that pertains to the body; it partakes of the nature of the divine.

***PLATO*, Phaedrus**

Editor

Please send your input either by e-mail (rossgtenn@gmail.com) or post - Glenn Ross, 134 Chock Creek Road, Johnson City, TN 37601-3639 - by the 19th of the month you would like it included. Electronic input should be .jpegs and word documents (.doc or .docx).

THANKS!

Glenn Ross

Next Meeting

Tuesday, 26 March, 2019, 6:45 PM at the Harbour House Restaurant in Johnson City, Tennessee

FYI -

Saturday the second of February was our first Indoor Fun Fly for 2019. Held at the Kingsport Auditorium, it was well attended with every manner of RC contraptions, from Birds, through planes, helicopters, drones and trucks all the way to space vehicles.

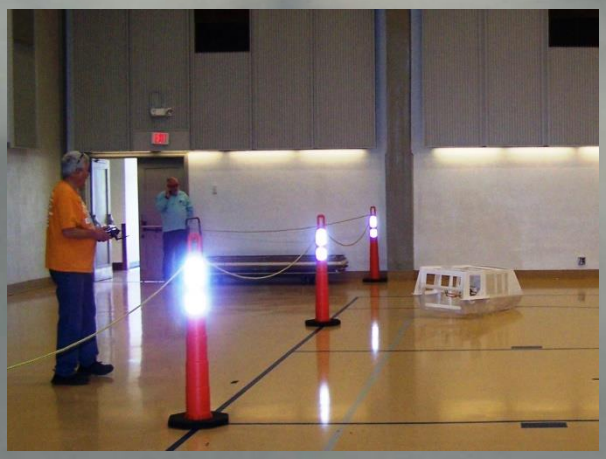
Everyone knows we're here

First flight of the day

Oh, baby, make that turn

I wonder if this is too big for in here?

I can see myself from that drone



I guess a couple of inches off the ground counts…

Will they try to fly it?

The girls will never believe this, gotta get a pic

No, sis..its a bird!!

I got it! no.. you got it – no, I got it! -who's got it??

Upcoming Activities

Indoor Fly In

2 PM till 6 PM, 16 March 2019
at Kingsport Civic Auditorium

Spring Fun Fly In

10 AM till 3 PM, 27 April 2019
at Odom-Fennell Field

Chill and Grill

6 PM till Dusk, every Tuesday evening, Rain or Shine starting 7 May and running through 27 August at Odom-Fennell Field.

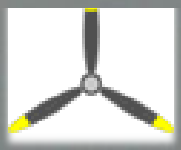
Join us for Burgers or Hot Dogs with flying and fellowship – unless there's

lightening !!

Tips and Techs

Giving credit where credit is due, the following is Part One of an article published in the March 1, 2002 edition of Sailplane & Electric Modeler Magazine. I would credit the author by name if I could find it. Next month will be Part Two.:

Propeller Basics



The majority of powered model airplanes use a propeller as part of their power system, and electric models are no exception. Some models use a ducted fan to simulate jet flight, and some even use propane or kerosene powered turbines (real jet engines). There are also a very few models that use flapping wings as a source of motive power (known as ornithopters). However, propellers are still the most efficient way to power a model.

What Does a Propeller Do?

In short, a propeller moves air. It converts the torque of its power source (a motor or engine) into thrust, and the rotational speed (rpm) into linear speed. The combination of an electric motor and a propeller turns current (Amps) into thrust and voltage into speed.

There are two values that express the most important characteristics of all propellers: diameter and pitch. The diameter is really the diameter of the circle in which the propeller rotates. This corresponds to twice the distance from the center of the propeller hub to the tip of one blade (for a propeller with an even number of blades, that's just the distance from tip to opposite tip).

Slicing the end off of a propeller blade reveals an airfoil just like that found on a wing. Different propellers use different airfoils. Some modern electric flight propellers have under cambered airfoils. This glow propeller has a flat-bottomed airfoil.

The pitch is a measure of how far the propeller would move forwards in one revolution if it were treated as a screw and screwed into some solid material.

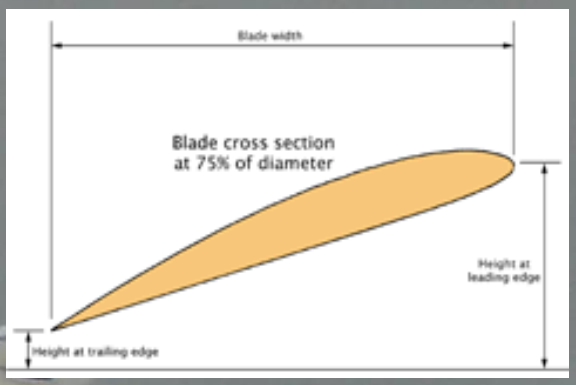
Although the measure of pitch treats the propeller as if it were a screw, one shouldn't think of it as an airscrew (the name of a certain model airplane prop manufacturer notwithstanding). It is really a rotating wing, and if you were to take a propeller and slice it across the blade, you'd see a typical airfoil cross-section.

The size of a propeller is usually expressed in the form diameter x pitch. For example, an 8×4 propeller has an 8 inch diameter and 4 inch pitch.

As a very rough approximation, the diameter of the propeller controls the thrust produced, and the pitch controls the speed of the air leaving the back of the propeller. In reality, pitch also affects thrust somewhat, but thinking of the two separately helps to envision how propeller changes will affect performance.

Measuring Pitch

Most propellers are labeled with their pitch and diameter, but it is possible to determine both given an unmarked prop. The diameter is straightforward to measure of course.



Measurements needed to determine the pitch of a propeller should be taken 3/4 of the way from the hub to the tip.

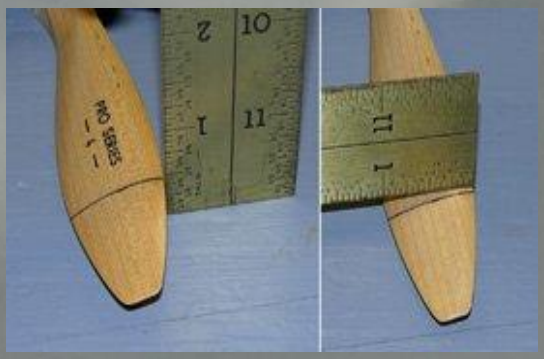
To measure the pitch, lay the propeller flat on a table, measure 75% of the way from the hub to the tip, and draw a line across the propeller blade. Measure the width of the blade at this point, along the surface of the table (i.e. the width of the blade's shadow if there were a light on the ceiling overhead). Next, measure the height of the front and the back of the blade, and compute the difference between these two to determine the height.

The pitch is then given by the formula:

$$pitch = 2.36\ diameter\ height/width$$

There's nothing magical about the number 2.36; it's just 75% of π (pi), because we're measuring pitch at the 75% diameter mark.

The reason we measure pitch at 75% of the diameter is two-fold. Generally, the pitch of a propeller is not completely constant, varying somewhat from hub to tip to optimize it for the different linear speeds at each point along the blade. The pitch at 75% corresponds roughly to the average effective pitch of the propeller. Secondly, the propeller is sufficiently wide at 75% to allow one to get reasonably accurate measurements of blade width and height.



Measuring the pitch of a propeller is easily done on a flat surface with an accurate ruler.

AMA Updates*

ATTENTION !! ATTENTION !!! ATTENTION !!!

Effective **25 February, ALL** Unmanned Aircraft flown outdoors must display their assigned FAA Registration number visibly on the EXTERIOR of the aircraft. This is in accordance with the FAA Interim Final Rule issued 13 Feb, 2019. According to AMA, you need to list both your FAA Registration number and your AMA number:

Q: Do I need to list both my AMA number and my federal registration number on my aircraft?
A: Yes, you need to list both your AMA number and Federal registration number on your aircraft*

Source: AMA Government Relations Blog - https://amablog.modelaircraft.org/amagov/2019/02/13/faa-issues-interim-final-rule-for-external-marking-requirement/

AMA has received a lot of questions regarding FAA registration requirements and how to renew current registrations. On December 12, 2017, Congress reinstated FAA registration for all unmanned aircraft weighing over .55 lbs (250g). For those that registered before this date, the FAA extended their registration expiration date to December 12, 2020. However, any individual who specifically requested that his or her name be taken off the FAA registration database no longer has an FAA registration number in the system and would need to process as a new registrant.

If you are uncertain whether or not you have a valid FAA registration, you can access your FAA account at https://faadronezone.faa.gov/#/. This site will allow you to view your personal FAA registration number and expiration date.

AMA strongly advises to avoid registering your model aircraft anywhere but at the official FAA website. If you register under Section 336, the fee is $5.00 for a three year registration and hobbyists receive one identification number for all the aircraft he or she owns. Please be aware of unofficial registration websites that charge exorbitant fees or require separate registration fees for each recreational aircraft.

If you have any questions regarding your FAA registration login, please call the UAS Registration Help Desk at 877-396-4636. Keep in mind, **this office is not open during the partial government shutdown**. For any other questions or concerns, contact the AMA government affairs team at 765-287-1256 ext 236 or amagov@modelaircraft.org. The latest information can be found at www.modelaircraft.org/gov, *Model Aviation*, and on social media. If you are uncertain whether or not you have a valid FAA registration, you can access your FAA account at https://faadronezone.faa.gov/#/. This site will allow you to view your personal FAA registration number and expiration date

* taken from the AMA government affairs section of the AMA Website

JCRC Sponsors

Hobby Town USA

Located at 3515 Bristol Highway in Johnson City, Hobby Town offers a full range of hobby needs, from model rail roading, to automotive modeling and aviation modeling. A strong sponsor of JCRC, they offer JCRC club members a 10% discount. Phone: (423) 610-1010.

Benedict's Ace Hardware Store

Due to the sale of *Great Planes model parts and accessories*, Benedicts Ace Hardware is discontinuing their aircraft parts sales. Once the current inventory, shown in the picture below, is gone, they will be out of this product line with no plans to restock. Get stuff while you can. They are at 3607 North Roan Street in Johnson City; (423) 282-1950.